

**Agricultural Development in Russia, 1906-17:
Land Reform, Social Agronomy and Cooperation**

By Paul G. Klebnikov

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Abstract

This thesis describes the efforts of Russia's central government, local governments (zemstvos) and various social institutions to modernize peasant agriculture during the period 1906-17. The focus is on the micro-economic dynamics of the development program, on the interaction between various types of extension workers and peasant farmers.

After a short discussion of Russia's economic backwardness at the beginning of the 20th century, the thesis examines the nature of rural society and the technological characteristics of peasant agriculture.

The agricultural development program which evolved after 1906 is divided into three inter-related branches: land reform, social agronomy and cooperation. The land reform (consisting of resettlement, increased gentry land sales to the peasantry, privatization of peasant allotments and consolidation of strips into consolidated farmsteads) is examined in terms of quantitative results and social dynamics. We look at the strategies of the cadres pushing through the reform, the reaction of the peasantry and the effects of the reform on peasant farming. Social agronomy (mass agronomic education) was an innovative program administered jointly by the Ministry of Agriculture and the zemstvos; We examine in detail the work of local agronomists, their lifestyle and their effect on peasant society. Agricultural cooperation (agricultural societies, credit cooperatives, dairy cooperatives, etc.) experienced rapid growth during this time; we examine the role of cooperatives in providing farm credit, marketing services, farm supplies and agronomic advice to peasant farmers.

Finally, the thesis describes the significant impact of the agricultural development program on agricultural technology and Russia's agricultural progress. The expansion of the farming sector in turn affected Russia's economy as a whole. In order to reinforce the hypothesis that the agricultural development program was directly responsible for a large part of Russia's agricultural expansion, we employ regression analysis on a database consisting of variables such as crop yields, land tenure, urbanization, etc. across 42 provinces of European Russia. The conclusion is that, in spite of its short life, the agricultural development program of 1906-17 succeeded in considerably improving the state of Russian agriculture.

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INTRODUCTION

The Stolypin Reform

When Piotr Stolypin was appointed Prime Minister of Russia in the summer of 1906 there was little to indicate that his term of office would last any longer than that of his two predecessors, Witte and Goremykin, both of whom had lasted less than a year. Russia was reeling from the revolution of 1905. Industry was paralyzed by strikes. In the countryside, the peasant jacquerie was raging at full force. In the Duma, the newly-created parliament, the majority was calling for the resignation of the Tsar's ministers and for the expropriation of gentry lands. But instead of being swept aside by these tumultuous forces, Stolypin held on to his post and became the architect of Russia's post-1905 order. In retrospect, Stolypin's accession to power in 1906 appears an important turning point in Russian history. The main reason for this enduring historical reputation is the agrarian reform he engineered -- the so-called Stolypin Reform.

The cornerstone of the Stolypin Reform was the decree of 9 November 1906, which undermined the peasant commune by encouraging the peasant farmer to claim his land in private tenure and consolidate his multiple strips into a single plot of land. Having committed itself to the creation of a new type of peasant farmer, Stolypin's government soon found itself improvizing a whole variety of economic modernization measures which took it far beyond the initial legal and political aims of the land

reform. It began to pour funds into programs such as agricultural extension and credit cooperation which on the surface had nothing to do with the decree of 9 November 1906, but had everything to do with encouraging the rise of a prosperous class of yeoman farmers. With the Stolypin Reform, for the first time we can speak of a modern program of agricultural development -- namely of a conscious effort by government and social organizations to accelerate rural economic progress with a program that was both massive in scope and micro-economic in orientation.

The effects of the reform were prodigious. It would not be an exaggeration to say that 9 November 1906 set in motion a transformation of rural society that was already fairly well advanced by 1917. We see the effects first of all in land tenure: In this brief decade, gentry landowners sold off over one fifth of their land -- 11 million desiatins; by 1916, gentry-managed farms accounted for just 11% of the arable land in European Russia. Peasant agriculture, by contrast, not only expanded rapidly, but changed in character. The old peasant commune, with its village settlements, strip farming, and periodic redivisions of land, was rapidly disappearing. By 1916, about half of the peasantry in European Russia -- almost 8 million households -- held their land as private property. Among these newly-entitled landowners, there were about 1.8 million fully consolidated and independent farms. Peasant demand for either privatization or consolidation was so voracious that the government was managing to act on less than half the petitions submitted. The private family farm, preferably situated on a consolidated plot of land, was emerging as the future unit of modern Russian agriculture.

Science and modern technology were also making their way into the Russian countryside during the Stolypin Reform. A new type of government employee appeared in the village at this time: the agronomist. In 1905 there were a few hundred agronomists in all of Russia and these were based mostly in the towns. By 1914, this number had grown to about 10,000. Agronomists had an impact on even the darkest villages in the depths of the countryside. They organized country fairs, lectures, courses, demonstration fields, seed-cleaning campaigns, cooperatives and a variety of other initiatives, playing a crucial role in getting peasant farmers to abandon age-old cultivation techniques and adopt modern European technologies. Along with agronomists, there arose a number of local institutions such as farm supply depots, machine rental stations, agricultural societies and so on. All of these helped in the giant task of disseminating better tools, livestock breeds and production techniques to the mass of peasant farmers.

Finally, the period of the Stolypin Reform witnessed the flowering of the rural cooperative movement, which grew from a fragile and largely superficial network in 1905 to a major force in the national economy on the eve of the revolution. Thanks to cooperation, the peasant economy in just a few years developed a powerful banking system, which included nearly half the rural population and had assets of almost a billion rubles by 1916. Agricultural cooperatives also developed a strong position in rural trade, encouraging the commercialization of the peasant economy and standing to gain a virtual monopoly in certain activities such as butter-making and the provision of farm

supplies. The rapid pace of cooperative development was due to the rationality of cooperation as an idea, as well as to the vigor and commercialization of peasant farming at this time. Also playing a crucial role in the success of the cooperative movement was a large group of government and private entrepreneurs who propagated the idea of cooperation among the peasantry.

These three parallel programs -- land reform, agricultural extension and cooperation -- were linked by more than just the common use of government funds. They complemented and reinforced each other on the village level. There is substantial statistical evidence that the same broad group of peasantry -- probably about half of the peasant households -- made use of both land reform and agronomic aid and cooperation. Consolidation of land tenure was generally undertaken by the more prosperous or in any case the more entrepreneurial among the peasants. The majority of the membership of the agricultural and credit cooperatives was made up of the stronger, more commercialized peasant farmers. Agronomists, meanwhile, relied on agricultural pioneers -- peasants with a certain financial soundness and entrepreneurial flair -- to introduce technological improvements. The same broad group of peasants were involved in all three initiatives. For the peasant farmer this made sense. The process of commercialization led the peasant farmer to cooperation and an interest in agronomic improvements. Departure from the peasant commune left the farmer independent and insecure, and drove him to seek the advice of the agronomist and try to maximize his cash income through membership in a cooperative. In the development of land reform, agronomy and cooperation we see the rise of the new Russian farmer. The common

factors were the qualities of entrepreneurial initiative, openness to new ideas and attentiveness to the needs of the market.

With the successful expansion of land reform, agronomic aid and cooperation, it is not surprising that virtually all indicators of Russian agricultural production rose steeply at this time -- in spite of the fact that the Stolypin Reform was soon cut short by the forces of war and revolution. Gross agricultural production jumped some 47% over the decade. Russia's animal husbandry, which had been declining for several decades, turned upwards. While domestic food consumption rose, Russia's agricultural exports rose as well, especially in higher-value products such as butter, meat, eggs and sugar. The introduction of new crop rotations was indicated by the increased cultivation of non-grain crops such as clover and potatoes, by a decrease in fallow lands and by an increase in crop yields. Employment of modern equipment, artificial fertilizers and improved seed varieties also rose steeply during this period, though admittedly from low base points. Rural incomes, as measured by cash savings, livestock ownership, landownership or agricultural production per capita all rose sharply. Rural Russia was experiencing a renaissance.

Clearly the Stolypin Reform is important for the student of Russian history. In scope and ambition, the reform went far beyond programs initiated by Minister of Agriculture P.D. Kiselev in the 1840's, for example. The Stolypin Reform gives a glimpse of the Tsarist regime at the apex of its administrative development -- a far from decadent eleventh hour. Tsarist policy at this time, like Stolypin himself, represented a curious

mixture of traditional and modern elements -- a bridge between the 18th and the 20th centuries. The Stolypin government balanced the suppression of the 1905 revolution with a sophisticated program of economic development, conservatism with modernization, paternalistic administration with a liberation of local initiative. All this added up to an example of remarkably good government, a fact which should not be obscured by the shadow of the 1917 revolution.

Apart from its administrative significance and impressive economic achievements, the Stolypin Reform was important in a sociological sense. It laid the foundation for a rural middle class, both in the form of the new peasant farmers who arose as a result of the reform and in the form of the professionals -- agronomists, surveyors, book-keepers, etc. -- who serviced them. Critics could argue that the benefits the peasantry received from the Stolypin Reform were not sufficient and that the Government was merely trying to gloss over awkward issues of class struggle and political representation. But such a point of view is inaccurate. The progress of Russian agriculture at this time was strong enough to withstand the severe strain of war, while the rural population remained loyal to the established order up to the end of the Tsarist regime. It was not the rural social structure that broke down on the eve of February 1917, but rather the transportation system, urban society and political system. Stolypin's structure in the countryside held firm until the last moment when the world came down around it.

The significance of the Stolypin Reform goes beyond its importance to the study of the late Russian Empire. The reform is

an effective model of agricultural development and modernization of peasant society, reaching beyond its own particular time and circumstances. Many aspects of the Stolypin model of agricultural development were adopted wholesale by the Soviet government during the New Economic Policy of the 1920's. The Stolypin model is relevant even today, in many developing countries and even in the contemporary USSR. Now that the Stalinist model of agricultural development (i.e. collectivization as implemented in the USSR, China, Cuba, Ethiopia, etc.) is being discredited, perhaps we will see another Russian model of agricultural development -- the Stolypin model -- take its place.

The Stolypin model of agricultural development is interesting in two ways: as a model of government administration and as a model of agricultural production. With respect to the first aspect -- government administration -- Stolypin's government was not content to take either a conservatively paternalistic stance towards the countryside (similar to the one adopted by the Ministry of Internal Affairs in the late 19th century) or a laissez faire stance towards capitalist development. It was an interventionist regime, actively seeking to promote economic development and social modernization. Yet the key to the Stolypin administrative model is that it was based on the devolution of administrative responsibilities and the encouragement of local self-reliance. Government policy consisted of doling out funds for various development initiatives, educating the farmers and disseminating the latest agricultural technologies. Under no circumstance did government officials impose their own views on how production should be organized. The

goal was to awaken the activism of local entrepreneurs, widen their understanding of economic alternatives and then allow local people to decide what needed to be done and how.

The government consistently avoided a doctrinaire approach to agricultural development. St. Petersburg may have favored breaking up the peasant commune and the creation of consolidated family farms, but it was perfectly willing to strengthen communal tenure by carrying out "group land settlement" or by encouraging communal improvement of crop rotations. Every region, indeed every village, was encouraged to follow the development course it had chosen for itself. The Ministry of Agriculture was willing to subsidize numerous endeavors: land consolidation in Ekaterinoslav, market gardening in Tambov, communal grass-sowing in Moscow, handicrafts in Viatka or cooperative butter-making in Tobolsk. The Stolypin government's decentralized administrative style ensured that not only would the resulting agricultural program be well adapted to the needs of each particular locality, but that it would achieve maximum impact on rural society. The mobilization of local initiative, manpower and financial resources guaranteed a far greater effect than if the agricultural program were funded and administered solely by the central government. It was this aspect of Stolypin's administrative style that made development self-sustaining and allowed it to continue despite the assassination of Stolypin himself and even the outbreak of the First World War in 1914.

The evolution of the Stolypin Reform can be broken down into four successive stages: (1) dislocation, (2) differentiation, (3) development and (4) self-perpetuation. The first stage -- dislo-

cation -- was necessary because the traditionalism and inertia of peasant society had to be eliminated before any kind of mass change could take hold of the rural society. One of the main reasons why the Stolypin Reform was so successful was that conditions in the countryside were favorable to it. Thanks to the development of market relations in the 1890's, the revolution of 1905 and the Stolypin land reform itself, the process of dislocation was well-advanced in the countryside and peasant Russia was ripe for change. The second stage -- differentiation -- underlay the whole concept of the Stolypin Reform. Once the rigidity of traditionalism was broken, peasant society could undergo a specialization of labor. The best farmers could specialize in farming and grow prosperous on the land; handicraftsmen could sell their land altogether and focus on their crafts; those who were incapable or unwilling to make a living in the countryside could also sell their land and move to the city. The third stage -- development -- involved the organization of various subsidiary enterprises such as cooperatives or the agronomic network to help the newly-specialized peasant enterprises prosper. The final stage -- self-perpetuation -- began to take shape once the reform was fairly well advanced. The fact that innovation and development became self-perpetuating, based on the self-reliance of the local population, was a sign of success and historical impact.

It can be argued that the four stages of dislocation, differentiation, development and self-perpetuation mirror the evolution of economic change in general. That's true. But the fact remains that the Stolypin Reform, aiming to accelerate and

occasionally guide the evolution of the peasant economy, was successful precisely because it reflected the logic of the real world. Not every agricultural development program succeeds in doing so.

The other interesting aspect of the Stolypin Reform is as a model of agricultural production. A government-led agricultural development policy may be very economical and astute, but it will produce few results if the soil isn't right for it. The soil for the Stolypin Reform was the family farm operating in the context of a market economy. The model of the commercialized family farm remains a good one today. In an age when American agriculture is struggling with overproduction, excessively high input costs, heavy indebtedness, low employment and the pollution of groundwater, many observers are looking to "low-input sustainable agriculture" for a solution -- i.e. resuscitating the small family farm and returning to organic fertilizers and crop rotations, all of which were strongly encouraged by the Stolypin Reform. Soviet agriculture, meanwhile, long having taken American mechanized agribusiness as its model, is currently seeking to overhaul its inefficient system of large-scale collectivized agriculture. In the opinion of this author, the architects of Mikhail Gorbachev's program of perestroika would do well to borrow heavily from Russia's first experiment with de-collectivization and privatization eight decades ago.

The reason why the commercialized family farm is such an effective unit of production is that it minimizes input costs and maximizes both the industriousness of farm labor and the entrepreneurial initiative of farm management. The result is

usually a higher yield per unit of land than what a large, highly-mechanized operation relying on hired labor could produce. These advantages ensured that in both Europe and Russia at the turn of the century, the commercialized family farm would edge out both large, semi-feudal latifundia on the one hand and tiny, self-sufficient peasant farms on the other. A contemporary example of the superiority of the small family farm can be found in the flourishing community of Amish farmers in Lancaster County, Pennsylvania; this county, with its thousands of Amish and Mennonite farms, is the most productive non-irrigated county in the United States, despite the fact that the Amish shun tractors and most types of artificial fertilizers. Another contemporary example of the advantages of the family farm can be found in the Chinese agricultural reforms of 1979-87. In this case, decollectivization of land tenure and the liberation of market forces immediately led to a rise in productivity and gross output. The Stolypin Reform aimed to construct just such a foundation of commercialized family farming in Russia at the beginning of the century. The reform involved both a process of de-collectivization (dissolution of the peasant commune) and the commercialization of traditional peasant agriculture. Economies of scale were achieved by binding farmers together into credit, marketing or processing cooperatives. It was, as we shall see, a recipe for extraordinary dynamism in the agricultural sector.

The Methodology of this Thesis

The Stolypin Reform has received substantial attention in Western and Soviet scholarship, but there have been surprisingly few studies of Russian agricultural development that were both detailed and comprehensive.

For the Stolypin Reform proper, there are several excellent works, including those of George Yaney, Dorothy Atkinson and Judith Pallot. Yaney does not go into the problems of peasant society and peasant economy, but examines the reform from the point of view the central government, as an example of administrative decentralization and pragmatism.² Pallot and Atkinson take a more detailed and peasant-oriented approach towards the reform, the former examining specific regional case studies from a geographic point of view and the latter examining the relevant national statistics in the context of the social resilience of the peasant land commune.³ Robinson, in his sociological study of the Russian peasantry, devotes a chapter to the reform and argues that it generally failed to alleviate the poverty and political hostility of the peasantry.⁴ Mosse, in his short review, also expresses the view that the Stolypin Reform did not succeed in tackling the main problems of peasant Russia.⁵ From the economic point of view, many scholars have written on the subject of whether the Stolypin Reform had a positive impact on Russian agriculture and the Russian economy. Pavlovsky, and to a certain extent Dubrovsky and Volin, argue that the reform had a substantial impact in modernizing peasant agriculture.⁶

Gershenkron sees the reform in terms of liberating the peasant agricultural sector to serve as a reservoir of labor and capital for the fast-growing industrial sector.⁷ Among general economists, Kahan and Crisp, argue that the reform had a beneficial impact on economic development, while Gatrell⁸ expresses a more negative point of view. A slew of general economic histories also mention the Stolypin Reform in their review of Russian economic development.⁹

With reference to Tsarist administration and the problems of economic and social development at the turn of the century, we have several works: Macey, Yaney and Hennesey have examined the Tsarist government's response to the "Agrarian Question", while Weissman and Sternheimer have focused on the structural dynamics¹⁰ of the Ministry of Internal Affairs. Concerning the Ministry of Agriculture, we have only Yaney's short piece and Krivoshein's¹¹ biography of his father, the Minister of Agriculture 1908-15. Soviet scholars such as Avrekh, Startsev and Diakin have produced some thoroughly-researched works, mostly centered around the question of whether the Tsarist government was the instrument of the landed gentry, the bourgeoisie or a relatively classless and independent institution.¹² Stolypin himself, as a political leader and as a man, has been the subject of several books, notably those of Tokmakoff, Conroy, Hosking, Levin and¹³ Zenkovsky. To date, there have been no Soviet biographies of Stolypin.

The Russian peasantry and peasant society have probably received the most attention of any topic connected with this dissertation. Among Western texts, there have been a series of

works, beginning with those of Robinson and Maynard in the 1930's¹⁴ and ending with those of Shanin and Bideleux more recently. Soviet scholarship has also given a lot of attention to the peasantry both at the turn of the century and during the¹⁵ Revolution. We even have several works examining the role of¹⁶ peasants as soldiers and as revolutionaries. The theories of agricultural economists such as A.V. Chayanov, have been examined by Jasny, Shanin, Millar, Durrenberger, Solomon, Figurovskaia and¹⁷ Harrison. There are also a number of good regional studies of peasant society at this time: Treadgold, Tiukavkin and Skliarov with respect to Siberia, Edelman with respect to the southwestern Ukraine, Koch with respect to the Volga Germans, McNeal with¹⁸ respect to the cossacks, and so on.

The social and economic situation of the gentry has been discussed in the works of Anfimov, Kovalchenko and Manning, while the activities of the zemstvos (mostly from a purely political standpoint) are covered by Chermenskii, Emmons, Haimson, Fallows¹⁹ and Katkov. Concerning pre-revolutionary cooperatives there are Ph.D. dissertations by Baker and Salzman and a book by Kabanov on²⁰ the cooperative movement during the revolution. Regarding the activity of social agronomists, there is nothing except the work of Kompaneets, which is more a history of science than a socio-²¹logical or economic work.

The preceding survey of the literature makes clear that there is a need for a new examination of the Stolypin Reform. Western and Soviet scholarship has been very specialized with respect to the Stolypin Reform: these works focus either on the dynamics of the central government and gloss over the main social

phenomena, or they focus on rural social structures while neglecting the larger economic trends, or they focus on the economic trends and pass over the dynamics of society at its grassroots. Therefore, I believe that there is a need for an examination of the Stolypin Reform from the village perspective, but with a comprehensive perspective, including both economic, social and administrative dynamics -- in other words, a thorough examination of Russian agricultural development in the period 1906-17. Though in no way do I wish to minimize the importance of Stolypin himself, in this thesis I will bypass both him and all his ministerial colleagues and concentrate on the local forces shaping the development of peasant agriculture. The focus of this dissertation will be neither the formulation of agricultural policy and the conflicts involved therein, nor the political maneuverings of bureaucrats, zemstvos and socialists on the national stage, but the formulation of local development strategies and the maneuverings of agronomists, land settlement agents and peasant leaders to determine the fate of specific villages. I will be examining county agronomists rather than the zemstvo boards or the Ministry of Agriculture, the land captains and the third element rather than the governors and the Ministry of Internal Affairs, the peasants themselves rather than the programs of the various peasant and socialist political parties.

Fortunately, we are endowed with a significant volume of records, eyewitness accounts and statistical data from that distant time. This allows us to pick up the records, the historical detritus so to speak, to sift through them and identify the contours and trends of society in this period. Both

the Ministry of Agriculture, the Central Statistical Committee and the zemstvos collected detailed records of what was happening in peasant Russia at the time. The concerns and opinions of the various regions were aired in local periodicals such as Iugo-Vostochnyi Khoziain and Khutorianin, while a national overview of Russian agriculture could be found in such publications as The Russian Cooperator, Agronomicheskii Zhurnal and Trudy Imperatorskogo Volnogo Ekonomicheskogo Obshestva. Russian academic life at this time was blessed with a multitude of wise and prescient minds, many of whom applied themselves to an examination of peasant agriculture. We have the writings not just of many agricultural analysts such as Chayanov, Makarov, Chuprov and Chelintsev, but also of many first rate economists such as Kondratiev, Tugan-Baranovsky and Prokopovich.

Much of the original material on the Stolypin reform comes from the 1920's. The time lag allowed many eyewitnesses and participants in the reform to assess it in a detached and broad-based way. Antsiferov, Prokopovich and Bilimovich wrote impressive studies of the reform from exile, while Lyashchenko, Kheisin, Fabrikant, Karpov and others did so from within the Soviet Union. Many of these works were based directly on research the writers had carried out before the revolution. Chayanov's seminal book on social agronomy, for instance, is a compilation of lectures presented at the Petrovsky Agricultural Academy in the period 1913-17. Totomiantz' book on cooperatives in Russia and Makarov's study of peasant society, were also based on their pre-revolutionary lectures. In addition, in the 1920's, detailed studies of pre-revolutionary agricultural development

were carried out by the Peoples Commissariat of Agriculture, as well as by scores of periodicals such as Agronom and Puti Selskogo Khoziaistva. The reason why the Stolypin reform interested Soviet analysts in the 1920's so much, was not only its historical proximity, but also its relevance to the agriculture of the NEP period. The young Soviet state faced much the same kinds of problems with respect to peasant agriculture as its Tsarist antecedent and it is not surprising that most of its agronomists, scholars, and Ministry of Agriculture staff were carried over from the pre-revolutionary period. The analyses of the Stolypin reform performed in this period are remarkably sober and free of political prejudices -- policy-makers had to be pragmatic in their borrowings from the past -- and this makes them some of the most interesting works extant.

The voluminous quantity of observations, analyses and eyewitness accounts from the period of the Stolypin reform provides us with ample opportunities to identify the historical trends of the time. Like an archeologist sifting through the wreckage of some ancient civilization, picking on the fragments of some household implements or jewelry to make generalizations about the civilization as a whole, we can use the various records of pre-revolutionary Russia to construct a picture of that civilization. The volume and multiplicity of such data allows for such deductive conclusions to be much stronger than would be the case with most other historical periods. In addition, a substantial amount of statistical data allows us to draw inductive conclusions. With the help of the data of the Ministry of Agriculture and the Central Statistical Committee we can

arrive at a fairly detailed statistical protrait of Russian agriculture and peasant society during our period. The margin of error in the various statistical surveys at this time was necessarily quite large -- one analyst at the time calculated that peasant farmers routinely under-reported the assets and income by 10%.²³ The problem of peasant under-reporting (which was often balanced out by over-reporting on the part of local officials), combined with problems in the collection of data made for an especially large margin of error in Russian agricultural statistics.²⁴ Nonetheless, the plethora of statistical data facilitates the historian's task in evaluating the economic and social condition of rural Russia at this time.

In this dissertation, I have taken the opportunity to supplement the deductive reasoning that is most historians' stock in trade with inductive reasoning based on the statistical data of the period. All too often, historians rely only on anecdotal accounts or the opinions of qualified observers to prove that a particular phenomenon was taking place. Similarly, historians are often content to assume that if two events occurred side by side -- say the Stolypin land reform and a rise in agricultural production -- it means there was a causal relationship between the two. This may be true, but it should be reinforced with other methods of inquiry, such as local surveys showing the relationship at the grassroots. The consensus of observers and analysts that consolidated farms had a beneficial effect on agricultural production, for instance, could be buttressed with the results of the thorough survey of 24,000 consolidated farms carried out by the Ministry of Agriculture in 1913. In addition,

I believe that such conclusions can be supported statistically on another level. Consequently, in Chapter 10 and the Appendix, I have collected statistics on agricultural production, land tenure, extension services, transportation, literacy, etc. in 42 provinces of European Russia (I am calling this the Klebnikov database) and worked out the statistical correlation between the various factors on the provincial level. Of course the impossibility of precisely identifying the importance of each factor influencing the agriculture of any given region means that such inferences cannot be definitive. They can only be indicative in a very broad sense. But even so, they provide a valuable opportunity to supplement a review of the verbal records of this period with quantitative evaluations.

I have taken the opportunity to reproduce many of the observations and arguments of contemporaries verbatim, since I believe this conveys better the character of the time. The translations are my own. Occasionally, I have taken the liberty to condense overly wordy passages into a more readable form, without omitting any important qualifications and elaborations. The way some Russian terms are translated into English reflects the assumptions and opinions of the translator, and there are some key terms whose translation should be mentioned here.

Though the protagonist of this thesis was usually referred to in the literature of the time as the peasant (krestianin), I refer to him as the "peasant farmer." This is a combination of two different concepts. The peasantry was a legal category in Tsarist Russia, an estate which included not only agriculturalists, but also a minority of urban-dwellers. For our

purposes, the peasant is assumed to be a resident of the countryside, a figure little changed from the feudal era, closely tied to the village commune, using traditional technologies and producing goods predominantly for his own consumption rather than the market. The term farmer, on the other hand, conjurs up images of an independent producer, working his own private plot or a leasehold, and managing a highly commercialized enterprise. The reason I combine the concepts of peasant and farmer is that Russian agriculture was undergoing a period of transition at the beginning of the century. The peasantry as a group was no longer self-sufficient or tradition-bound enough for us to speak of just "peasants". Nor was the transition well enough advanced for us to refer simply to "farmers".

An even more difficult term is "khoziaistvo", in the sense of the independent production unit of peasant agriculture. I believe the term "economy" is deceptive since it usually conjurs up images wider in scope than just the individual peasant family. The term "household" could be widened to include production, but it already has a Russian equivalent (dvor). I have chosen therefore to employ a term taken from contemporary agricultural theory: "farming system". There is a certain irony here, since the term "farming system" grew out of Western rural development specialists' rediscovery of the work of A.V. Chayanov and his analysis of the Russian peasant economy. I believe the term farming system best reflects the integrated nature of peasant farmers' production, consumption, demographic and cultural patterns.

I use the term "technology" quite broadly, to refer to the

"mode of production" in marxian terminology. It encompasses not so much the equipment used by peasant farmers, but their production techniques -- their crop rotations, methods of animal husbandry, work habits and so on. "Modern" technology of course is a relative concept and refers to the methods employed by the most advanced farmers of the time in places like Denmark, Belgium or the United States. The main subject of this thesis is the dissemination of modern technology to the peasant farmers; Russian agronomists sometimes referred to it as "razprostranenie znaniia", meant to raise the "kultura" of the peasant farmer, though the dissemination of technology clearly depends not just on education and demonstrations, but also on the construction of effective institutions and market conditions.

When I speak of agronomy and agronomists, I am referring to what the Russians usually called social agronomy (obshestvennaia agronomiia), the active dissemination of new technologies to the farmers as distinct from their development in the laboratories, institutes and experimental stations. I have translated the term "uchastokovyi agronom" as county agronomist. Though strictly speaking an "uchastok" is a bailiwick, stylistic expediency and the similarity of the "uchastok" agronomist to the American county agent has led me to use the word county with respect to the area of operations of both agronomists and land captains. The Stolypin reform, as mentioned above, is taken to encompass not just the land reform arising out of the decree of 9 November 1906, but also the cooperative movement and the social agronomic programs encouraged by Stolypin's government. A key element of the Stolypin reform -- "samodeiatel'nost'" -- is perhaps the most

difficult word to translate. Often stressed in the literature of the time, "samodeiatelnost" can be taken to mean self-help, though that was usually referred to as "samopomosch". The concept is broader than self-help since it implies qualities of local responsibility, initiative and independence. Accordingly, I have decided to use the imperfect English equivalent of "local self-reliance".

Having covered some of the problems involved with the translation into English, it remains to be noted the limitations to the subject matter of this thesis. The discussion will concern the 50 provinces of European Russia and Western Siberia. Excluded are Finland, the Baltic States, the Polish provinces, Transcaucasia, Central Asia and Eastern Siberia. I have already mentioned that I will give only cursory mention to Stolypin himself and to the wider events on the national stage. The focus will be on peasant agriculture and the measures undertaken to modernize it. Lack of space prevents extensive coverage of several topics intimately related to peasant agriculture, namely gentry agriculture, the peasant handicrafts industry, peasant employment in industry, the colonization of lands beyond the Urals, and the intricacies of the stratification of peasant society at the time. Many of these topics have been covered by Western or Soviet historians, and those that haven't -- peasant handicrafts, for instance -- could easily constitute a book by themselves.

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Chapter 1 of this thesis will examine the economic, demographic and technological roots of Russia's agricultural backwardness at the beginning of the century. Chapter 2 will

focus on rural society -- the peasant commune, the gentry, the clergy, the land captains and the third element -- and the degree to which each impeded the development of a modern economy and modern attitudes among the peasantry. Chapters 3 and 4 will look at the implementation of the Stolypin land reform and its effect on rural society and the rural economy. Chapters 5 and 6 are devoted to the Ministry of Agriculture, the zemstvos and social agronomy, examining the development of the agronomic network, various strategies of agricultural extension work, and the reaction of the peasantry to these programs. Chapters 7, 8 and 9 deal with rural cooperatives: the rise of the cooperative movement in the villages, the attitude of various government organs to the cooperatives and the effect of cooperation on credit, farm supplies, marketing and the dissemination of new technologies in the peasant economy. Chapter 10, using the Klebnikov database, attempts to identify the statistical correlation between agricultural improvements and various factors such as land reform, agronomic aid, cooperation, urbanization, literacy, etc. Chapter 11, concludes by giving a broad overview of Russian agricultural progress in the period 1906-17 and of the effect that this had on the nation's economy.

CHAPTER ONE

THE IMPERATIVE OF AGRICULTURAL DEVELOPMENT

In this chapter we will examine the economic roots of the backwardness of peasant agriculture. To many educated observers of the time, the fact that peasant agriculture was underdeveloped was self-evident -- they had only to look at the sophisticated farming systems in countries as diverse as Denmark and the United States to see how farms could be run. Partly through a consideration of these models and partly through their own experiments in adapting various new techniques, educated farmers and agricultural observers had a good conception of what the modernization of Russian agriculture would entail. The path of progress for the Russian farmer, technologically at least, was clear. For each agricultural problem there existed a tested solution and agricultural development meant the mass implementation of these solutions in all their regional variation. Before we undertake to describe the problems of Russian agriculture and their potential resolution, however, we must first consider the importance of agriculture to Russia's economy.

Agriculture and Russia's Economic Development

At the turn of the century, Russia was a giant both militarily and geographically, but with an economy (gross national product) that lagged far behind the more advanced powers. Had government ministers drawn up a table outlining the crude differ-

ences between Russia and the other great powers, they would have
1
seen something like this:

Economic Characteristics of the Great Powers, 1900

	GNP (millions of <u>1960 US dollars</u>)	GNP per capita (1960 <u>US dollars</u>)	% of population <u>in cities</u>
U.S.A.:	77,426	1,019	41.5%
Britain:	36,273	881	78.0%
Germany:	35,800	639	56.1%
Russia:	32,000	248	13.5%
France:	23,500	604	41.2%

The striking difference between Russia and the other great powers consisted in its low labor productivity (GNP per capita), its low level of urbanization and, implicitly, its reliance on agriculture. The figures above could be used to support the view that what Russia needed at the beginning of the century was not agricultural development but industrialization. If modernization were equated with the substitution of industry for agriculture as the driving force in the economy and the migration of the bulk of the rural population into the cities, the optimal economic development policy would seem to be one which encouraged such a transfer of resources as quickly as possible. Industrial growth had to be given top priority, with agriculture playing a subsidiary role as a pool of raw materials, capital and labor.

This had been the rationale of Finance Minister Serge Witte, who supervised Russia's industrialization drive in the 1890's. For Witte, the spearhead of Russia's economic development was the construction of railroads. Railroads could be built relatively

quickly and would lead to the development of a variety of related industries such as mining and steel-making. Industrialization not only led to rapid economic growth, but as Witte reported to the Tsar in 1899, it ensured Russia's sovereignty as a great power.² On the other side of the political spectrum, Piotr Maslov -- an economist and Social Democrat -- argued that only industrialization could raise the productivity of Russian labor: "In Russia, one of two things must happen: either the development of the manufacturing industry with the proletarianization of a certain portion of the population, or complete backwardness and even a decline in the productive forces of the country."³ Agriculture too was supposed to benefit from industrialization. Industry would draw off the surplus rural population, automatically raising labor productivity (and incomes) in the agricultural sector. The growing urban population would need more food and raw materials, driving up agricultural prices (and farm incomes). Farmers could then presumably use this higher income stream to invest in machinery, fertilizers and other technological improvements.

It is hardly disputable that industrialization was a necessity for Russia at the turn of the century, but it is equally clear that the growth of the Russian economy (and of industry as well) was dependent on the continued prosperity and progress of the agricultural sector. Peasants migrating into towns had to be drawn by the greater opportunities in the urban economy, rather than driven by the desperate conditions in the countryside. With 87% of the Russian people living in the countryside in 1897, the impoverishment of the agricultural sector would create such a mass of human misery that no amount of indus-

trial development would be able to alleviate it in any foreseeable future. Writing shortly after the disastrous famine of 1921-22, a Soviet agricultural economist, A.O. Frabrikant, observed: "Peasant agriculture is not just the foundation, but literally the backbone of our economic life. The question of agricultural development is in the most direct sense a question of life or death for our country."⁴ With agriculture directly accounting for almost half of the Russia's GNP, the country's economic welfare still depended on the harvest. Even relatively modest growth in agriculture affected the national economy more than all but the most spectacular gains in industry. As a populist pamphleteer put it in 1902, it was absurd to think that "a population of 130 million can go out onto the road of economic development through one gate -- through the factory."⁵

The industries and cities of Russia were interested in agricultural progress since they relied on the agricultural sector for food and raw materials, and productivity gains in the agricultural sector would lead to a fall in the cost of industrial inputs. The development of the rural economy also meant the development of a vast domestic market for industry. With Russia's manufactures generally uncompetitive in Europe and with the Asian markets underdeveloped, it was Russia's domestic market that fueled the growth of industry.⁶ The agricultural sector was already paying for much of Russia's industrialization. Since the transportation of agricultural products accounted for a major portion of the revenues of the railroad network, it was agricultural trade which justified railroad construction financially. The agricultural equipment industry, meanwhile, was

one of the largest consumers of Russia's iron and steel and it is reasonable to assume that the peasantry was the largest consumer of many manufactured consumer goods.

The welfare of the agricultural sector directly affected the fiscal and monetary policies of the central government. Insofar as the peasantry represented the largest block of taxpayers and insofar as rising peasant incomes expanded the tax base, the government had a direct financial interest in agricultural development. Agricultural production was also crucial to Russia's monetary policy. Since agricultural products accounted for 67% of the value of Russia's exports, it was agricultural production which allowed the country to maintain a gold standard and earn enough foreign currency to import the industrial and agricultural equipment necessary for the country's economic development.⁷

Technological Stagnation in Russia's Agriculture

At the beginning of the 20th century, Russia was hovering on the brink of an agricultural crisis. The problem was that land productivity growth was being outstripped by population growth. While rural population had roughly doubled in the forty years since the Emancipation of the serfs in 1861, crop yields had risen only about 50%.⁸ A number of Western historians have argued that since all the main indicators of Russian agriculture were rising in the late 19th century, the conventional view of Russia's peasant economy being in crisis is wrong.⁹ The problem

with peasant agriculture, however, was not that it was failing to expand, but that this expansion was based excessively on the extension of cultivation and thus was not self-sustaining in the long run.

First let us consider Russia's agricultural backwardness compared to the more advanced countries at the turn of the century. Russia rivaled the United States as the world's largest grain producer and the world's largest exporter of grain, but the majority of the farming population was still mired in poverty (very low production per capita compared with Europe and North America). Russia's agricultural surplus resulted from the great number of farmers, rather than from their efficiency. The individual peasant farmer produced very close to the margin of subsistence, struggling to grow enough food to survive, let alone produce a large marketable surplus. The essential process of specialization of labor, which usually accompanies the introduction of a market economy, had yet to take place in much of rural Russia: most peasant households still grew a whole variety of crops (grain for personal consumption, fodder crops, industrial crops for the market, etc.) and manufactured a good portion of their non-agricultural products (farm implements, furniture, clothes, etc.), instead of concentrating on what they were best able to produce. As a result, the productivity of both land (crop yields) and labor (gross production per capita) was much lower than that of the more advanced countries. Both the large volume and the technological backwardness of Russia's agricultural production is illustrated in the table below.

Field Crops in Russia and Selected Other Countries

Average Crop Production, 1901-1905 (in millions of quintals)

	Rye	Wheat	Oats	Barley	Maize	Sugar Beet	Potato
Russia:	220.1	161.1	128.2	70.9	11.6	78.9	264.2
U.S.A.:	7.7	179.7	126.5	28.4	582.5	18.9	71.5
Germany:	81.6	34.9	71.7	31.2	--	--	439.3
France:	14.8	89.1	44.0	9.2	6.2	67.3	122.7
Belgium:	5.4	3.7	6.0	1.0	--	16.5	22.8
Denmark:	4.4	1.0	6.6	5.2	--	4.0	6.5

Average Crop Yields, 1901-1905 (quintals per hectare)

	Rye	Wheat	Oats	Barley	Maize	Sugar Beet	Potato
Belgium:	21.3	22.9	23.2	27.1	--	299.9	156.4
Denmark:	17.2	27.2	15.8	20.0	--	267.9	120.0
Germany:	15.6	19.0	16.9	18.5	--	--	133.9
France:	10.6	13.6	11.4	12.8	12.2	255.1	82.8
U.S.A.:	10.0	9.3	11.1	14.5	15.7	206.7	59.7
Eur. Russia:	7.4	6.9	7.1	7.6	8.4	147.5	65.9

Why was Russia so far behind other countries in agricultural productivity? The question was extensively researched and debated in Russia at the time. ¹¹ Given the huge agricultural surplus produced by the country as a whole, one would expect that the reason for the low crop yields lay in the fact that the Russian farmer did not need to produce very much from his land since he had plenty of it. Ironically for a country as large as Russia, we find that one of the most acute problems was the often-mentioned land hunger (malozemelie) of the peasantry. The land hunger was a result of the rapid growth of Russia's population, which had risen from 65 million in 1865 to about 130 million forty years

later, the vast majority of the increment accruing to peasant society. Peasant landownership, meanwhile, had grown relatively little and the average size of the peasant allotment consequently had shrunk from 2.5 desiatins per capita in 1861 to 1.3 desiatins in 1901.¹² While the average peasant farm was a little over 10 desiatins, the standard allotment provided under the Homestead Act in the United States was 160 acres (60 desiatins). The peasants reacted to their shrinking allotment size by purchasing or renting an extra 50 million desiatins (equivalent to 36% of total allotment land), though as we shall see below, this brought its own problems in the form of debt and high rental costs.¹³

Land hunger -- though historically a useful concept in some ways, as we shall see below -- is not a good starting point in examining Russia's agricultural underdevelopment. Land hunger is a relative concept: 30 acres may have been insufficient for the Russian farmer with his wasteful methods, but it was more than enough to propel a Danish dairy farmer to prosperity. In other words, the more sophisticated the farming system and the more intensive the production technique, the smaller the optimal size of the farm. Thus, the Russian peasant farmer could just as easily satisfy his land hunger by improving production as by expanding his land tenure. In any case, even if the peasantry expropriated all gentry lands and intensively cleared the lands of all Russia, its ownership of arable land would only rise by about a third; the addition to the amount of cultivated land would be even smaller -- the peasants would gain respite from rental payments on the 20 million desiatins they were already cultivating and they would gain access to another 10 million

desiatins of land cultivated by non-peasant farmers. This was a temporary paliative, which was hardly worth it considering the loss of advanced gentry farms which served as models of agricultural technology and the chaos that it would produce in the nation's banking system.¹⁴ The crucial issue for the peasantry was to increase the productivity of the land -- only in this way could the mass of peasant farmers expect to raise their standard of living.

In the late 19th century, gross crop production had grown steadily, roughly doubling between 1861 and the end of the century. This was due mostly to the expansion of cultivation to the virgin territories of Southern Russia, since even the growth of national crop yield averages at this time was in large part a reflection of the higher yields achieved on these rich new soils. Meanwhile, in most of the older agricultural regions of peasant Russia, farming was technologically stagnant. The predominant peasant farming system -- the three-field crop rotation -- was similar to the one that had existed for centuries, both in Russia and in Europe. Under this system, each field went through a three-year cycle: two years under grain and one year fallow. At any given moment, then, at least a third of the arable land in European Russia lay uncultivated. This contrasted with only 6% in Germany and 3% in Belgium.¹⁵ Under the three-field system, livestock survived in a primitive state, without pedigree and with scant winter feed (the peasants raised few fodder crops or much else besides grain). The village herd was left to fend for itself, grazing the communal pasture, the fallow land and the stubble left over from the harvest.

With population pressure forcing the peasant to produce more food and with agricultural technology stagnating, the peasant farmer was left with only one way out -- to expand cultivation. He did so in the most ruthless manner, trying to eke out a harvest from every available plot of land. This was intensification of production of a predatory and desperate nature -- the peasant would sell his cow or his horse to free land that would have gone for raising fodder crops; he would plow up marginal lands such as ravines and forests; he may have even put the fallow field under the plow, risking soil exhaustion and crop failure. Monotonous grain cultivation and the lack of crop diversification, meanwhile, left the harvest vulnerable to pests and crop failure.¹⁶ It led to what one writer, Mozzhukhin, called "the frightful, weed-choked condition of our fields".¹⁷ The same thing was happening in the non-black earth region: predatory flax cultivation was producing both soil exhaustion and a "dangerous crisis in animal husbandry".¹⁸ A secular decline in flax yields at this time was also noticed in the provinces of Smolensk and Pskov.¹⁹

Peasant agricultural production continued to expand throughout the late 19th century, but it was not difficult to see that the supply of new lands would soon run out. (The growth was already slowing rapidly by 1901) However, the expansion of peasant cultivation meant that the statistics on gross production and crop yields showed little sign of trouble and the looming agricultural crisis showed up only in the data on animal husbandry.²⁰ While rural population was growing at a fast clip and the area under cultivation expanded rapidly as well, the number of horses and cows increased hardly at all between 1877 and 1905 and may

even have declined.

To appreciate the significance of this phenomenon, one must understand the importance of livestock to farmers at this time. Both horses and dairy cattle were indicative of an improvement in agricultural technology: more horses meant more mechanization, while more dairy cattle meant higher value-added production, more manuring of fields and better crop rotations.²² Furthermore, livestock was the peasant's proverbial savings account. A horse or a cow was his margin of safety against famine. If the harvest was disastrous, the peasant could always slaughter the beast, eat the meat and the fodder, and grow food grains on the land he had used to raise fodder. Declining livestock numbers were a direct result of the steady impoverishment of the villages and the increasing desperation of peasant farmers to plow up any available land, specifically pastures and communal grazing lands. In the land-hungry provinces of Kiev and Podolia, for instance, one observer found that only river banks and ravines remained as permanent pastures.²³ A Soviet agricultural economist of the 1920's, Lubny-Gertsyk, described the process:²⁴

The continual expansion of cultivated land at the expense of pastures... led to a deficiency in the fodder necessary to feed the cattle; the result... was a shortage of manure and low crop yields... increasingly frequent crop failures, and as a result, acute famines on the basis of the chronic under-eating of a large part of the Russian peasantry. And inside the commune, the result was eternal arguments, eternal struggles for land rights, ceaseless repartitions... and a psychology of poverty, suppressing all personal initiative and enterprise.

The decline in animal husbandry was especially dangerous in

the northern black earth and central agricultural regions, where rural overpopulation was acute and the natural fertility of the soil wasn't high enough to obviate the need for manuring. ²⁵

Was the Small Family Farm Doomed?

The sorry state of most peasant farming led some analysts to conclude that peasant agriculture was historically doomed. Social democrats like Maslov and Lenin, for instance, argued that peasant farms were bound to be replaced by large-scale mechanized agriculture. ²⁶ They regarded peasant agriculture as inherently obsolete and looked to the United States as a model of future development. Only large farms, these social democrats argued, could afford to invest in new machinery, buildings, livestock and other inputs necessary to improve production. Agricultural economists noted that in Russia, large farms used more advanced production methods and were more commercialized and profit-oriented than small peasant farms. ²⁷ Russian peasant agriculture did not induce much hope for these pessimists. Instead of becoming more mechanized and concentrated, peasant agriculture continued to use traditional technologies on ever more fragmented landholdings. Progress along this path could lead at best to a "Chinese model" -- very high yields on very small family-owned plots -- a model that was quite intensive, but failed to produce either commercialization or profitability. At best, under this

scenario, agricultural production would be able to keep pace with population growth; at worst the country would be subjected to periodic famines. In any case, rural living standards would fail to rise, while the national economy would suffer from a lack of capital accumulation.

This point of view was vigorously opposed by agricultural economists like Chuprov, Kaufman, Chayanov and Makarov, who argued that peasant agriculture was not fatally flawed and indeed had the potential of gaining economic superiority over large-scale mechanized farming. Rather than revolutionary transformation, these analysts argued, peasant agriculture needed only a certain amount of reform and modernization in order to become fully competitive. According to this view, the root of the problem was not small-scale production per se, but the ignorance and technological backwardness of the producers.

The roots of small farming's superiority over large-scale agriculture lay in its greater degree of overall land-productivity (peasant farmers tended to bring a greater proportion of their land under cultivation than large gentry landowners) and in its greater intensiveness of labor. Agricultural production could not be centralized and standardized in the same way as, say, steel production. Radical mechanization of farming and concentration of land ownership when three quarters of the population lived off the land could actually cause massive rural unemployment and a decline in farm production. To support their argument, Russian agricultural economists often pointed not to the United States, but to Europe. The development of intensive farming systems, relying on dairy

production and root crops, had allowed the countries of Europe to escape the Malthusian problem of overpopulation and feed their rapidly growing populations in the 18th and 19th centuries. ³² At the turn of the century, the average size of farms throughout Europe was declining, especially in those areas that were the most productive and technologically dynamic. ³³ Russian agricultural economists noted that when the British government sought to arrest the relative decline of British agriculture and the growth of unemployment in the cities, it enacted the 1907 ³⁴ Small Holdings and Allotments Act to encourage small farming.

The small family farm was a remarkably resilient organism, that had prospered both in commercially depressed periods and in times of vigorous commercial expansion. Since agricultural technology had yet to give machinery and chemicals the dominance they exercise today, labor was still a major factor. For the family farm, not only was labor free (at least in cash terms), it was also likely to be more meticulous than hired labor, since the peasant family was working directly in its own self-interest. The labor-intensiveness of small farming meant that it could easily outproduce large-scale agriculture in areas such as dairy, flax, potato and vegetable production, which demanded an enormous amount of work and could not be easily mechanized. The low level of capitalization on a small farm meant that it was much more flexible than a large-scale farm; small farms could change their farming system quickly to exploit the market openings neglected by their more mechanized counterparts. The superior productivity of small farming, combined with its value as employer of a great portion of the population, made it the ideal form of production

in the agricultural sector. The economist, N.P. Oganovsky,

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wrote:

Capitalist farming [large-scale and mechanized] cannot feed as large a quantity of population, nor can it rationally employ such a mass of second or third-rate labor (women, children, elderly). If all agriculture were to become capitalist, the countryside would be empty and would produce far less bread and meat, while the cities would groan from a shortage of food and an excess population with nowhere to go. From a national economic point of view, family farming, capable of maximizing the productivity of land and the employment of family labor, constitutes the best foundation for the development of [the nation's] productive forces...

The proponents of small farming were by no means calling for the conservation of the peasant family farm as it had existed for centuries. The peasant farm that would conquer the future, according to this view, was not the traditional peasant household with its natural economy, but a strongly commercialized, 36
technologically sophisticated and forward-looking operation.

Nor did the small farm advocates deny that certain functions, such as agricultural research, marketing and the purchase of farm supplies, had to be carried out on a large scale in order to be economical. The necessary economies of scale could be achieved if these operations were undertaken either by cooperatives or, sometimes, by the state. In 1911, K.S. Ashin, an agricultural economist, cautioned that Russian agronomists shouldn't idealize the European farmer as the paragon of "individualism", but rather take a closer look at European agriculture and notice the crucial role played by social agronomy and cooperation. Ashin pointed out that in the most advanced European countries, the state organized

agronomic research and agricultural extension services, while access to cheap credit, marketing services or farm supplies, normally difficult for the small farmer, were gained through cooperatives. Ashin even went as far as attributing all agricultural progress to the development of social agronomy and cooperation:

Take away from countries such as Denmark, Belgium, Bavaria, Italy, their rural cooperatives, take away their social agronomy and you will find that without them small farming will disappear. In the place of phenomenal production there will be... a desert. The higher the country's culture and the more intensive its agricultural production, the deeper and more powerful is the influence of [cooperatives and social agronomy] on small farming.

Cooperation was a crucial part of the argument defending peasant agriculture. Only through cooperation, could peasant farming be modernized and thus preserved. This view was most forcefully propounded by the great Russian agronomist, A.V Chayanov, who in his writings during the period 1912-27, consistently championed both peasant agriculture and cooperation. "Progressive modernization of peasant agriculture is inconceivable without cooperatives, just as modern industry is inconceivable without capitalism," he argued. For Chayanov, peasant farms, united into cooperatives, were the most efficient form of agricultural production.

It is our deepest conviction that the ideal unit of agricultural production is neither a large latifundia nor the individual peasant farm, but a new type of farm organization in which the organizational plan is divided into sections, each of which is

organized on a scale optimal for it. In other words, the ideal seems to us to be a peasant family farm which has singled out from its original plan all those sections in which large-scale production has indisputable advantages and has organized these... into cooperatives.

Virtually all Russian agricultural analysts agreed with Chayanov on the benefits of agricultural cooperation. The term cooperation was not taken to mean cooperation of production, in a manner similar to Soviet collectivized agriculture. Most production would still be organized on the level of the individual farmer and his family. Agricultural cooperatives would merely support the farmer by offering him better services. A Soviet agricultural analyst, A.O. Fabrikant, was to comment in the early 1920's:

If for the larger farm cooperation is merely advantageous, then for the small farm it represents a vital pillar of support. Precisely the characteristics that make the small farm exceptional -- its greater flexibility and incomparably higher capacity for work -- demand some kind of natural reinforcement. In other words, the small farm has the capacity for greater intensification, but the cooperative represents the missing link which develops the small farm's unexploited potential.

The main reason why small farming, specifically peasant farming, could flourish at the beginning of the 20th century was that agricultural technology, properly employed, favored the small enterprise. It was technological progress that would make peasant farming viable and would justify such a large number of small farms on the Russian land mass.

The Path of Progress: Animal Husbandry, Crops and Farm Equipment

We have seen that the livestock crisis was the most acute problem in Russian agriculture. Since the livestock crisis was only a reflection of the growing problems in field cultivation (obsolete crop rotations, low crop yields), its resolution could only be resolved indirectly -- through improvement in field cultivation. What was the model farming system to which all Russian farmers had to strive? With a few exceptions, opinion on such technological questions was fairly well united. Agronomists arrived at their models by aggregating the experience of different kinds of European and American farms, as well as of their own research stations. The path of technological progress could also be identified by looking at the more advanced provinces of Russia and seeing how they had evolved beyond the national norm. What kind of lessons did Iaroslavl or Moscow have for the non-black earth region? What could Poltava or Ekaterinoslav teach other black earth provinces? To a certain extent the evolution of Russian agriculture could be grasped geographically.

The technological imperatives of the day demanded that Russian farmers improve their animal husbandry and their crop rotations. The two were intimately linked. Livestock not only added to the assets of the farm, it was crucial in raising the fertility of the soil. Russian farmers could raise soil fertility by applying artificial fertilizers, potentially doubling crop yields.⁴³ But since most of Russia's artificial fertilizer was imported, it was too expensive to use beyond a small area such as

the farmer's market garden. As late as 1907, the average Russian farmer applied 48 pounds of fertilizer for every 100 desiatins, compared with 2,794 pounds in Britain, 5,460 pounds in Germany and 8,911 pounds in Belgium.⁴⁴ To advocate that the Russian farmer should apply artificial fertilizer at the same rate as his Belgian counterpart would mean making agricultural progress hostage to the development of industry. Therefore, the most practical way of raising soil fertility was through increased application of manure, an excellent fertilizer which was in many ways superior to artificial fertilizer. Manure did not have to be carefully mixed in terms of its chemical content -- since it contained a wide array of nutrients, manure was an inherently balanced additive. It also improved the organic richness of the soil, since it contained a mass of micro-organisms, which chemical fertilizers did not. If it was mixed with straw, manure significantly improved soil texture, which the application of chemical fertilizers did not accomplish.

Better crop rotations, meanwhile, could also improve soil fertility. Row crops (potatoes, sugar beet, corn) provided the soil with a refreshing variation from the monotonous procession of sod-forming grain crops, while grass hays such as clover and alfalfa naturally replenished the soil's nitrogen content.⁴⁵ Improved crop rotations also increased the amount of produce the farmer could get from his arable land. English farmers had discovered this in the 18th century, when they substituted the three-field crop rotation (grain-grain-fallow) with the Norfolk system (grain-grain-turnips-clover); continental countries like Germany, France and Denmark followed suit in the 19th century.⁴⁶

The new crop rotation not only included higher yielding root crops (potatoes, sugar beet, turnips, etc), but allowed the farmer to raise a harvest from land which would have lain fallow under the old system.

What could be done to improve Russia's animal husbandry? Since raising the pedigree of the animals through better breeding was a lengthy and expensive process, the most practical way of attacking the animal husbandry problems was through improving livestock feed.⁴⁷ Except for Western Siberia and some northern provinces which were blessed with exceptionally rich natural meadows, most of Russian farmland could provide little fodder for livestock, which had to survive the long winter months in a near-famished state. It ought to be noted that because of the nation's short growing season and the long period during which cattle had to be kept stalled, keeping livestock well-fed was more of a challenge in Russia than in any other European country. The fodder question was the single most important issue facing the Russian farmer.⁴⁸ And the resolution of the fodder question meant improving crop rotations.

Thus, the Russian farming system had to evolve from a grain or flax monoculture into a system of mixed farming, with more grass and root crops and improved animal husbandry. All these elements -- flax, potatoes, grass and commercialized animal husbandry -- produced maximum returns when they were integrated together. In this case, they amounted to a radical overhaul of the peasant farming system. The farm budget changed, new buildings had to be constructed, new talents acquired. The work schedule would also have to change -- gone were the dreary months of

winter idleness. The diversified crop rotations (with different crops maturing at different times and requiring a different degree of processing) drew the labor out during the year (in the case of dairy farming, the work proceeded year-round).

The main revenue-earners were the higher quality grains such as wheat and barley, dairy products, flax and perhaps potatoes. Rye and oats were still cultivated, the former mainly for personal consumption and the latter for livestock fodder. The beauty of this new farming system was that it represented a remarkably efficient closed cycle. Almost nothing was wasted. Flax was grown commercially mainly for its fibrous stem, but the seeds could be processed into a high-protein cattle feed (linseed cake). Potatoes were a high-yield crop, which could either be consumed at home, sold for starch or alcohol processing, or fed to livestock. Milk could be sold daily in the local market or processed into butter, in which case the skimmed milk byproduct could be consumed at home or fed to livestock. When the animals were slaughtered, their flesh went into the family pot, while their hides could be sold for leather and their bones processed into glue or fertilizer.

In order for the system to achieve its maximum efficiency, it was essential to raise animal husbandry from a system of open grazing to a system of stall feeding. That meant that the farm had to produce an abundant supply of nutritious fodder: mainly oats and clover or alfalfa, but also farm byproducts such as linseed cake, sugarbeet leaves and the leftover potatoes. Once the complexities of a multifold crop rotation were mastered, stall feeding easily paid for itself. Stall feeding minimized the

need to set land aside for pastures, ensured a properly-balanced diet for the animals and facilitated the collection of their manure. Despite the intensiveness of this system of production, the soil would retain all its natural fertility. Cow and pig manure returned a great deal of the soil nutrients that had been extracted in the form of fodder crops. The grass hays raised as fodder crops, meanwhile, would automatically replenish the soil's nitrogen content. Sometimes soil fertility could even be raised through better crop rotations, but the mere fact that fallow lands could now be cultivated without exhausting the soil was already a great achievement.

In the non-black earth region neither the soil nor the climate were good enough for self-sufficiency in grain-production. Many peasant farmers had to buy grain on the market and for this they needed cash. The main cash crop here was flax, virtually all of which (93%) was marketed.⁴⁹ Russia's flax had been exported as far back as the days of Ivan the Terrible, when it was sold to the English Navy to make ropes.⁵⁰ Flax could be grown either for its fiber (which could be used for fine cloth, household linens, carpets, ropes, twines, etc.) or for its seeds (linseed oil was used for paints, oilcloth, leather processing and livestock fodder). In Russia, most flax production was for fiber. While flax fiber was being phased out of European agriculture in the 19th century, driven out by the competition of imported cotton and jute, in Russia it continued to flourish. By the beginning of the 20th century, Russia accounted for almost two thirds of the world's production of flax fiber.⁵¹ Flax was a highly labor-intensive crop and could be grown economically on

very small plots. It was a relatively fragile plant, vulnerable to weeds and hence required meticulous cultivation. But the real labor in flax fiber production came after the harvest; the processes of threshing, retching, drying and crushing the flax fiber took up more than half the total annual labor on the crop.⁵² It should be noted that there was great unexploited employment potential in the field of flax processing, since only 25% of Russia's flax crop was processed by peasant cottage industry, 14% was processed by Russian industry and 61% was exported unprocessed.⁵³ Thus flax was the ideal peasant crop in the non-black earth region -- not only was it highly marketable, it was also labor-intensive and required lengthy processing (production could thus take up much of the winter slack time).

Another very profitable area for peasant agriculture was the cultivation of root crops such as sugar beet and potato. Both produced enormous yields per acre, though they required a lot of work and could easily exhaust the soil. In terms of desiatins under cultivation, sugar beet was only just beginning to catch on at the beginning of the century, mostly in the provinces of Kursk, Kiev, and Volhynia. Beets could be processed into sugar, molasses, alcohol and yeast, and produced a byproduct of mush and leaves which was excellent cattle fodder. Potato was far more widespread as a crop, though still underdeveloped. Potato was also an industrial crop in the sense that it was often processed into alcohol, starch, glue, etc. The virtue of the crop was that it was resilient, kept well through the winter and, above all, abundant. The agronomist D.N. Prianishnikov declared, "Raising potatoes and other root crops is equivalent to harvesting three

bushels where before you could only get one." For this reason potatoes were an excellent crop for small farms; in Germany, for instance, the smaller the farm, the more land it was likely to have under potatoes.⁵⁴

This was the picture of a modernized farming system in the non-black earth region painted by virtually all Russian agronomists at the time.⁵⁵ Even the black earth region, where the soil was rich enough not to need extensive manuring, could benefit from the elimination of the wasteful three-field crop rotation⁵⁶ and the greater production of fodder crops. In addition, farmers in Southern Russia could benefit by further diversifying their farming systems to include fruit, vegetables, poultry-farming and drought-resistant crops such as sunflowers.⁵⁷

In addition, Russian peasant farmers could improve their productivity through better methods of cultivation -- better techniques in plowing, sowing and harvesting. In the black earth region, soil fertility could be enhanced if the fields were plowed deeper in order to turn over more of the top-soil. The stubble after the harvest had to be plowed under (instead of given to the cattle for grazing) and winter wheat had to be planted early in the fall. The sowing season had to start earlier and the seed-grain had to be cleaned so as to remove chaff and weed seeds. All of these improvements demanded better management and better labor techniques, but they also demanded better equipment. For southern Russia especially, the question of mechanization was of paramount importance.

Russian agriculture at the beginning of the 20th century was undergoing what might be called the first stage of mechanization.

As in the rest of the world at the time, power machinery -- whether steam engines or gas-driven tractors -- though highly visible, was of marginal importance compared to more basic technologies such as improved plows and horse-drawn reapers. Mechanization consisted of replacing human labor with animal labor, hand power with horse power. Better equipment could increase the tempo of work, reduce the drudgery of farm labor and produce better quality results. Since Russia had an abundance of labor and a low level of capitalization, it was preferable to introduce equipment that was relatively labor-intensive, cheap, durable and simple to operate.

The first major improvement was usually the replacement of the old wooden plow (sokha) with a metal one (pluga). Whereas the northern peasant could get by with scratching the earth with his wooden plow, in the South, where the rich top soil often reached a depth of four feet, the peasant needed a plow that would cut deep, slide smoothly and turn over the soil evenly, all without necessitating increased draft power. Only the metal plow could do this. It was 50% faster than a wooden plow and produced better results to boot.

For the sowing season, the peasant farmer traditionally relied on the simple broadcast method. If he were to use a seed drill, he would cut down on his use of seed-grain and sow the field more evenly. The result was usually a crop-yield improvement of 25% or more. The farmer could benefit even more by cleaning his seeds before spreading them in the fields. Otherwise he would not only sow a large proportion of infertile seeds, but he would also unwittingly plant weeds along with his crops. (The

weeds would then be harvested along with the crop, resulting in a poor quality farm product, while the weed's seed would go into the next spring's sowing, repeating the cycle.) The employment of a simple seed-cleaning machine, therefore, could do much to improve peasant production. After sowing, the peasant would commonly drag a harrow through the fields. Here he could benefit from replacing the home-made wooden harrow with a more durable and efficient metal one.

The great bulk of farm labor was employed at harvest time. Up to three quarters of the manhours of the year were spent in this short, exhausting period. If the harvest was cut by sickle, the work was time-consuming and grueling, since it had to be done in a difficult stooped position. Scythes improved matters, though the work was still slow and the process of gathering and binding the crop took up a lot of time. The introduction of a simple reaper, similar to the one invented by Cyrus McCormick in the 1830's, could speed up the harvest many times over, while reducing the labor requirement. One man with a modern reaper-binder could accomplish 36 times more work than a man with a sickle.⁶¹ The introduction of threshing and winnowing machines, run by hand- or horse-power, could improve the quality of the marketable product while cutting down on the time spent processing the grain after the harvest was brought in.

Mechanization of agriculture inexorably led to its commercialization. Most of these farm machines paid for themselves if they were used on a relatively large plot of land -- 20 desiatins or more. At the same time, the purchase (and upkeep) of complex machinery required a substantial cash outlay. The farmer

therefore had to maximize his cash revenues. This led observers to conclude that once the farmer began to purchase modern machinery, he was in a sense committed to the market. There was no going back to a natural economy.

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Did this mean that mechanization would make the small family farm obsolete? Not necessarily. Mechanization in fact could bolster the viability of the family farm, not only by improving efficiency and bolstering farm revenue, but also by making the family farm more independent by obviating the need to hire labor or work animals during the rush period. With respect to those machines which were economical only on a relatively large plot of land, peasant farmers could either buy them cooperatively or buy them independently and later rent them out. With the spread of mechanization in Russian agriculture, both practices became very popular. As we will see in later chapters, machine rental stations -- a form of cooperative machine use -- numbered in the thousands on the eve of the revolution, while according to some surveys, up to one third of peasant farms rented machinery from their neighbors.

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Such was the path of technological progress as it appeared to Russian farmers at the beginning of the 20th century. The path was clear, but in order to pursue it, Russia's peasant farmers needed capital to invest in new production techniques.

Low Capital Accumulation and Investment

Broadly speaking, the lack of technological progress in peasant farming was the result of both economic and cultural factors. The economic cause of the Russian peasant's technological backwardness can be stated simply as a shortage of profits which could be reinvested into the farm system. The cultural factors consisted of a lack of technical knowledge, obsolete social institutions and a pre-capitalist value system, which made the peasant farmer either incapable or unwilling to generate such profits. These will be considered in the next chapter and indeed in most of the rest of the thesis, since the Stolypin reform correctly assessed cultural factors to be the crux of the problem and made them the focus of its development efforts. Here we will focus on the economic causes for low capital accumulation: low labor productivity, unfavorable market conditions and appropriation of much of the surplus capital by government agents and middlemen.

Low labor productivity was both a cause and a result of Russian agriculture's technological backwardness. Given the wasteful farming methods prevailing at the time, the decline in land-use per capita meant that the Russian countryside was increasingly burdened with a large labor surplus. The 1901 Commission on the Impoverishment of the Central Provinces found that under the existing technological conditions only about 15 million hands were needed to bring in the crops in central Russia. The real size of the adult peasant population was over

three times that number. Even taking into account the effect of handicrafts and non-farm employment, the Commission found that over half of the rural adult population constituted a labor surplus.⁶⁴ At the same time, the Department of Tax Collection estimated the labor surplus to be as high as 68% in the central black earth region.⁶⁵ Some agricultural economists believed that even these figures were too conservative and stated flatly that 3/4 of the rural labor force was surplus labor, without any productive use in either agriculture or industry.⁶⁶ The labor surplus led to falling agricultural wages up to 1905; falling wages lowered the standard of living of the peasantry and discouraged the mechanization of agriculture.⁶⁷

The under-employment of the agricultural labor force meant a low level of labor productivity, and consequently a profit margin which was either minimal (with the household just breaking even on a primitive level) or negative (increasing indebtedness). Producing such a small profit, the farmer didn't have the means to invest in technological improvements and, living on the edge of survival, he was hardly eager to take risks. If peasant agriculture remained technologically stagnant while the supply of available farmland increased little if at all, rural population growth would cause agricultural labor productivity to decline. That would be a big problem, warned the agricultural economist, N.P. Oganovsky. "Sooner or later, the decline of peasant labor productivity leads to the impoverishment of peasant farming, and this impoverishment leads to decline of the productive forces of the nation as a whole."⁶⁸

Another factor in the peasant's low accumulation of capital

was the unfavorable price structure relating agricultural goods to manufactured goods. This was largely a function of Russia's low level of industrialization. Because Russia's urban market was still relatively small and because the rapid expansion of world agricultural production depressed prices in the export markets, prices for virtually all agricultural products in Russia were falling consistently throughout the latter half of the 19th century, only recovering after 1896. Meanwhile, the low levels of industrialization in Russia meant that prices for manufactured products, whether sewing machines or metal plows, remained high. Government tax and trade policy compounded the problem. Prices for many necessary consumer products such as matches, kerosene, salt, sugar and alcohol were raised by a hefty excise tax imposed by the government, while the prices for imported agricultural machinery (due to the underdevelopment of Russia's farm machinery industry, most modern farm equipment had to be imported before 1905) were raised by a steep import tariff. The excise tax meant that after paying a high price for the consumer products indispensable to him, the peasant had little cash left over to buy much else, while the tariff on imported machinery made it even more inaccessible to the majority of farmers.

Low prices for agricultural goods limited the amount of operating profit the peasant farmer could produce. But even this surplus was then substantially reduced after the taxman, the rentier landlord, the money lender and the grain merchant all took their share. In other words, a great portion of the value of peasant farm production flowed out of the villages and was never reinvested in production.

The peasant farmer suffered from the underdevelopment of Russia's credit and marketing networks. With transportation often difficult and time-consuming and with the peasant's produce passing through as many as eight middlemen, naturally the price paid to the farmer for his produce was a fraction of the price ultimately paid by the end consumer. Similarly, the primitive state of Russia's rural credit markets meant that the field was dominated by loansharks and money lenders who charged as much as 40% interest (at a time of zero inflation).⁷⁰ Since the peasant farmer needed credit, not only to rent land but to cover family expenditures until the harvest was sold, high interest costs were bound to cut into peasant incomes.

A substantial amount of the peasant's cash also went to paying for land. According to the settlement of 1861, the peasants had to pay for most of the land they had received. At the beginning of the 20th century, the peasants were paying 100 million rubles annually in installment payments and according to one estimate, by 1907, they had payed a total of 2.5 billion rubles for the land they got in the 1861 settlement.⁷¹ But as we saw earlier, the land provided by the 1861 settlement was increasingly proving inadequate in maintaining peasant living standards. Land hunger had driven peasant farmers to purchase some 25 million desiatins of land in European Russia at an average of 90 rubles per desiatin -- a steep price that often was less a product of the income that could be gotten from the land than from the peasant farmer's increasing desperation to feed his family in any way possible. One of the most alarming aspects of the agricultural situation at the turn of the century was the

steep rise in land prices: the average price for a desiatin sold by the Peasants Land Bank rose from 49 rubles in 1896 to 107 rubles in 1902.⁷² The debt owed to commercial banks and the Peasant Land Bank increased with every year; by 1912 the peasants were paying an estimated 195 million rubles annually in installments, interest and commissions for land purchases.⁷³ This amount dwarfed even the burdensome debt payments from the settlement of 1861. On the eve of the war, total peasant indebtedness for land purchases had increased to at least 1.5 billion rubles, an amount that was over a third of the yearly cash income produced by the whole agricultural sector.⁷⁴ In addition to land purchases, approximately 20-25 million desiatins of land were rented by the peasants each year, at a price of about 10 rubles per desiatin.⁷⁵

Debt-financed capital expenditure is not necessarily a bad course of action. In this case, the expenditure of 500 million rubles or so annually allowed the peasants to cultivate at least 50 million extra desiatins of land and alleviate the land hunger at least to some extent. But this was a poor man's progress. Rental prices for instance sometimes exceeded the revenue to be squeezed out of a given plot of land.⁷⁶ In such cases, the peasant would rent the land anyway because he needed to cover the consumption needs of his family at any cost. With the price of land outrunning the increase in land-productivity, the peasant was destined to fall deeper into debt; land- and labor-productivity, instead of rising, would decline.⁷⁷ True, the extension of peasant cultivation to 50 million desiatins of new land since 1861 did allow peasant farmers to raise their labor

productivity, but without land-productivity growth it did nothing to alleviate agricultural backwardness or rural poverty. In this light, the 500 million rubles spent annually by peasants on purchasing or renting extra land appears to have been a waste of money which could have been better spent on improved equipment, seeds, livestock and storage facilities.

Many of the problems behind the low accumulation of capital in the peasant economy could have been solved by the development of industry. Greater employment opportunities in the industrial sector could have eliminated some of the surplus labor in the countryside and thus raised rural labor productivity. The development of the farm machinery industry could have lowered the price for these products, making them more widely accessible to the farming population. The expansion of the railroad network would have increased the accessibility of Russia's domestic and export markets to the peasant farmer, cutting down on the number of middlemen in agricultural trade and integrating the nation's credit markets. The growth of the urban population, meanwhile, would have raised the domestic demand for food and raw materials, raising the price for agricultural products.

Russian economists had become aware of these factors from reading von Thunen's influential work, The Isolated State, which had been published in 1826. Von Thunen found that the closer a farm was to an urban market, the higher the prices it could get for its produce and the more intensive the farm's production. Russian economists noticed that farms on the periphery were burdened with high transportation costs, which resulted in low prices for agricultural goods and high prices for urban manufac-

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tures -- in other words, in unfavorable terms of trade. The same factor that affected produce markets also affected capital markets. Russian economists found that well-developed areas had greater access to credit and capital, but it was the periphery that needed the money most and found it scarcest. A real life example of these effects could be found in the case of Western Siberia, which was transformed from a primitive hinterland into a flourishing regional economy by the construction of the Trans-Siberian Railroad in the 1890's. The dispersion of Russia's population and the underdevelopment of its railroad network can be seen in the table below.

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Population Density and the Railroad Network, 1912

	<u>Population per 100 sq. kilometers</u>	<u>Kilometers of railroads per 100 sq. kilometers</u>	<u>Kilometers of railroads per 1,000 of population</u>
Britain	178	12	8
Germany	120	12	9
France	74	9	13
European Russia	26	1	4
United States	12	4	42

The point that should be stressed here is that there was no reason for agricultural development to wait for the development of industry. There was plenty that could be done within the agricultural sector itself, which would improve the efficiency and revenues of peasant farmers, and ultimately help speed industrial development as well. The effects of peasant overpopulation and land hunger could be mitigated by raising land-productivity through land reform or agricultural extension work. A land reform

that eliminated the peasantry's wasteful methods of strip farming could raise crop yields and labor productivity, while the privatization of land would provide an incentive for farmers to conserve the fertility of the soil and allow those peasants who wanted to abandon farming to sell their plots. Agricultural extension work, meanwhile, could provide peasant farmers with knowledge necessary to improve their farming systems and raise their incomes. If Russian farmers were convinced to adopt western techniques there was every reason to believe that they could produce European-type crop yields. The high price of the credit received from merchants and moneylenders, meanwhile, could be combatted through the successful development of a network of credit cooperatives. The problem of middlemen and the price structure -- the low price paid to the farmer for his produce and the high price he had to pay for farm supplies -- could also be mitigated through the organization of cooperative processing, marketing and purchasing.

If all these measures were successfully applied to the peasantry, Russia would witness a veritable transformation of the rural economy. Peasant farmers would become wealthy, the demand for domestically-manufactured consumer goods and farm equipment would rise, larger harvests would be produced with greater efficiency and Russia's cities would receive a mass of cheap food and raw materials. This was an alluring picture indeed and the government soon decided to try and help it materialize. But before this transformation could come about, there was one crucial group that needed to be convinced: the peasantry itself. Before the government could hope to see any great institutional

or economic change, it had to encourage the transformation of peasant culture. It is to the cultural environment of peasant agriculture that we turn to next.

CHAPTER TWO

RURAL LIFE AT THE TURN OF THE CENTURY

Before any mass technological change could take root in Russia's rural economy, rural society had to undergo a cultural change. Specifically, the mentality of peasant farmers had to change. In place of the traditional peasant with all his faults and peculiarities, there had to appear a new peasant farmer, who would be receptive to change, both technological and economic.

Good quality management is crucial to the success of any economic enterprise. The "human factor" is decisive in farming as in any other activity. The Russian farmer at the beginning of the century was both a worker and a manager. As a worker, he needed the health and strength to cope with the gruelling work; he needed to be industrious, diligent and persevering. The more commercialized and sophisticated the farming system, however, the more the farmer's qualities as a manager began to overshadow his brawn and endurance as a worker. Farm management was crucial. Carelessness with machinery or with livestock could result in devastating losses. Lateness in planting and harvesting could be equally disastrous. The margin of error for the peasant farmer was very small. The peasant farm manager had to have more than just a "feeling" for the land, more than just an intuitive knowledge of his soil, crops and animals. Increasingly he had to be innovative enough to think of ways to improve his production, decisive enough to decide on a plan for his farm system, and self-disciplined enough to execute it properly. Specifically

speaking, the peasant farmer needed at least: literacy, in order to keep up with developments in agricultural technology; mathematical skills, in order to keep accounts; and enough culture to be able to appreciate the value of the improvements he heard about.²

In this chapter, we will try to delve into the psychology of the peasant farmer, by examining the social environment in which he operated. We will begin by looking at the structure of the peasant village and how it may have affected its members, and end by looking at the influence of various non-peasants with whom the peasantry shared the Russian countryside. The latter, as we shall see, had to play a crucial role in the process of cultural change in peasant society. The nature of peasant society at the turn of the century, the position of the gentry and the structure of rural administration at this time have been subject to extensive research and debate in Western historiography. The aim of this chapter is to describe only briefly some of the social elements in rural Russia who would prove important in the Stolypin Reform.

The Russian Village

The social and financial structure of peasant Russia at the turn of the century is an important and complex topic. Peasant budgets alone were the subject of voluminous research by sociologists and economists before the revolution and by historians since then. The research is complicated by the fragmented nature of the statistical data and by the huge

regional variations in the peasant economy. However, it is necessary to present here at least a rough estimate of the average peasant enterprise and of how the average peasant family lived, in order that we may provide a perspective for the rest of the dissertation.

In 1897, 79 million peasants were registered in European Russia. They were settled in about 500,000 little hamlets and villages at the beginning of the 20th century, each containing an average of about 158 inhabitants, though southern villages tended to be much larger than northern ones. As a rule, about four villages made up a commune, the lowest rung on Russia's administrative and juridical ladder; there were about 120,000 communes in European Russia.³ Russian villages at the turn of the century usually had no telephones or electricity, while postal service came once a month if the roads were good. The chief landmarks of rural society were the local church and perhaps the neighboring gentry estate. If the village was large and prosperous, you could find a shop, a tavern or tea room, a small school, a boot-maker, a blacksmith or some other artisan's workshop, and only very rarely some consumer or credit cooperative. But to foreign travellers, most Russian villages produced an impression of squalor and poverty.⁴ Peasant houses were made of wood in the North and of stucco and straw in the South. Predictably, fires were a major problem. Over the course of only one year, for example, Kiev province reported 3,000 village fires, destroying 13,000 buildings and causing 1.5 million rubles in damage.⁵ Unfortunately for the Russian peasant, cement, brick and tin sheet were still rare commodities.

In European Russia in 1905, there were 12 million peasant households, each containing an average of about seven people and owning an average of 10.3 desiatins of land.⁶ The assets of the average peasant household included the house and barns, farm equipment, 1-2 horses, 2-3 cows, personal possessions and some cash savings or stored produce.⁷ The asset value of the peasant's 10.3 desiatins of land, however, was only theoretical, since he had virtually no legal right to sell it. The cash revenue of the peasant household from agriculture, handicrafts and other earnings varied from 500 rubles in Moscow province to slightly over 200 rubles in Vologda; cash revenues typically made up almost half the total value of the production of a peasant household at the beginning of the 20th century, the rest of the production usually going directly for the consumption of the family and the livestock.⁸ Most of the peasant's cash revenue went to pay for necessary consumer goods such as food, vodka and textiles, to pay various taxes and redemption payments, and to pay rent for extra plots of land and interest on loans. Whatever cash the peasant had left over, he could invest back in the farm. What could he buy? The average price for one desiatin of land in 1904 was 99 rubles; a metal plow could cost anywhere from 6 to 25 rubles; complex farm machines such as reapers, seed drills and winnowing machines cost from 50 to 200 rubles; a horse bought in February cost 47 rubles, an average cow bought at the same time cost 65 rubles.⁹

Peasant society followed the religious calendar with its great fasts and feast days, and the weddings and funerals celebrated in church. Market day was also a big event, usually on

Sundays in the central village of the township (volost). Migrant traders and religious missionaries would sell their wares and bring news from the outside world. Market day was a day for both commerce and merry-making. Apart from such extraordinary events, peasant life was dictated by farming and the seasons of the year. The growing season was very short: four or five months in the very North and eight months in the Southern provinces on the Black Sea.¹⁰ During the height of the work season the peasant family usually moved out to a makeshift camp in the fields. The frantic rush of the work season was followed by long months of idleness for the majority who did not engage in handicrafts production or take a job in town.

Apart from the family, the most important institution in peasant society was the commune. All the peasant lands that had been granted under the 1861 settlement belonged not to individuals or to families, but the commune. All heads of households had the right to vote in this democratic institution, and it decided questions of economic policy, the redistribution of lands between families and various minor juridical questions. The commune was a point of great controversy for Russian thinkers at the turn of the century. As one historian remarked at the time: "the commune is a critical point on which all the peculiarity of Russian scientific and political thought are reflected with extraordinary clarity and intensity..."¹¹ All observers were aware that with the development of capitalism in the national economy, the peasant commune was approaching a fateful moment of decision. The coexistence of private property with the peasant commune represented a "knot that cannot be

untied through half-baked decision," as one neo-populist activist¹² declared. Private property and communal tenure were destined to clash and "one of them must ultimately push out and destroy the other," wrote the historian Kachorovsky at the beginning of the¹³ century. At the time, it was still unclear which way society would go: towards greater collectivism and "socialization" or towards the triumph of private property and capitalism

Even the intelligentsia was divided on the issue. Neo-populists like Kacharovsky supported the commune mainly out of their resistance to capitalism, "not because the commune is the highest and ultimate form, so to speak, but because it is the lesser of two evils, the closest step to complete¹⁴ socialization." Opponents of the commune regarded it as reactionary and pointed to the institution's deleterious economic effects, to its alleged encouragement of overpopulation, strip farming and obsolete crop rotations. Many liberals criticized the commune's constraints on the mobility of labor and managerial initiative, while communal redivisions were acknowledged to¹⁵ discourage improvements in the cultivation of land. On the other side of the political spectrum, Lenin argued that by tying the peasants to the land, the commune perpetuated "non-economic¹⁶ compulsion" (feudalism) and low crop yields. "The problem is not the development of capitalism, but the lack of capitalism,"¹⁷ he declared. In any case, Lenin argued, the peasants were increasingly bypassing the commune, cultivating rented lands outside the organization, while the commune's supposed egalitarianism was being destroyed by increasing social¹⁸ stratification within the peasantry. Even the neo-populists

admitted that traditional peasant society and specifically the commune were threatened, not least by the mounting poverty of peasant farmers.¹⁹

77% of peasant households in European Russia lived in repartitional communes, with land being periodically redivided between households. The rest -- mostly in the western provinces -- held their land under hereditary tenure.²⁰ Both forms of land tenure tended to perpetuate strip farming, hereditary land tenure especially, since here the boundaries were fixed and thus extremely hard to rationalize. Strip farming was an inevitable consequence of the strict egalitarianism of peasant society. In the repartitional commune, each family was supposed to receive a quantity of land proportional to the number of workers or mouths it had to feed. Instead of giving each household one plot of land of a particular size, peasant custom demanded that each field -- whether good farmland or bad, near to the village or far -- be divided into strips and that each household get its fair share.

The result of communal tenure in both cases was that the peasant's land was fragmented into a multitude of tiny strips. In the non-black earth region, where land fertility was highly variable, the number of strips commonly reached a hundred or more.²¹ In the South, the problem was more the large size of the villages, meaning that the strips were further apart from each other, some as many as ten kilometers from the village.²² It can only be imagined what an appalling waste of time was involved in getting from the house to the field and from one strip to another. Not surprisingly, the most remote plots were often left unmanured, cultivated only superficially and occasionally not

cultivated at all. Another problem with strip farming was the shape of the strips themselves. Often they were no more than a few yards wide, hardly enough room to turn a plow. The boundaries between strips were marked by ditches. These boundaries represented an enormous waste of land, taking up as much as 10% of the village land by one estimate. In addition, they became fertile breeding grounds for weeds and pests.²⁴

The other drawback of communal tenure was that while cultivation was done individually by each peasant household, the small size of the strips made any individual crop rotation or work schedule impractical. Crop rotations and the time of planting were decided by the village assembly once a year. An enterprising peasant farmer could not decide individually to skip the fallow year or raise two-year grass hays, for instance, since the village livestock had the right to graze the stubble and the fallow lands and would be sure to eat the crop. When a change of crop rotation required a two thirds majority of the village, tradition ruled. It's no surprise that peasant farmers developed an attitude that one observer characterized as: "What's the use of thinking up some new type of project; do it the way our elders do -- they're no stupider than we."²⁵ Animal husbandry suffered since the farmer's cattle had to be left with the rest of the village herd, dependent on the particular commune's standard of grazing and breeding. Not surprisingly, Russian cattle appeared scrawny and ill-fed to foreign observers.²⁶

What peasant farmers did with the manure of their livestock was an even more striking example of their ignorance or unwillingness to make the effort to farm correctly. In stead of

spreading the manure on their fields or their kitchen gardens,
peasant farmers sometimes just threw it away. ²⁷ Annette Meakin,
an English anthropologist travelling around Russia shortly before
1905, was told by a German shopkeeper in Kharkov: ²⁸

It is scandalous! What do you think the Russian peasants do with the manure from their cattle sheds? They cart it into the river! It never enters their heads to use it for their fields as the [German] colonists do. Why, the soil round here is so rich, that if they only worked it properly, they would choke with their own wealth.

In general, communal tenure discouraged individual enterprise and industriousness. The peasant farmer had little incentive to fertilize or clear his land, since it was likely to pass to someone else in the village-wide repartition several years down the road. ²⁹ Neither could he implement any ambitious schemes for a more efficient crop rotation or system of animal husbandry, unless of course, he was influential enough to convince the whole village to try the experiment with him.

Peasant Attitudes

The communal institutional structure determined that village life would be collectivist, egalitarian, tradition-bound and suspicious of new people and ideas. The collective ownership of resources and a tradition of collective decision-making easily led to an "impoverishment of the commons". Resources that

belonged to everyone effectively belonged to no one. To one peasant observer this pervasive irresponsibility was most evident in the public works that occasionally had to be performed in the village:
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The commune will have to do something collectively -- to even out a road, fix a bridge, harvest the grass from the village pasture, etc. -- and despite the fact that every household has an interest in this work, it is a rare commune in which all the workers will turn out for this kind of work. Usually each household will send out some little boy or girl who won't be able to much anyway, and even that's good. Those who arrive at work first see such lack of interest and lose their enthusiasm, executing their work in a slap-dash manner. And instead of a piece of good work, the result is only a mess.

The commune clearly had an enormous influence on the way peasant farmers behaved. But there were some striking peasant characteristics that can not be explained through the influence of the commune alone. Chief among these, was the peasant farmer's baffling resistance to capital accumulation. The concept of accumulation of wealth for its own sake was largely a foreign one to the peasant. Spurning the quest for profitability, indeed even for commercialization, the peasant farmer seemed content to hover just above a level of primitive self-sufficiency.

Agronomists, foremost among them Chayanov, tried to explain the baffling phenomenon of why peasants were not impelled to maximize their profits as assumed by classical economic theory. Beginning with his publications in 1912, Chayanov began to work out his theory of the peasant economy. Since the peasant was both landowner, manager and worker, many of the accounting terms essential to classical economic analysis, such as rent, labor

costs and profit, were inapplicable to the peasant economy. The peasant economy functioned according to its own logic and system of values. The peasant farmer sought not efficiency or profitability, but a stable standard of living over time. The break-even point was not the equilibrium between costs and revenues, but the minimum needed to feed the household. Below this minimum, the peasant farmer was willing to work or rent land even if the economic return on his investment was negative. Once the break-even point was reached, on the other hand, the peasant farmer would not undertake extra work unless the "drudgery" of the extra work was necessitated by the self-defined wants of the family. ³² It followed that if the wants of the peasant family were not very high, the peasant farmer would have little incentive to progress beyond a level of primitive self-sufficiency. This fact was noted by one of the speakers at the Ekaterinoslav Agronomic Congress in 1910: ³³

The reason for the survival of traditional methods of production is not only the ignorance of new technologies, but most commonly the absence of any significant incentives to increase the profitability on the farm, since the primitive and modest needs of the family are easily satisfied with the normal small income produced with the old, traditional technologies... The very principle of modern farming and the production of the maximum quantity of products with the best possible quality seems completely alien and superfluous for the average peasant... The whole question essentially boils down to the fact that the present low standard of peasant agriculture is completely related to the low standard of living in the Russian village...

No doubt the non-acquisitive mindset of the peasant farmer was reinforced by the peasantry's deeply Christian culture, which

emphasized man's transitory stay on earth and the fleeting nature of all earthly wealth. Another side of the same phenomenon was the peasant conception of time. The peasant conception of time was very different from the modern emphasis on the importance of punctuality and generally of the opportunity cost of time ("time is money"). To observers of the peasantry at the beginning of the 20th century, the peasant farmer's lax attitude towards time appeared simply as laziness. The peasant farmer simply was not willing to work hard unless the very survival of his family was at stake. The agricultural economist Chuprov concluded that only a long-term cultural evolution would change the work habits of the Russian peasant. "In order for there to be a change in the intensiveness of labour, a certain more or less continuous period of time must pass. If a nation or a people found itself... under conditions that encouraged industriousness, then laziness would survive long after the conditions causing it are eliminated."³⁴

It was not only the peasant-as-consumer and peasant-as-worker who had to change. The peasant-as-manager had to undergo a significant change as well. One of the most fundamental characteristics constraining the peasant's evolution into a modern farmer was his lack of rationality (as we understand it).

³⁵

Chayanov remarked:

The usual form of peasant thinking is empirical in character, typified by the common popular rules of thumb like "Red sunset -- tomorrow will be windy" or "St. Georges day has come -- it's time to put the animals out to pasture." The peasant mind mechanically combines two observations or beliefs into a constant relationship without bothering to rationalize or explain this relationship, regarding it as an empirically-proven law. The century-old experience of peasant life has made this array of cultural norms

(zhiteiskikh navykov) unchanging and tightly integrated. It is a collection of separate assertions, which lacks any pragmatic flexibility and is completely unsubject to logical systematization.

Another increasingly obsolete attitude was the peasant farmer's attitude towards the land he worked. As we have seen, the growing overpopulation in the countryside meant that the solution to rural poverty was not to give the peasant more land, but to make him a better farmer. But as Professor Kaufman of Moscow University remarked in 1908, peasant farmers still gravitated to the extension of farming, rather than its
36
improvement:

Our Motherland is only just emerging from the era of the colonization and settlement of the country... and all the work habits of the Russian peasant farmer are carried over from this period. When the land became exhausted, the peasant habitually abandoned one field and went to another; when a whole region became overcrowded... he went to "new places" -- to free and fertile lands. And this was completely rational, while there were enough "new places" and unbroken fertile soils. Now it is completely different. The "free lands" that remain in Siberia are not as attractive. In the older regions, the land inherited from the ancestors produces nothing but grief and deprivation. But the farming habits of our peasant have survived... These habits push the peasant outward as before, when the time has long come for him to direct his efforts inward. They push him to "cultivate more", when what is needed is to "cultivate better." The result is that if the peasant [has money], he will use it in the age-old customary way: not to improve his farm, but to expand it, to buy land, to rent more land, even under the most burdensome conditions...

This preference for expansion rather than improvement of cultivation was noticed by an American agronomist, Louis Guy Michael, who was hired to help improve the cultivation of maize

in Bessarabia province; Michael found that the peasant farmers in his area were much more interested in acquiring more land than in increasing their production by using better seeds and cultivation techniques.

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The state of the Russian peasantry at this time can only be described as one of technological demoralization. One peasant writer noticed that peasant farmers had little confidence in their ability to produce greater yields. In the black earth regions they complained that they had too little land -- "However much you try, however much you toil, from a small beginning only little will result." In the non-black earth provinces peasants complained of the bad quality of the soil -- "No matter what you do, the crop will be bad anyway." As a result, instead of focusing on how to improve yields on the lands they had, the peasants spent their time trying to expand their cultivation by renting extra land or bring marginal soils of bad quality under the plow (despite the fact that these lands didn't justify the expenditure or labor and materiel). They hankered after the well-maintained fields of the neighboring landlord or else made plans to find profitable employment outside of agriculture. In short, the peasant farmer did everything except apply himself to improving production on his own lands.

38

The Subversion of Tradition

The agricultural economist N.P. Makarov noted that since the peasant economy was so tightly integrated, a change in one of the many inter-related elements could easily set off a chain

reaction. In order for the agriculture of a given region to become commercialized, for instance, it was not necessary for every peasant farm to become market-oriented. All that was necessary was the commercialization of some significant proportion of these farms. The rest would follow suit soon enough. If enough local peasants worked for wages, even the peasant family farm would become aware of labor (opportunity) costs and include these in its decision-making process. With the development of local credit (and interest rates), even the peasant who didn't take out any loans, would become aware of the concept of a return on investment. With the development of a land market, even a peasant who didn't buy or sell any land would start thinking of land as a commercial resource whose return had to be maximized. ³⁹

In the same way, a change in some aspect of traditional peasant life could act as a catalyst to subvert the whole traditional order. By the end of the 19th century, this subversion was already well on its way. The change was a result of industrialization and the peasantry's increasing contacts with the cities. Part of this transformation was driven by changes in peasant demand. This was a kind of subversion of tradition from within the village. Sons and sometimes daughters left to work in the factory for months or years at a time and returned with "ideas". The cultural links with the city resulted in increased consumer expectations, as Bernard Pares reported from his travels in Riazan province. "Several of [the peasants] have been to Moscow, and now wear better clothes, which are imitated by the 'stay-at-homes.' Some of the 'go-aways' do well and get rich, but others become spendthrifts and exercise a bad influence on the

'stay-at-homes' when they return." As manufactured goods gradually replaced village handicrafts, the peasants found they needed more cash. That of course meant that agricultural production had to become more commercialized.

Cultural links with the city produced not just consumer-driven economic change, they changed the peasant's attitude towards his work. The traditional agricultural economy increasingly was showing signs of strain. The knowledge and authority of the traditional village elites no longer seemed relevant to the changing conditions of life. As rural society found itself in a state of flux, the elders tended to become resentful and reactionary, while the youth turned for advice to various outside authorities who had begun appearing in the countryside: doctors, teachers, agronomists, etc. A much larger proportion of the younger generation were literate.⁴¹ Educated in state, zemstvo or church schools, the youth were often eager to start a new life. In this they often ran into the opposition of the elders, who were critical of young people for not following the old ways. "The younger generation now all laugh at the bogies and goblins in which their elders still believe," noted Pares of his travels through Tver province.⁴² Sometimes, the better-educated young peasants found village life too primitive and oppressive and left for the cities permanently. This "brain drain" to the cities did little for the progress of peasant farming. Those who stayed in the village, however, became increasingly conscious of their social and technological backwardness and found ever more reasons to be dissatisfied with their lot. An agronomist noted this in a provincial newspaper in

1911:

Whoever is familiar with rural life, whoever has looked into what is happening now in the villages, cannot avoid noticing that at this time a massive change is taking place in the conditions of rural life throughout all of Russia. In the contemporary village a whole string of new questions has arisen. The customs, traditions and work methods of grandfathers and great-grandfathers are gradually either being condemned or radically altered. A portion of the population has boldly begun to live in the new way, but unfortunately they do not always understand why and are not always conscious of the consequences. Even if they don't quite understand [what's going on], everybody clearly feels that the ancestral customs and norms are now impossible, since they do not provide enough income to survive. It is necessary to adopt some new system of farming. But which? This is the question: "How is one to live and farm in the future so that the farm would produce enough income?"

To find their way out of the baffling problems posed by encroaching modernity, many peasants turned to the very people who symbolized and caused a large part of the rural transformation that was taking place. They turned to the non-peasants -- gentry, clergy, intelligentsia, government functionaries -- who had a wider experience of the world. Though these outsiders to peasant society were few in numbers and were not necessarily very popular in the village, they played a crucial role in helping the peasants understand and deal with the changing world. Since peasant Russia was a relatively illiterate and parochial society, it relied almost wholly on personal contact to receive information of the outside world. And, in the parlance of the time, the outsiders to peasant society were the culture bearers (kulturtraeger). They served as a channel conducting information from the outside world down to the village

on the one hand and reporting on rural conditions to the city on the other.

Agricultural development may rest on the individual actions of farmers motivated by their own self-interest, but the diffusion of improved agricultural technology can be accelerated through conscious social effort. Much of the world's agricultural progress has resulted from the introduction of new crops: Europeans benefited from potatoes, maize, cassava and rubber introduced from the Americas, while the New World benefited from the sugar, wheat and domestic livestock introduced by European settlers. Diffusion of improved agricultural technology is a question of improving the information flow to make market incentives work better. Development policy, therefore, does not mean forcing farmers to adapt a new technology, but giving them the financial and informational wherewithal to improve their production.

Many different types of people appeared as outsiders to peasant Russia. As Chayanov noted with respect to the dissemination of agricultural technology, numerous people besides agronomists participated in Russia's program of agricultural development and all of them had to be considered in the discussion of Russian social agronomy. ⁴⁴ Initially, the role of the outsider was played by figures who were part of rural society: monks, priests, merchants, educated gentlemen and, most importantly, peasants who had travelled outside the locality. As the government began to expand its reach into rural Russia, the role of the outsider became professionalized and a new breed of outsiders appeared: land captains, scribes, doctors, teachers and

agronomists.

All of these outsiders, from monks to doctors, were missionaries of culture, bearing the seeds of science and the urban enlightenment to the "dark" rural masses. At the turn of the century such enlightenment was sorely needed among the peasantry -- it was only with the help of these new ideas that the peasants could pull themselves out of poverty and at the same time defend themselves against the economic forces that were encroaching upon their traditional way of life. As we shall see in the following survey of the various non-peasant members of rural society, the professionalization of the enlightening mission was not well enough advanced in Russia at the beginning of the century to constitute a genuine program of rural or agricultural development.

Gentlemen and Clergy

It had long been hoped that gentry farms would provide the kind of demonstration effect needed to disseminate agricultural progress. After all, "130,000 centers of culture" must certainly have some effect on the peasant masses. The problem was that before the Stolypin Reform, most gentry estates were not in fact "centers of culture" and those that were technologically progressive had only a limited demonstration value for neighboring peasant smallholdings. At the beginning of the century, gentry agriculture was more often part of the problem

rather than the solution, though after 1905 this began to change and gentry farmers began to exert a modestly progressive effect on the development of peasant agriculture.

In the late 19th century, only a minority of gentry farmers worked their own land; most leased it out to tenant farmers from the neighboring village, who then pursued their own inefficient farming techniques.⁴⁶ If the estate owner did decide to manage his own land, the prevailing economic conditions of the time militated against abandonment of traditional technologies. Low agricultural wages, tight credit and high prices for agricultural machinery discouraged agricultural mechanization or any other substantial investment in changing the farming system. A soft market for agricultural goods in fact discouraged gentry farmers from trying their own hand at managing the land. It was much simpler for the gentry to rent or even sell their land at prices inflated by peasant land hunger. Pressed by a heavy debt load and the long depression in agricultural prices in the late 19th century, gentry landowners increasingly went bankrupt or were forced by the banks to sell much of their land.⁴⁷

The old gentry latifundia, slowly being whittled down by market forces anyway, received a mighty push during the rural revolts of 1905-7.⁴⁸ Faced with the prospect of tenants burning down the manor house or expropriating the land by force, many of the old-style landlords preferred to sell out to the Peasant Land Bank. The period of the Stolypin reform witnessed a heavy wave of gentry land sales. In the period 1905-16, gentry landownership declined by 21% and by 1916 gentry-managed farms accounted for just 11% of Russia's arable land.⁴⁹ The long shakeout of gentry

agriculture had eliminated the less efficient landowners. The remaining gentry farmers increasingly began farming in a new way, with modern machines and overseers trained in agricultural schools. These estates were run on capitalist lines, with an emphasis on cutting costs, keeping accounts, starting food processing factories, and so on. This was evident especially in the wheat and sugar beet areas of Southern Russia and the Ukraine.⁵⁰ As a result of the shake-out of gentry agriculture, the average gentry estate became more efficient, and several indices such as crop yields rose impressively during 1906-16.⁵¹

Thus, on the eve of the war, gentry agriculture perhaps for the first time was really serving as a beneficial influence on the peasantry. It is probably no accident that provinces like Poltava and Moscow, with substantial gentry landownership, proved to be the most economically progressive areas of rural Russia. Soviet observers like Shestakov saw gentry farmers as pioneering agricultural commercialization and technological modernization; the more prosperous and energetic of the peasantry saw this example and themselves began to change to more complex farming methods, argued Shestakov.⁵² Two experts on peasant agriculture, A.V. Chayanov and N.P. Makarov, also viewed gentry farms as important technological models for the nation's agriculture.⁵³ Certainly, gentry farmers were much more commercialized than their peasant counterparts: while gentry farmers worked just 11% of the cultivated land in 1916, they accounted for 22% of the grain put on the market.⁵⁴ But even if gentry farms were now more "progressive" than ever, their general effectiveness as a model to peasant farmers was limited by two characteristics: first they

were relatively few in number and second, gentry farms were too different in size and character for the average peasant farmer to regard them as a relevant model for his own enterprise. But Shestakov is probably right in that progressive gentry estates did have a positive influence on peasant agriculture. The more activist gentry farmers also benefited peasant farmers by helping organize agricultural societies and cooperatives.

In rural Russia at the turn of the century, the other remnant of a bygone era which could potentially prove to be a beneficial outside influence on peasant farming were the monasteries. In 1905, there were 757 monasteries in Russia as a whole; church lands amounted to about 2.5 million desiatins.⁵⁵ As far as the scale of their landownership is concerned, this was not very much, considering the size of the Russian territory and the fact that most of these church lands seem to have been located in the North,⁵⁶ where only a small percentage of the land was arable. As with gentry agriculture, the cliché that monasteries perpetuated only feudal social relations and medieval technology is not completely correct. This we see from casual mentions in accounts of agronomists and other observers from the intelligentsia who could never be considered propagandists for the progressive influence of monasteries. Even Soviet writers of the 1920's occasionally give us a glimpse of a curiously anomalous picture: that monasteries sometimes represented agents of modernization. There is an account, for instance, of the dairy farming of the Solovetskii monastery (Archangel province) whose cows produced 812-947 gallons of milk annually, more than twice the regional average.⁵⁷

Village priests also played an occasional role in agricultural development. The Holy Synod, for instance, encouraged local priests to organize and manage cooperatives in their parish. Cooperatives were seen as improving the welfare of the community and organizing the peasants on the basis of "Christian reciprocity".⁵⁸ In the 1880's, leading cooperative activists had argued that the clergy were potentially the most important part of the "rural intelligentsia" in terms of organizing cooperatives.⁵⁹ During the Stolypin reform, as we shall see in Chapter 7, the rural clergy did in fact play an important role in the cooperative movement. A survey of credit cooperatives in Perm province, for instance, showed that 11% had been started by members of the clergy.⁶⁰ A national survey of agricultural societies, meanwhile, showed that 9% had been started by the clergy and that the clergy accounted for 13% of the chairmen of those organizations.⁶¹

The State and Agricultural Development

In a free-market economy such as the United States agricultural development for the most part had occurred spontaneously, through the mechanism of the market. Given the right legal-political environment (with legislation such as the 1862 Homestead Act in the U.S.), it is not unreasonable to suppose that over several decades Russia would have produced its own Cyrus McCormicks and John Deers, peddling their improved agricultural technology around the country; Russian railroad

companies may have even begun to act like their U.S. counterparts, encouraging settlement, agricultural development and commercialization in order to increase their own cargo freightage. But at the beginning of the 20th century, Russia did not have the luxury of waiting several decades for agricultural development to occur. The State, as the conscious instrument of society, had to step in to force the pace of economic evolution in agriculture, just as it had done with railroad construction during the 1890's. Rather than relying on the more progressive peasants, the monasteries or the gentry farmers to spread their influence to the mass of Russia's farmers, the State had to develop a professional system of agricultural extension.

There were many examples around the world of the State encouraging the diffusion of improved agricultural technology. In most countries of the developed world, the State had already assumed responsibility for basic education, a development which was important for agricultural progress. Agricultural research, usually too expensive to be carried out by individual farmers, was also a task naturally suited to the public realm. Government propaganda and extension agents were commonly used to encourage the farming population to take the risk of implementing new technologies. Finally, in many of the countries of Europe, the government had taken upon itself the initial capitalization and management of risky start-up ventures such as farm supply depots and local credit cooperatives (witness the credit cooperatives in Germany and the agricultural depot network in France, both of which functioned with a great deal of state support). Unfortunately, until the implementation of the Stolypin reform,

there were few examples of the Russian government taking up such responsibilities on any meaningful scale. The best indicator was the budget of the Agriculture Department of the Ministry of Agriculture -- responsible for extension service -- which was only 4 million rubles as late as 1907.⁶² The government was willing to spend massive amounts of money for famine relief, but was unwilling to finance the modernization of Russian farming. Above all, pre-Stolypin Russia lacked a network of professional agricultural extension agents. One agricultural historian⁶³ noted:

In virtually every country the question of disseminating agricultural knowledge is given top priority... We know that with us this is far from so... The experience of America has shown that despite the work of the experimental stations and the broad development of agricultural educational institutions, and despite the growing dissemination of agricultural literature, the mass of farmers can only be effectively influenced through the live exchange of ideas.

The most important government agents who were based in the depths of the countryside were the land captains. This official, introduced into the countryside in 1889, combined the functions of a justice of the peace and a policeman. Numbering 2,582 in 49 provinces of European Russia, land captains presided over their bailiwicks (uchastok), each containing an average of 46 villages and a population of about 35,000.⁶⁴ The land captain was given a broad responsibility to maintain order in peasant society and the power to arrange matters as he saw fit. He had the authority to adjudicate legal disputes and impose fines or jail terms; he nominated the candidates for township (volost) administration,

effectively running it himself; he could review and cancel the decisions of any peasant assembly, indeed he could cancel the plans to assemble at all.⁶⁵ Clearly, this was a figure with a lot of power in local affairs. But since the land captain was ultimately judged according to his ability to keep the peace and guard the prosperity of his bailiwick, and since one of the best ways to do this was through encouraging local agricultural development, it would be surprising if some land captains did not try their hand at this tricky task. In fact, some land captains did take pride in their achievements in helping develop their region's economy, but the background of the land captains and the nature of their functions meant that their usefulness in this field was innately limited.⁶⁶

One of the main problems of the land captains as agents of agricultural development was the fact that they tended to be identified too closely with the gentry and with oppressive governmental tutelage. Even after the implementation of the decree of 5 October 1906, which gave equal opportunity to all classes to serve in government posts, the great majority of land captains tended to come from gentry origins.⁶⁷ Even those land captains who were of non-gentry origin were likely to reflect local gentry interests merely by virtue of their selection process. Chosen by the governor and the district marshal of the nobility and ratified by the district congress of the nobility, the land captain was a bold man if he took the peasant side against gentry interests.

If the land captain was likely to be a gentleman and a newcomer to the area, he also lacked any special technical train-

ing which would have given him an inherent value in rural society. He was not required to have any knowledge either in agronomy or in the intricacies of economic management; he tended to have a military educational background. ⁶⁸ In fact, land captains were hard pressed to show a higher educational background at all. An MVD report to the State Council in 1903-4 apparently pointed out that 68% of land captains had no higher education at all and 19% had not even had secondary education. ⁶⁹ Furthermore, the evidence points to the fact that land captains were neither a particularly popular nor a particularly motivated bunch. Boredom and demoralization made for high mobility -- one land captain was to recall that the average length of stay was little more than a year -- and this made it difficult for them to get properly acquainted with the population of their bailiwick and reinforced the impression that their authority was exercised arbitrarily. ⁷⁰

The organization that should have been supervising agricultural development at this time -- the Ministry of Agriculture -- unfortunately was still an obscure ministry laboring in the shadow of heavyweights such as the Ministry of Finance and the Ministry of Internal Affairs. The number of agronomists employed by the Ministry of Agriculture totaled a few score in 1905. Its funding of local agricultural projects amounted to less than a million rubles. As Professor Kaufman remarked, the history of Russian agronomy before 1905 was "the history of the absence of agronomy." ⁷¹ Measures which might have seemed bold in the chancelleries of St. Petersburg passed virtually unnoticed in Russia's villages -- "isolated measures that didn't affect the mass of farmers," as one analyst remarked. ⁷² One respected agri-

cultural economist complained: "This government found money for everything it wanted: the army, the fleet, the railroads and subsidies to the nobility, but it didn't find money when it was most needed for the peasantry. There was no money either for education or for resettlement or for expanding the Peasants Land Bank or for the improvement of peasant farming."⁷³

The local governments -- the zemstvos -- were another institution one would have expected to undertake serious agricultural development projects. After all, the development of the local economy was one of the mandates written into the 1864 statute on the zemstvos. By the end of the century, the zemstvos were sending doctors to the village to encourage public hygiene, teachers to spread literacy and statisticians to study the peasant economy, but the zemstvo agronomic program failed to take root. In 1904, for instance, one third of the districts of European Russia could not claim to have a single agronomist.⁷⁴ As late as 1910, one agricultural correspondent argued that an agronomic network with "three agronomists serving a district twice the size of Belgium or Holland" was "farcical".⁷⁵ In addition, before 1905, very little was known about the dynamics of the peasant economy, making it difficult even for trained specialists to intervene effectively.⁷⁶ In any case, to hope for a mass effect from such an ill-funded and thinly-staffed organization as the pre-Stolypin system of zemstvo agronomy was wishful thinking.

Agricultural Development as a Victim of Social Strife

The urgent need for agricultural development in peasant Russia must have been obvious to anyone who had had a chance to compare the condition of Russian villages with that of Western European villages. Why, then, was Russia so dilatory in addressing this task? Part of the explanation was myopia on the part of the ruling and educated classes, but much of the problem lay in the political stalemate paralyzing the country. The central government, for instance, was highly distrustful of the zemstvos and even more distrustful of the left-leaning individuals the zemstvos sent out to the villages as teachers, doctors and statisticians. The Ministry of Internal Affairs and the provincial governors stifled zemstvo rural development programs with regulations and strict supervision. Before 1906, for instance, if an agronomist wished to give a series of lectures in a peasant village, he had to receive permission from the governor's office. ⁷⁷ All new organizations, such as agricultural cooperatives, had to be approved (with some hassle and ⁷⁸ delay) by representatives of the Ministry of Internal Affairs.

Not only bureaucrats, but conservative landowners as well were skeptical of the zemstvos sending agronomists to the village like apostles of progress. In a semi-autobiographical novel written by a former land captain from central Russia, these attitudes are exemplified by a local marshal of the nobility. What do we need agronomists for, asks the marshal. The landowners all remember how statisticians were sent out to the countryside in the 1890's and how all of them turned out to be socialists,

"working for the revolution on the taxpayers' money." The gentry pay the bulk of the zemstvo taxes and what do they get back?

Nothing. Furthermore, he argues, "words won't change the peasant -- only strong, even harsh authority will." Agrarian reform shouldn't be implemented gradually, he argues, but radically, like Peter the Great's reforms, making a clean break with the past.⁷⁹ This was probably not an uncommon attitude in Russia at the turn of the century.

But the zemstvos and the rural intelligentsia must also be held to account. Some zemstvos focused on the public health and education programs and looked warily on agricultural extension work as a complicated and unfamiliar task.⁸⁰ The political objec-

tions were even stronger. This was especially true with respect to the third element, the staff of the zemstvos. Since the members of the third element generally did not own any land, they were much more likely to advocate an extreme form of socialism involving the compulsory expropriation of all private property and they in fact proved more resiliently revolutionary in 1905 than the gentry liberals who dominated the zemstvo assemblies. Even after the defeat of the 1905 revolution, many members of the third element refused to participate in any projects of agricultural development, fearing to be seen as upholding the existing political order.⁸¹

Some adhered to a populist philosophy and resented St. Petersburg's moves to break up the peasant commune, while others felt generally hostile to the central government and refused to cooperate with it. One economist, writing in 1911, went to great lengths to reassure agronomists that they needn't feel as if they're helping the "reaction" or exhibiting servility

in helping develop the Russian economy. Agronomists should cooperate with the government developing agriculture, he argued, since they were just bringing "science" and "culture" to the Russian village -- a development which would serve their political aims in good time.

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Apart from the political antagonisms separating many of the main players, Russia's agricultural development was constrained by basic prejudices concerning the peasantry. Many educated people in Russia still doubted whether the peasantry's farming methods could be changed at all. The peasant character was perceived as lazy, irrational, and hidebound. The "dumb peasant theory" ruled. That this was indeed the prevailing attitude at this time is indicated by the tone of the early agronomic writings. As late as 1906, agricultural economists like Professor A.A. Kaufman felt it necessary to argue that yes, peasant agriculture should be improved and yes, peasant farmers were intelligent enough to change. Even agronomists initially entered the countryside under the impression that the peasantry was a dark and uniformly uncultured mass. Many slavophiles and ultra-conservatives probably didn't even want peasant agriculture to change, fearing the corruption of the virtues of traditional peasant society. One observer noted the controversy over agronomic aid to the peasantry, pointing out that "there were advocates and apologists, but there were even more people who considered [agronomic aid] not serious and even harmful..." Perhaps the worst offenders with regard to the "dumb peasant theory" were to be found on the left. Social Democrats like Piotr Maslov and Maxim Gorky regarded the peasantry as hopelessly brutal and

ignorant and welcomed the day when peasants would be supplanted
86
on the land by capitalist farmers or proletarians. One left-
wing observer, no doubt bitter over the peasantry's confounding
87
unwillingness to become marxist revolutionaries, wrote:

Never and nowhere has the peasantry played the role of a historical catalyst, determining the character and direction of great socio-political changes. Sometimes, through its participation, the peasantry defined the limits [of historical changes], usually influencing events through its historical inertia...

For their part, the peasants had no great love for the people who were bringing them enlightenment. Throughout the ages, outsiders appearing in the village usually meant the imposition of alien laws, new taxes, or worse. Predictably, altruism on the part of outsiders was greeted with deep skepticism and even hostility. During the famous "movement to the people" in 1874, when hundreds of young intellectuals trooped out to the countryside to spread a gospel based on science and populist socialism, the villagers commonly drove the well-meaning intruders out of town or reported them to the police. The peasant attitude towards the gentry and government functionaries was probably even more hostile, judging by what happened in 1905, when hundreds of gentry manors were put to the torch and land captains were forced to flee to the cities.

Even the zemstvos, though ostensibly organs of self government, were regarded as alien and exploitative bodies lodged within rural society. Greater zemstvo activism in the field of rural development required higher tax rates and since almost all the zemstvos received the bulk of their revenue taxing land and

forests, higher tax rates occasionally sparked full-scale peasant

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rebellion. Zemstvo agronomists, however capable and well-meaning, often fell victim to the distrust and class strife that

pervaded the Russian countryside in 1905. One former agronomist,

K. Savchenko, writing after the revolution, described how peas-

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ants regarded zemstvo agronomists:

The former agronomic higher school was a gentry school. It was foreign to the working peasantry... The graduates of this school came not from the working population, but from the ranks of the landowners, storekeepers, government functionaries and other inter-class people (raznochintsy). In any case, they weren't peasants and they knew the peasantry only from their books... So the agronomist, foreign in appearance and in thinking, would arrive in the village and visit the peasants. He would begin to preach logic and rationality, but in a language that was incomprehensible to the peasants. The book which he thrust into the peasant's hands was written in the same language -- and its pages made good rolling paper for cigarettes. After the agronomist left, the peasant would scratch his head, thinking that the gentleman had come to him with some sort of dubious intentions. Not for nothing did the peasant's father and grandfather warn him about gentry philanthropy. No, there was something wrong here. They were probably trying to hoodwink him in some way.

This kind of attitude was widespread with regard to all the rural intelligentsia and all government functionaries, no matter how useful they might have been to rural society. Their difference of background, education and employment was sufficient to make them aliens in peasant Russia. One land captain remembered how selflessly the local functionaries and intelligentsia worked to improve peasant life, and how cynically the peasantry reacted to them:

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For this, the population paid them back by taking any occasion to soak them for all they were worth. "And who shouldn't we soak, if not you? After all, you receive a salary," the peasant women would tell some teacher at the market...

Clearly local government functionaries and the rural intelligentsia had to cross a wide gulf of distrust before they could hope to influence the peasantry. Yet, their influence was crucial to the success of Russia's agricultural development. One analyst wrote in a local newspaper in 1910:

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The attempt to stimulate our local economy and put rural life in order will soon entail a heightened demand for various types of intelligentsia. The "domestic demand" for intelligentsia is insatiable... Any attempts at introducing culture will necessitate the employment of a mass of intelligentsia. We need agronomists, doctors, engineers, veterinarians, teachers, medical assistants, midwives, etc. If Russia, like Italy, up to now has had a surplus of intelligentsia... then at the present time, with the attempts at "Europeanization", our demand for intelligentsia will be so voracious that in the near future we will experience a distinct shortage of supply.

The Future

By 1905, all the necessary elements for a successful agricultural development program were in place. The peasant economy had undergone intensive scrutiny for over a decade. Both the zemstvos and the Ministry of Agriculture had gained experience in administering pilot projects of agricultural development. Russia's farmers were fortunate that the agricultural development program after 1905 would be undertaken by such a pragmatic institution as the Ministry of Agriculture. This ministry had the good sense to realize its own limitations. When its mission and

funding were radically expanded during the Stolypin Reform, the Ministry of Agriculture delegated much of the agricultural development program to local administrators and to local institutions such as zemstvos, agricultural societies and cooperatives, which had both the manpower and the knowledge to cope with the task. The success of the Ministry of Agriculture can be directly attributed to its success in harnessing the initiative of several energetic rural classes.

One of the key groups was the landed gentry, which controlled the zemstvos and imbued these organizations with its sense of duty and activism. The gentry at the turn of the century had good reasons to feel uneasy: The centuries-old system of serfdom had been abolished, gentry landholding was declining rapidly and, to make matters worse, the gentry was losing its hold on the government in St. Petersburg, which was increasingly staffed with a technocratic elite that had little in common with the landowning elite. The zemstvos provided the provincial gentry with a political platform from which they could advance their interests. As administrative institutions, the zemstvos also gave the gentry an opportunity to influence the economy and society without feeling like cogs in a national bureaucratic machine. Reading zemstvo chronicles such as Veselovsky's for example, one gets the impression that provincial zemstvo representatives thought of themselves as statesmen of national stature (similar to English parliamentarians in the 17th and 18th centuries) and that various zemstvos vied with each other for the honor of being considered the most progressive, the most responsible and the most effective institution in the country.

The dynamism of the zemstvos also came from harnessing the ambitions and energy of another social group, the so-called third element. These were the professionally-educated employees of peasant or mixed class background, employed as doctors, teachers, statisticians and agronomists. And they fulfilled their duties not only with a missionary zeal common to all "civilizers" of that age, but also with an enthusiasm sharpened by a sublimation of their radical political ambitions. Whether they were employees of the zemstvos or of various St. Petersburg ministries didn't much matter -- they constituted a clearly-defined, cohesive social group with a very definite idea of how to develop peasant society. Members of the third element not only worked to develop peasant society by performing their official duties, but in their spare time, they often organized cooperatives, helped formulate local petitions and performed a variety of other tasks that promoted the welfare of their area.

The participation of both the gentry and the third element made the zemstvos into very effective institutions of local government. F.V. Schlippe, a former civil servant who had worked extensively in both government and the zemstvos, noted that the latter tended to be much more dynamic and highly motivated than the organs of the central government. Zemstvo personnel were idealistic, self-sacrificing and worked long hours, Schlippe remarked; their democratic and open style of government provided a stark contrast to the "careerism" and "mindless obedience" of the St. Petersburg bureaucracy. The zemstvos also tended to be pragmatic, action-oriented institutions, with less bureaucracy ("flatter" organizations, to use modern business terminology)

than the giant St. Petersburg ministries.

The success of the Stolypin Reform and of the Ministry of Agriculture would be due not only to the judicious use of the zemstvos and the two classes that were active in those institutions, but also to the energy released by another rising class: entrepreneurial peasant farmers. The land reform that began in 1906 gave these people the chance to win independence from the peasant commune and acquire more land, while a broad program of agricultural extension gave them the opportunity to expand their economy. It was on the labor and innovation of these peasant entrepreneurs that Russia's agricultural development would depend.

CHAPTER THREE

THE STOLYPIN LAND REFORM

Many agronomists spoke of the need for a "psychological push" before peasant farmers would be willing to change their farming system and their way of life. ¹ It is possible that the lack of such a "psychological push" accounted for the continual failure of various agricultural initiatives to develop into mass technological change before 1905. With respect to rural society and the government's agricultural policy, the differences between the period preceding 1905 and the period following are so great that one must conclude that in this year the necessary psychological push materialized. The revolution of 1905 shook Russian society to its roots. One can only speculate on the effect the revolution had on the peasantry, but at the very least, 1905 must have shattered the peaceful continuity of the peasants' traditional way of life and proved to them their capacity to dramatically change their environment. For the rural intelligentsia, who generally played an important role in spurring on the revolution, 1905 was a surprising assertion of power; the revolution may have been lost, but the rural intelligentsia had discovered that they had the ability to go beyond encouraging long-term, incremental progress and could engineer immediate and massive changes in the status quo. For the landed gentry, meanwhile, 1905 conjured up the spectre of the destruction and expropriation of their property; the extent of the peasant uprising, unrivaled since the end of the 18th century, was enough to jar even the most complacent

nobleman into some sort of remedial action. The government, too, saw its power totter and was galvanized to take urgent action to first suppress the peasant rebellion and then restructure peasant society in order to prevent a recurrence.

But the psychological shock of 1905 only went so far in galvanizing rural society. It left rural Russia in a state of uncertainty and flux. The second and equally important psychological push came from the enactment of the Stolypin land reform. This reform -- motivated by a clear vision of the future: a nation of prosperous yeoman farmers -- served as the spearhead for all the other elements of Russia's agricultural development program. In this chapter we will examine how the reform was implemented, how the peasantry reacted and what results were achieved.

The Roots of the Stolypin Reform

No great historical event lacks antecedents, however limited in comparison, and it is true that land reform and a program of agricultural development were topics of extensive discussion and debate in Russia before 1905. The famine of 1891 was an important turning point, since it exposed for the first time that something really was wrong with Russia's system of peasant agriculture. Both St. Petersburg and the zemstvos were goaded into action. Statisticians were sent out to study the peasant economy, some zemstvos hired agronomists, many scholarly books were written and

laws were passed allowing for the creation of rural cooperatives. At the beginning of the 20th century, the condition of peasant agriculture was worrying enough for the government to convene three well-publicized commissions: one to study the "impoverishment" of the central provinces, another to review the legal structure of peasant society and finally the largest, the Special Commission on the Needs of Agriculture, to review all questions related to agricultural development. No doubt many liberals and reformers hoped that this flurry of activity presaged a package of reforms on the scale of the Great Reforms of Alexander II.

But the government's new vigor came too late. Reform was overtaken by revolution. As Russia was suffering humiliation at the hands of the Japanese in 1905, the country rose in insurrection at home. The peasant rebellion forced the government's hand on the matter of rural reform, convincing all but the most reactionary of slavophiles that the socio-economic structure of rural Russia had to be overhauled. The policy of upholding the peasant commune, long the cornerstone of Tsarist rural policy, had to go. Overcrowded and poverty-stricken, increasingly subjected to both market forces and socialist propaganda, the peasant commune had become a volatile organization, demanding some kind of decisive resolution of its woes. "Either the Stolypin agrarian reform or revolutionary-peasant nationalization -- only these two options are economically feasible," wrote Lenin in 1908.² The two schools of thought that had consistently defended the peasant commune, the slavophiles and the populists, began to accept the view that the

commune had to be allowed to wither away. Most slavophiles were shaken in their support for the commune when they witnessed the revolutionary tendencies of that institution in 1905. The more pragmatic populists (most of Russia's agronomists, for example), once they were saddled with the responsibility of rural economic development, also weakened in their support for the commune when they realized that the institution often constrained the growth of agricultural productivity.³

St. Petersburg had been moving towards abandoning its support for the peasant commune even before 1905. The Ministry of Internal Affairs had recognized the technological disadvantages of communal repartitions in 1893 and had decreed that a minimum of 12 years should pass between repartitions; the various national commissions studying the state of peasant agriculture in 1899-1904 concluded that any repartitions at all did not serve the cause of agricultural progress.⁴ As early as March 12, 1903, the government had decreed the end of collective responsibility (krugovaia poruka) for land redemption payments (for the 1861 settlement) and taxes, thus eliminating one of the primary reasons for the commune's existence. On November 3, 1905 it was announced that land redemption payments were to be phased out altogether by 1907. The final decision to cease support for the peasant commune came with the decree of 9 November, 1906. This decree allowed peasant farmers to choose whether they wanted to stay in the commune or claim their land as private property or consolidate all their strips into a single private plot of land. The decree represented a massive change in rural policy, since it envisioned the abandonment of the collectivism and fragmentation

of traditional village agriculture and the creation of a network of consolidated homesteads on the American or Swedish model.

If the revolution of 1905 had determined that the structure of peasant Russia had to change, the decree of 9 November 1906 set out the broad parameters for this change. In the spring of 1906, St. Petersburg had flirted briefly with the idea of expropriating gentry lands (with compensation), but the dismissal of the advocate of such an expropriation, the Minister of Agriculture Kutler, effectively killed the proposal. Russia was going to protect private property rights and embark on the path of peasant-capitalist development, "a wager on the sober and strong" of the village, as Stolypin explained it in his famous address to Duma in 1907. Sometime later, Lenin would see the Stolypin land reform as Russia's complete commitment to capitalist economic development: "The agrarian question in Russia is a question of a sharp break with the old, mediaeval agriculture -- both gentry and communal-peasant -- a break which has become absolutely necessary due to the extreme backwardness of this system of agriculture and the extreme incongruity between it and the whole economic system, which has become capitalist."⁵ Though the government would take some steps to help the peasantry acquire more land, the main focus of agricultural policy was the intensification of agriculture, in other words the improvement of peasant farming on the lands already under cultivation.

The enactment of the land reform was accompanied by a whole package of other measures. The activities of the Peasant Land Bank were expanded in 1906, making it easier for peasants to buy gentry lands on relatively easy credit. Most of the Ministry of

Internal Affairs' restrictions on peasant migration to Siberia were voided. In 1905, the Ministry of Agriculture had been reorganized -- it was now given the added responsibility of resettling peasant farmers beyond the Urals -- and tremendous new resources were put at its disposal. In the nine years between 1905 and 1914, the budget of the Ministry was to increase almost fivefold, from 32 million rubles to 146 million, the fastest rate of growth of any ministry.⁶ On the district and provincial levels, new land settlement commissions were established under the Ministry, charged with the task of ironing out some of the more costly inefficiencies of peasant land tenure. One by one, the model statutes of various types of rural cooperatives were rewritten, making those organizations more accessible and attractive to peasant farmers.

Stolypin's government decided early on not to try to direct this agricultural development purely from St. Petersburg; as far back as 1902, when the Special Commission on the Needs of Agriculture included numerous zemstvo representatives from around the country, the cooperation of the zemstvos had been considered vital to the success of any program of agricultural development. With the establishment of the Ministry of Internal Affairs' Council for the Affairs of the Local Economy and the creation of the new parliament -- the Duma -- the workings of the central and local governments became more integrated. The new Minister of Agriculture, Krivoshein, was a pragmatic son of a merchant family and naturally leaned towards an alliance with the zemstvos, while Prime Minister Stolypin understood that his reforms depended on the government's "close cooperation" with the zemstvos, who "have

always been responsive to popular needs." ⁷ The zemstvos were given the responsibility for organizing an extensive program of agronomic aid. With the help of matching grants which the government began to distribute in February 1910, zemstvo expenditures on agricultural extension services increased eight-fold in the nine years between 1905 and 1914. ⁸

Clearly, the massive upheaval of the revolution of 1905 was being answered by a program of rural reform on an equally large scale. The decree of 9 November 1906 signaled the beginning of an offensive of major proportions.

Resettlement and Land Purchases

Though the main focus of the government's agricultural program may have been the intensification and increased productivity of peasant farming, significant measures were also taken to increase peasant landownership. Measures such as increasing the sale of gentry lands or encouraging peasant resettlement to Western Siberia were relatively simple to execute and represented a politically wise concession to the peasantry's land hunger. Both resettlement and the operation of the Peasant Land Bank played an important part in the first years of the Stolypin Reform, acting as a crucial pressure valve for peasant discontent.

The peasantry had been steadily buying up gentry lands ever since 1861, but the pace of land purchases increased during the Stolypin Reform. The revolution of 1905 had pushed gentry

landowners into a veritable panic of land-selling. The peasants hesitated for a few years, presumably awaiting a full "black redistribution," but then proceeded to snatch up all the land on the market. The process was facilitated by the expansion of the Peasant Land Bank in 1906. The Bank was now allowed to financially guarantee land purchases outside its auspices and, with respect to lands in its own account, it was allowed to loan the peasants the full purchase price with loans at a very low 4.5% interest a maturity of up to 55 years; since the bank had to pay gentry sellers closer to market rates -- 5 or 6% -- it operated at a financial deficit. Government subsidies to the Peasant Land Bank reached 145 million rubles on the eve of the war -- a massive subsidy of peasant land purchases. The results were impressive. In the 10 years between 1906 and 1916, the Bank's sales to the peasantry averaged almost a million desiatines a year, almost three times the average yearly sales in the period 1883-1905; gentry landholding in European Russia declined by 21% or 11.2 million desiatines (see below). With the help of the Bank's operations and other aspects of the land reform, the nature of landholding in European Russia changed significantly during the Stolypin Reform, as can be seen in the following table.

Land Tenure in the 50 European provinces (thous. of desiatines)

	<u>1905</u>	<u>%</u>	<u>1916</u>	<u>%</u>
Peasant Lands				
communal:	100,701	40.5%	72,037	29.0%
hereditary or privatized:	22,977	9.3%	38,897	15.7%
cossack lands:	14,689	5.9%	14,689	5.9%
consolidated (allotment):	--	0.0%	12,744	5.1%
Land Purchased by Peasants				
private or consolidated:	13,209	5.3%	17,271	7.0%
communes and associations:	11,609	4.7%	17,008	6.8%
Peasant Land Bank reserve:	276	0.1%	2,622	1.1%
Other Lands				
gentry:	53,169	21.4%	41,973	16.9%
merchants and townsmen:	23,969	9.6%	25,007	10.0%
church and monasteries:	2,612	1.1%	2,612	1.1%
<u>State and Udel lands (arable):</u>	<u>5,179</u>	<u>2.1%</u>	<u>3,530</u>	<u>1.4%</u>
Total:	248,390	100.0%	248,390	100.0%

The table above is a rough estimate, since comprehensive figures for landholding after 1905 do not exist. Most of the land mentioned was arable land; the State and imperial family owned over 100 million desiatines of forest and swampland in addition to the 5 million arable desiatines listed in the table above. However approximate the nature of the data, the table gives a good impression of the significant changes taking place in Russian landownership. Gentry landownership declined 21% to constitute just 17% of the total in 1916. All types of peasant landholding expanded from 66% of the total in 1905 to 70% in 1916. Of the peasant lands, the proportion owned by peasant communes or associations (as opposed to cossack lands and hereditary or consolidated plots) declined from 69% of all peasant lands to 51%. The landownership of merchants and townsmen expanded, while the quantity of arable land owned by the State and imperial family shrank.

The other major change taking place at this time was the increased settlement of lands beyond the Urals. At the beginning of the 20th century, as the peasantry in European Russia was struggling with poverty, overpopulation and violence, word began to filter through that in Western Siberia a man could make a decent life for himself. The land was fertile and abundant and the region was far enough away to be relatively insulated from the cycle of revolution and repression that had taken hold of European Russia. Previous to 1906, peasant resettlement to Siberia had been constrained by the collective responsibility system of the commune, by the strict regulation of migration by the Ministry of Internal Affairs (peasant families had to get the land captain's approval to travel to Siberia) and by the lack of surveyed properties and infrastructure.¹² In 1906, all these constraints were lifted. The decree of 9 November, 1906 allowed the Russian peasantry unprecedented mobility in choosing where they wanted to live. Resettlement became the responsibility of the Ministry of Agriculture and the funds expended to resettle peasant farmers rose to 25 million rubles in 1910, up from just 3 million rubles seven years previously.¹³ Siberia witnessed a massive new wave of peasant settlers. The figures can be seen in the table below.¹⁴

Number of Peasants Migrating to non-European Russia, 1901-1916

<u>Year</u>	<u>Number of Peasants Resettling</u>
1901	88,964
1902	81,921
1903	94,289
1904	40,001
1905	38,760
1906	139,064
1907	427,339
1908	664,777
1909	619,320
1910	316,163
1911	189,791
1912	201,027
1913	240,978
1914	241,874
1915	27,651
1916	10,898

The largest group of settlers arrived in the first years of the Stolypin Reform -- the number of migrants in 1908 was 17 times larger than it had been three years earlier. Many government decision-makers had previously thought that allowing more than 200,000 settlers a year to cross the Urals would produce starvation and disaster, yet the migration proved to be very successfully managed. ¹⁵ The magnitude of this initial emmigration wave was probably due to the violence then prevailing in European Russia and to the release of pent-up demand for resettlement after the end of the Russo-Japanese War. Wartime, both during the Russo-Japanese War and during World War I, produced a sharp decline in migration. But a strong secular trend is indisputable. The yearly average of migrants increased from 68,787 in the 1901-1905 period, to 433,333 in the following five year period and settled at 218,418 in the four year period 1911-1914.

Taking into account the fact that every year an average of 19% of the settlers returned, the net number of migrants in the years 1906-1914 was almost 2.5 million peasants.

The increased emmigration of peasants from European Russia (either to Siberia, to the towns or abroad) and the extension of peasant land tenure through the mediation of the Peasant Land Bank all contributed to alleviating peasant land hunger during the Stolypin Reform. (We shall consider all these factors in greater detail in Chapter 11.) These measures were popular and relatively easy to implement, but they alone would not be sufficient to solve Russia's rural underdevelopment. The government had to attack the source of the problem -- the low productivity of peasant farming. It was in addressing the efficiency of peasant agriculture through carrying out land settlement measures that the Stolypin land reform made its greatest impact.

The Mechanism of Land Settlement

The Stolypin program of land settlement (zemleustroistvo) consisted of three levels of reform. The first and most basic level was the privatization of peasant allotments. The second level was group land settlement, or cossomation as it's sometimes called: the land could still be communally-owned, but the strips of land were widened or the boundaries between villages were rationalized. The final and most complex level of reform was

consolidation: the creation of private family farms on a single plot of land, either in the shape of the otrub, whereby the peasant continued to live in the village and keep his land in two or three different parcels or in the shape of the khutor, whereby the peasant moved all his buildings onto one, contiguous plot of land. Privatization of existing peasant allotments may have been an ideologically-attractive option and one relatively easy to execute, but by itself it was generally insufficient to change the peasant farming system. Consolidation, however, not only broke with all tradition, but also went a long way towards relieving peasant land hunger. F.V. Schlippe, an employee of the Ministry of Agriculture who witnessed a number of consolidation projects, was to remark:

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Divided into a multitude of thin strips, a communal allotment always gave the impression of insufficiency and land shortage. But very often, this was nothing but an optical illusion. When all these separate strips were consolidated, the result was a plot which always seemed a lot larger than the peasant had expected. Characteristically, after the measurement was completed, it was common to hear the peasant exclaim: "Look how much land I have!"

If all of Russia's fragmented peasant farms could be consolidated and the countryside transformed into a nation of independent small-holders similar to American farmers, it was reasonable to expect that the problem of peasant land hunger would lose its urgency and Russian agriculture would witness a great boost in productivity. The thinking behind the decree of 9 November 1906 may have been sound, but St. Petersburg initially had no administrative network to put this very ambitious land

reform into effect. The Ministry of Agriculture had been reorganized for this purpose, but for several years its budget remained too small to undertake the reform on a mass scale; the newly formed land settlement commissions, meanwhile, took several years to organize on a wide scale. By default, the government initially had to turn to the Ministry of Internal Affairs and its primary representative in the Russian village -- the land captain.

That the land captains should play an important role in the initial stages of the reform was dictated as much by their numbers as by their qualifications. There were over 2,500 land captains in European Russia; the executive members of the land settlement commissions (the workhorses of those organizations), on the other hand, were appointed only gradually and in any case were to number only 500 on the eve of the war.¹⁷ The surveyors, who were specially trained for land settlement operations, grew to be very numerous, but they surpassed the land captains in numbers only after 1910. The land captains, therefore, were for several years the only numerically significant and established governmental agents in the countryside (apart from policemen and scribes). We saw in the preceding chapter that land captains had many drawbacks as agricultural extension workers, but they also had certain strengths as a 1911 publication of the Ministry of Agriculture noted:¹⁸

Because of the very nature of the land captain's functions, virtually no land settlement work within the commune can be carried out without his cooperation. The land captain habitually takes the place of the executive officer [of the land settlement

commission] in case of the latter's absence. Because of their knowledge of local conditions and because legal questions are raised at every point in the land reform, land captains have contributed more than anyone to putting the reform on a stable footing.

The land captain may have been inadequately trained for addressing matters of land reform and agricultural development and he may have been weighed down by a multitude of other responsibilities, but he could be very effective in carrying out the simpler, purely legal side of the reform: drumming up petitions for land settlement and supervizing the privatization of peasant plots. He was useful in getting the peasants to apply for land settlement, because he could use whatever authority he possessed to explain the reform to the peasants, as well as play politics in the village by applying personal pressure on selected individuals.¹⁹ Because of his judicial powers, the land captain was also naturally suited to carrying out the privatization of peasant lands. According to one ministerial survey, land captains were responsible for over two thirds of the petitions for privatization.²⁰ Considering that privatization was the broadest aspect of the reform in purely numerical terms, land captains have to be considered key figures in the Stolypin land reform.

Land captains proved much less suited to carry out the more complex tasks of group land settlement and consolidation, however. These measures were much more time-consuming than the privatization of peasant lands and required a delicacy and technical expertise that many land captains lacked. Furthermore, a major change in the peasant farming system such as consolidation was too important a task to be left to relatively low-level

functionaries such as land captains. The main instrument for undertaking cossomation and consolidation, therefore, was the network of land settlement commissions, which was specially created to carry out the reform. Organized on the district and provincial level, land settlement commissions were supposed to be the perfect example of a well-focused collegial organ. The com-
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missions were made up of the following figures:

The Provincial Land Settlement Commission

- the Governor (chairman)
- the Executive Member (chosen by the Ministry of Agriculture)
- the provincial representative of the Ministry of Finance
- the director of the local branch of the Peasant Land Bank
- a member of the provincial court
- a member of the provincial board (gubernskaia uprava)
- the provincial marshal of the nobility
- the chairman of the provincial zemstvo board
- 3 peasant representatives of the provincial zemstvo
- 3 other representatives of the provincial zemstvo

The District Land Settlement Commission

- the district marshal of the nobility (chairman)
- the Executive Member (chosen by the Ministry of Agriculture)
- a member of the district court
- a land captain from the district
- the district tax inspector
- a representative of the Department of Appanages
- the chairman of the district zemstvo board
- 3 representatives of the district zemstvo
- 3 representatives of district townships (volosts)

The presence of most of these members probably represented more an effort to transcend ministerial and local administrative rivalries, than an attempt to create an efficient executive organ. The workhorse of the commission was the executive member, usually a local nobleman with a record of government service who

was chosen by the Ministry of Agriculture specially for his enthusiasm for the reform. The job of the executive member was to plan, coordinate and ratify all the land settlement projects of his district. ²² In any given village, the job of supervizing a land settlement project was carried out by a land settlement agent (zemleustroitel), a term applied to the land captain, gentry farmer or executive member who was responsible for that project. On the eve of the war, there were about 3,000 land settlement agents recorded for any given year. ²³ Broadly speaking there were four types of rural administrators who were qualified to play the role of land settlement agent. Their numbers are ²⁴ illustrated in the table below.

	<u>land captains</u>	<u>land settlement executive members</u>	<u>surveyors</u>	<u>agronomists</u>
1905	2,500	0	200	422
1914	2,500	500	6,800	10,000

Land settlement was a complex affair, requiring technical, legal and diplomatic skills and the expenditure of a great deal of time. In retrospect, we can see that the administrative apparatus of the land reform suffered from some serious shortcomings. None of the above mentioned groups were sufficiently empowered to execute the reform on their own. Land captains were criticized for being either dilatory, ignorant or ²⁵ excessively formal in their work. In any case they were likely to be too burdened with other work to be able to give the complexities of land settlement the necessary attention. The executive members of the land settlement commissions, meanwhile, were

too few in number to have a profound influence on the village. In some provinces they were accused of spending all their time behind desks, instead of putting on their boots and going out to the villages.²⁶ One former land captain carped that land captains did all the land settlement work, while the executive member would arrive just in time to supervize the signing of the agreements and take credit for the project.²⁷ This was certainly true in Stavropol province, where virtually all land settlement was carried out by overworked land captains, who could not cope with all the demand in the area.²⁸ It is not surprising, therefore, that in a 1909 report to Stolypin, the Ministry of Agriculture's Inspector of Land Settlement, A.A. Kofod, wrote that the executive member needed to be "efficient and tactful" and had to work "hand in glove" with the land captain if land settlement was to succeed.²⁹

Besides land captains and land settlement executive members, another group that played an important role in the reform were the surveyors. Surveyors were far more numerous than either of the other two groups -- by 1914, there were almost three surveyors to every land captain and almost fourteen to every land settlement executive member. Surveyors were trained specially for land settlement and had the opportunity to participate in all stages of the reform, but they were constrained by their lack of power. They did not have any legal authority beyond giving technical advice on the contours of the "land settled" village and surveying the new boundaries; they could not even call a village meeting without the permission of the land captain. Thus, the one group of workers who were both specially trained for the

land reform and who were numerous enough to execute it effectively did not have the power to do so.

Agronomists, meanwhile, were even more numerous than surveyors and even more extensively trained, but they had no official role in the reform, except for providing agricultural extension services. As we shall see, agronomists ultimately did play an important role in the implementation of the reform, but their work would be constrained by their own anti-tsarist political convictions and by the mass of other duties that they were called upon to perform in the Russian countryside.

Clearly the apparatus for executing the land reform was a disjointed and improvised structure. It may have performed admirably, considering the fact that land settlement was a novel task and that the reform had to be implemented under difficult circumstances and in a short period of time, but it must be admitted that the land settlement apparatus was not up to the magnitude of its task. The clearest indication of this was the fact that the apparatus managed to satisfy less than half the demand for land settlement. In the period 1906-16, 7.1 million households petitioned for land settlement, but the number of completed consolidation or cossomation projects was only 3.4 million.³⁰ Thus, the bottleneck of the land reform was not in the preliminary stages of the reform -- privatization of peasant strips or applications for land settlement -- but in the execution of the complex tasks of consolidation and cossomation. The land settlement cadres probably suffered from numerical insufficiency, as well as from their disjointed organizational structure. Land captains were part of the Ministry of Internal Af-

fairs, executive members and agronomists of the Ministry of Agriculture, surveyors of the Ministry of Justice, the Peasant Land Bank of the Ministry of Finance -- it was a remarkable feat of organization to get all these people to work together at all. But resulting collegiality of leadership must have accounted for what one observer called the land settlement organs' "complete paralysis of initiative, incapacity for work, and absence of any independent economic creativity."³¹

Such were the weaknesses of the land settlement apparatus, but before we go on to consider what the apparatus actually achieved, we must look at the other main constraint on the progress of the Stolypin land reform: the opposition of the local population.

Opposition to the Land Reform

Two of the three elements of the land reform -- privatization and cossomation of strips -- were relatively uncontroversial. Though the vesting of full property rights in the head of the household rather than the whole family sometimes represented a significant change, privatization often represented no more than the transition from a repartitional commune to a hereditary one -- a transition which a quarter of Russia's peasant households had undergone even before the Stolypin Reform. Similarly, cossomation of strips was also a relatively familiar concept; one of the objects the periodic communal repartitions,

for instance, was consolidation and the general rationalization of boundaries. Consolidation, on the other hand, was a radical departure from traditional land tenure and usually entailed a thorough overhaul of the peasant farming system. In order to picture the magnitude of the change represented by consolidation, one has only to think of how peasants must have felt when they decided to abandon the centuries-old village order and embark on a disolution of the community into a network of isolated farmsteads. If there weren't massive and clear economic benefits to be gained from consolidation, the peasants simply were not going to abandon their traditional social structures for the new system.

Predictably, most peasants were scared of taking such a giant step. Once the agricultural reform began to gather speed, one local correspondent reported that "anxiety and perplexity have spread throughout the village."³² Rumours began to circulate in the villages that agronomists would come and force new farming methods on the population.³³ Indeed, the restructuring of peasant agriculture set in motion by consolidation was not a cosmetic change. In his travels around the Russian countryside, Sir Bernard Pares had a chance to see how deeply the reform affected the peasantry:³⁴

In 1911... I saw a great deal of [land settlement] work in the east, centre, and west of Russia. At one village I was present at a meeting at which communal land tenure was abolished in that village. The decision had already been taken, and what I witnessed was the actual division of the land... It was a fateful day for the commune. Woe to the family whose representative was drunk; I saw such a one. Some of the best and most alert bidders were widows, acting on behalf of the children. There was little

noise but great tension. One felt, as one looked out on the wide fields around one, that for good or for evil, a big thing was being done.

There were many different groups in rural society who had real reasons to oppose the land reform. The shop-keepers and money-lenders were often against the reform because they found the commune convenient in solidifying their control over the village population. The poorer peasants feared losing the rudimentary social security net that the commune provided. Village women also commonly opposed the prospect of village-wide consolidation, since this threatened to break up the gregariousness of village life, as well as the communal grazing system of livestock, for which the women usually tended to be responsible. ³⁵ Similarly, in the Northwest, the merchants reportedly opposed village-wide consolidation, since this would deny them communal grazing lands for their cattle and would make it more difficult to go from house to house selling wares. Widespread opposition was also reported among priests and monks -- who apparently feared for the virtues of the traditional way of ³⁶ life if the reform were to go through. The same fear motivated some of the landed gentry, who professed slavophile beliefs. A.D. Samarin, the influential marshal of the nobility for Moscow province, for instance, demonstrated his opposition to the reform by boycotting the meetings of the land settlement commission, of ³⁷ which he was theoretically vice-chairman. In the South-West, some local government functionaries were reported to be holding up the progress of the reform out of jealousy towards the new ³⁸ officials who had arrived to implement it.

Some of the most ardent opposition to the Stolypin land reform was to be found in the ranks of the revolutionaries. Still bitter at the government's repression of the 1905 revolution, many members of the third element fought the land reform for the same reason they fought any measure stemming from the Tsarist government: indomitable hatred for the regime. At a Congress of Agronomists in Moscow early on in the reform, for instance, a zemstvo agronomist proposed a resolution condemning the land reform and urged agronomists to undertake an "active policy of sabotage" towards it. The proposal, according to one eyewitness, was "drowned by thunderous applause."³⁹ As we shall see in Chapter 6, agronomists in particular were caught in a painful dilemma: on the one hand, political and ideological opinions impelled them to oppose the Stolypin land reform, while on the other hand, the pragmatic nature of their mission with respect to improving peasant agriculture eventually forced them to admit that the reform was a good thing. Peasants had no such compunction. Even the peasants who had led the rural rebellion of 1905-7, if they saw that consolidation was in their economic self-interest, would unabashedly embrace the reform. A large number of sources, in fact, reported that often the most ardent supporters of the land reform were precisely those peasant farmers who had been in the forefront of the rural rebellion a few years earlier.⁴⁰

If true, this development must have been gratifying to the government. St. Petersburg was aware of the experience of Germany and France, where the reorganization of peasant agriculture had produced a class of yeoman farmers who had proved to be reliable supporters of Bismark and Napoleon III respectively. In Russia

itself, there were examples of prosperous small-holders becoming staunch political conservatives. The cossacks, with average land-holdings of 50-75 desiatins, had long been loyal supporters of the regime, while the German settlers along the Volga also stood out for their economic prosperity and political conservatism. The degree of opposition in the rest of Russia, however, impelled some observers to suspect that whatever results had been achieved by the land reform were achieved by coercion or bribery on the part of the local administration. Let us now examine the validity of such a point of view.

Were the peasants bribed into undertaking land settlement? The very multitude of peasant households undertaking land settlement belies this view. An extensive Ministry of Agriculture survey in 1912-13 showed that only 16% of the consolidated farms surveyed had received government loans. The loans usually had a 15-year repayment schedule and averaged 109 rubles for a khutor and 89 rubles for an otrub. On consolidated farms bought from the Peasant Land Bank (most of which were bought with mortgage-secured loans anyway), 39% of the farms received loans -- 122 rubles on average. Very rarely did the government actually give cash grants to consolidated farmers.⁴¹ We can see that only a small minority of consolidated farms received loans on favorable terms and even these loans were hardly sufficient to cover the costs of moving house and changing the farming system: such costs were calculated to be 236 rubles for a khutor and 94 rubles for an otrub.⁴²

Another possibility was that local land settlement agents coerced the villages into undertaking the reform. On the surface

it would seem as if the Tsarist government had substantial incentive to do so. The legal complexities that resulted from the egalitarian principle of communal land tenure -- how much of each field belonged to which household and who had what rights with respect to pasture and woodland -- presented a formidable task for the surveyor. The difficulty of untangling the jumble of communal property rights was all the more debilitating since a land settlement project had to be as simple as possible for peasants to understand and accept it. Hereditary land held in strips was the most difficult of all to consolidate, since this required the agreement of all the farmers affected.⁴³ This could be seen in the example of Minsk and Grodno provinces, which unlike neighboring Vitebsk, made almost no headway with consolidation, precisely because most of the land was held under hereditary tenure.⁴⁴

The complexity of communal land tenure, complicating the task of land reform, presented St. Petersburg with a dilemma. On the one hand, one of the main aims of the reform was to imbue the peasantry with a respect for the inviolability of private property and the rule of law as understood in the West. Consequently the publications of the Ministry of Agriculture, for instance, stressed that "rigorous legality" was to be observed in all the work done by land settlement commissions.⁴⁵ But the need for speedy results dictated that legality be frequently overridden in the effort to restructure peasant land tenure. It is symptomatic that the decree of 9 November 1906 was passed under Article 87 of the constitution, bypassing parliamentary approval. Equally symptomatic were the officials chosen to chair the new land

settlement commissions: the governor on the provincial level and the marshal of the nobility on the district level, both figures representing the traditional patriarchal methods of administration.

On the local level, even the confirmation of a peasant's strips as private property did not guarantee the inviolability of his land, since a majority vote by the community could force him to participate in a general redistribution and consolidation of lands. And the way in which consolidation was promulgated was often high-handed and undemocratic. The most common tactic employed by administrators to force the pace of the land reform was to encourage a few households to separate from the commune and set up on consolidated farms. This tactic was effective because it established several model farms of the new type in the peasants' midst, but more importantly, it was effective through its disruptive impact on the peasant commune: when a household decided to consolidate its land, the commune was obligated to undergo a full communal repartition. This, along with the fact that the more households left the commune the less the peasants that remained could hope to increase their allotment in the next repartition, often drove the village to undertake a complete, village-wide consolidation all in one blow. ⁴⁶ It appears that some instances of outright coercion also took place, as a number of peasant complaints to the Minister of Agriculture indicate.

One case in Kiev province concerned a commune with a reputation for being a "dark village": politically loyal and deeply conservative. A zealous land settlement executive member convinced the commune to petition for full-scale consolidation.

The peasants apparently did not fully understand what was involved. When the time came for carrying out the plan, the majority of peasants refused. Several peasants were thereupon promptly jailed for breach of contract and subversion.⁴⁷ Another complaint described how, when land captains were faced with a village that wanted to back out of a land settlement agreement, they would often arrive at the door of the most vocal opponents to take an inventory of their personal possessions, in effect threatening them with confiscation of their property. According to an inspector reporting on land settlement in south-western Russia, such cases of open and veiled coercion were relatively common and left a legacy of bitterness and discontent.⁴⁸ Such bitterness is evident in the following complaint of a peasant correspondent:⁴⁹

If they would just explain to us what's what. But these "little Napoleons"... never want to admit that a spoiled project can be set right through explanations, meetings and persuasion... They want to take [the village] by storm. "They'll surrender," they say. "It's not the first time."

The violence in the immediate wake of the revolution of 1905 cut both ways. A former land captain remembered how he felt trying to implement the land reform in villages boiling over with rebellion:⁵⁰

After the law on leaving the commune, you would stand in the village assembly, alone, surrounded by an infuriated crowd. It's not possible to bring the police with you -- after all, there aren't enough of them anyway. The supporters of the commune are for the most part socialists, with the habit of obtaining as much land as possible for their new-born children, and this right is

exactly what is being taken away. In some villages, they are ready simply to tear you to pieces. And that is the majority. Those leaving the commune are no help and no defense and themselves try to hide under your wing. And under these conditions, the newspapers criticize you for being despotic! There have been times when the peasants took the land captain by the collar and strung him from the rooftop.

There were enough cases of authoritarianism and violence during the Stolypin land reform to provide ample food for the political opposition, but the argument that the land reform as a whole was pushed through by force is almost certainly wrong. For one thing, most of the complaints contained in the government archives seem to date from the first two or three years of the reform, a tense and bitter time when the revolution of 1905 had not yet been fully extinguished. The period 1910-14, when most of the land settlement projects were carried out, is characterized by remarkably few instances of authoritarianism. An even more convincing refutation of the reform-by-force view is the very magnitude of the land reform movement. It is hard to believe that 7.1 million land settlement petitions and 3.4 million completed projects could have been imposed involuntarily by the agents of land settlement. As A.A. Kofod pointed out, "land settlement represents such a serious change in the life of the peasant that administrative pressure is useless. Undoubtedly there have been cases of organizing petitions for village-wide consolidation (razverstanie) under a certain pressure, but it is unthinkable for anyone to have succeeded in realizing such a project in real life." This argument rings true. After all, how could one expect the thinly-staffed network of rural administrators to force such a mass transformation of rural life, when they were

hardly able to keep the peasants from burning gentry manors only a few years earlier.

Quantitative Results of the Land Reform

By 1917, the number of peasant farms consolidated under the Stolypin Reform was some 1.8 million, or 12% of all peasant households. Another 1.6 million peasant farms had benefitted from cossomation. Due to the government's efforts to encourage private land tenure, approximately half the peasant households in European Russia now lived outside the peasant commune. Was the Stolypin land reform a success? Considering the size of the Russian land, the extent of the peasantry's agricultural backwardness and the resentment remaining after 1905, the Stolypin land reform achieved remarkably impressive results in just eight years. But the figures alone do not give an accurate picture of the degree to which the land reform transformed the Russian countryside. As we shall see in the following chapters, the land reform had a tremendous psychological impact on the countryside and it set in motion a whole array of agricultural improvements among Russia's peasant farmers.

The reform greatly impressed observers from the rest of Europe. In 1912 Germany, which had initiated similar reforms a century earlier and was still working on them, sent a special delegation, composed of the venerable German agronomists Max Sering and Otto Auhagen among others, to examine the progress of

the Stolypin Reform first hand. Auhagen, noting the "extremely impressive" results of enclosure (privatization) in the period of 1906-11, remarked that "more land will have been enclosed in five years as a result of the Russian agrarian reform than was enclosed by the Prussian Gemeinheitsteilung in a whole century." 52

Foreign observers were impressed not only by the grandeur of the reform, but also by the efficiency with which it was being carried out. "In Central and Southern Russia, I was able by personal investigation to convince myself of the high degree of devotion, energy and knowledge applied to the execution of the reform," Max Sering was to recall in 1921. Sering went on to argue that, had the land reform been allowed to run its course, it would have solved the Russian peasant problem by giving free rein to the efficient farmers. 53

What were the quantitative results of the Stolypin Land reform? Unfortunately, because of the spottiness of Russian rural statistics and because the war and revolution cut short the land reform after less than a decade of operation, the results of the reform are not easily quantified. There are some significant gaps in the statistical data, which sometimes need to be covered with educated guesses. Let us begin with the simplest part of the reform: privatization of peasant lands. Privatization could occur in several ways. First of all, any peasant household could apply and receive legal right to own its land in private tenure. When this path produced only relatively minor results, the government decided (according to the law of 14 June 1910) to make the privatization of peasant lands which had not undergone repartition since the division of lands during the Emancipation of the serfs

automatic; this applied both to "hereditary" communes and to "repartitional" communes which had not had a general repartition since 1861. The League of Agrarian Reform, a multi-party group of experts gathered in 1917 to examine the agricultural problem, calculated the results of privatization in the following way.⁵⁴

Results of the Privatization of Peasant Lands, 1906-17

	<u>Number of households</u>	<u>Number of desiatins</u>
1. Privatization of communal land.....	2,008,432	14,122,798
2. Privatization of hereditary plots....	2,817,993	22,977,451
3. Privatization of land in communes without redistribution.....	469,792	1,796,410
4. Awaiting confirmation on communes without redistribution.....	<u>2,000,000</u>	<u>14,000,000</u>
Approximate total.....	7,300,000	52,000,000

If we add on the 1.8 million consolidated farms to this figure, we can see that on the eve of the revolution, no more than half of the 15.7 million peasant households in European Russia were members of functioning peasant communes. Noting this trend, the socialist economist N.P. Oganovsky remarked in 1914: "Few can doubt that unless the wheel of history turns to the left in the near future, the privatization of the major portion of Russia's arable land is a question of one or two decades."⁵⁵ For our purposes, we needn't include the estimated 2 million households who had not undergone communal repartition since 1893, but had not yet received certified private tenure; the best figure for privatized households derived from the table above is 5,296,217 households with 38,896,659 desiatines of land.

The size of the movement away from communal tenure was generally accepted by most analysts at the time, but this view has recently been challenged by some Western and Soviet historians. One of these, Dorothy Atkinson, has speculated that there was a substantial overlap in the figures on privatization and consolidation, even though no evidence of this has surfaced. More to the point, Atkinson has argued that in most cases privatization meant very little in real life, since peasant farmers remained highly integrated into the economy of their community and the commune was only "put on hold" so to speak, to resurface with the 1917 revolution. ⁵⁶ It is true that a mere juridical change, confirming a peasant's strips as private property, often had little immediate impact on the ground, but the figures on privatization are still significant because they indicate the deterioration of the peasant commune as an agricultural institution and because private property rights could prove significant, if only at some later date, when the peasant might want to sell his land or plant apple trees on it or whatever. In other words, mass privatization had occurred, but in most cases its significance had yet to be realized economically and, because the revolution of 1917 cut short the evolution of Tsarist Russia, in fact never was realized.

In addition to privatization, the Stolypin land reform managed to achieve impressive results in the complex task of land settlement. ⁵⁷ The results were as follows:

The Aggregate Results of Land Settlement 1906-16 (47 provinces)

	<u>Number of peasant households</u>	<u>% of total peasant households</u>
1. Total number of households (1916 census).....	15,693,538	100%
2. Number petitioning for individual land settlement (consolidation).....	3,492,232	22%
3. Number of consolidated farms by Dec. 31, 1916.....	1,830,082	12%
4. Number petitioning for group land settlement (cossomation).....	3,634,772	23%
5. Number of households having undergone group land settlement by Dec. 31, 1916...	1,562,952	10%

The figures on completed consolidations are higher than most that are commonly used by historians. First of all, most analysts have usually employed the figures on consolidated farms ratified by the land settlement commissions. Yet, as the Ministry of Agriculture pointed out, the important moment in consolidation was the execution of the project, when the boundaries between plots were drawn up and approved by the village, not its formal ratification by the commission; peasant farmers almost always started cultivating their new plots right away, without waiting for the deeds to be drawn up and processed through the correct channels (the time lag between the completion of consolidation projects and their ratification by the land settlement

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commissions was about a year). Therefore, if one were to use the figures for the number of consolidation projects ratified by the land settlement commissions by, say, 1914, one would actually be recording the number of consolidations that had already

materialized by 1913. Another reason why the figures on consolidation are higher than many others commonly used is that some analysts tend to quote the number of consolidations on just peasant allotment land, leaving out the number of consolidated farms established on State or Peasant Land Bank lands. Finally -- and this refers to all land settlement statistics, not just consolidations -- many analysts neglect to include the figures for 1915 and 1916. Unfortunately the data for these two years is spotty, but some estimate has to be ventured, for the level of land settlement activity, though significantly reduced from the pre-war years, was still very high: in 1915 alone, for instance, 3.3 million desiatines were surveyed for land settlement and 184,562 consolidated farms were established.⁵⁹

The extent of the movement to consolidated farms was even stronger in Western Siberia than in European Russia. In allocating lands to settlers, the Ministry of Agriculture followed a policy of encouraging the establishment of consolidated plots, usually otrubs. About 30% of the land granted to settlers consisted of consolidated plots and these plots, owned either by settlers or by long-established farmers, accounted for an estimated 6 million desiatines by 1914.⁶⁰

Kofod observed in 1914 that the scale of the peasant demand for land settlement had initially taken everybody by surprise. No one in St. Petersburg had expected consolidation to spread beyond the western provinces and had assumed that the progress of the reform would be gradual.⁶¹ To everyone's surprise, not only had the tempo of land settlement turned out to be very rapid, but the peasants became increasingly radical in their demands for

consolidation, rather than just cossomation of strips. Many peasants, especially in the South, began by organizing otrubs, keeping their cattle in communal pastures and their houses in the village. Gradually they began moving their buildings out to the fields -- first barns and storehouses, then domiciles and stables. Finally, they petitioned for a redivision of the communal pasture and sold their home plot in the village. Thus, what had originally been organized as a settlement of otrubs evolved into a settlement of khutors.

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Whereas the pace of applications for privatization had reached its apex in 1908, the pace of land settlement -- both consolidation and group land settlement -- was quickening on the eve of the war (see below). Since private ownership of strips didn't help the process of land settlement and may actually have hindered it, land settlement cadres were soon urged to give less emphasis to privatization and encourage land settlement instead. Skeptical at first, the peasants evidently began to understand the potential benefits after a certain period of time. After 1910, the movement to consolidation and group land settlement swelled to such proportions that the land settlement commissions were unable to keep up. Because of the shortage of surveyors and the cumbersome bureaucratic procedures for approval of new property rights, the commissions managed to ratify only 44% of the applications for consolidation and 43% of the applications for group land settlement over the period 1907-14. The figures below indicate the yearly fluctuations in the demand for privatization, group land settlement and consolidation on peasant allotment land.

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The Dynamics of Privatization,
Group Land Settlement and Consolidation, 1907-1914

<u>Year</u>	<u>Number of households petitioning for privatization</u>	<u>Number of households petitioning for land settlement</u>	<u>Households with approved group land settlement</u>	<u>Households with completed consolidation</u>
1907	212,000	219,332	4,296	13,643
1908	840,000	380,691	17,664	51,411
1909	650,000	704,964	85,702	133,786
1910	341,000	650,347	110,625	187,025
1911	243,000	678,143	112,361	206,983
1912	153,000	1,226,225	125,642	202,954
1913	160,000	1,105,742	193,586	241,773
<u>1914</u>	<u>120,000</u>	<u>828,096</u>	<u>268,201</u>	<u>214,445</u>
Total	2,719,000	5,793,540	918,077	1,252,020

We can see from the table above that applications for privatization reached their peak in 1908, applications for all kinds of land settlement -- in 1912, approval of completed group land settlement projects -- in 1914 and completed consolidations -- in 1913. The land reform, therefore, was clearly gathering strength when World War I broke out in the summer of 1914. But it was also becoming more expensive. One of the reasons for this was that a growing proportion of consolidations were now executed through individual separations from the commune (vydel), rather than village-wide consolidations (razverstanie). The latter was preferable, since it involved the creation of multitude of consolidated farms in one blow; therefore, it had lower unit costs and achieved much faster results. Yet, the proportion of individual separations grew steadily throughout the reform, rising from just 5% of all consolidations in 1907 to 39% in 1912. Evidently, in its desire to encourage consolidation, the land settlement administration was increasingly willing to

undertake the most difficult type of land settlement, and this may be one of the reasons why it was falling behind in its processing of land settlement applications. There were other drawbacks as well. Consolidation through individual separations was not only more expensive and time-consuming, it was also much more disruptive for village life. When even a handful of households opted for individual separations, they usually forced the whole commune into a village-wide repartition of lands. Predictably, individual separations caused a great deal of animosity in the village; farming was often disrupted as the village quarrelled and communal farmers, now insecure about the future of their land ownership, became even more negligent of the soil than they had been previously.

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These were difficulties -- bugs in the system, so to speak -- but they were not symptoms of a systemic flaw in the land reform or of a loss of momentum. The pace of petitions for consolidation and even the completion of projects was accelerating, rather than declining on the eve of the war. The key factor in whether peasant farmers would continue applying for consolidation in ever greater numbers was whether they saw their neighbors prospering on consolidated farms. It is to the economic impact of privatization and consolidation on peasant agriculture that we turn in the next chapter.

CHAPTER FOUR

THE STOLYPIN LAND REFORM AND THE PEASANT FARMER

We saw in the previous chapter that the mass of the peasantry could not be corralled into transforming their farming systems through coercion or bribery. The primary reason why peasants decided to opt for land settlement was that such a change was in their self-interest. The advantages of private plots and especially of private consolidated farms were clear enough for a great number of peasants to overcome their reservations and adopt the new system. Land reform, both in the form of privatization and in the form of consolidation, held the key to the improvement of peasant farming. At a certain stage of history, the progress of civilization may have been served by people coming together to form rural communities and communes, but in the modern era, the key to cultural and technological progress lay in freeing peasant farmers from the very same commune. The Norfolk System of crop rotation, for example, arose in England only after the farmland had been enclosed under private ownership and the "crisis of the commons" (the impoverishment of communal land) had been resolved. There were examples of whole villages adopting improved technologies, but these were rare exceptions.¹ Agricultural progress was largely borne by individual farmer entrepreneurs -- and these could only arise when land tenure was privatized and, if possible, consolidated. The same process was repeated throughout Europe.²

In this chapter, we will begin by looking at the implications of privatization in a theoretical sense and see whether the

hopes and fears accompanying the movement were borne out. We will then look at the need for consolidation of peasant strips and at the technological superiority of consolidated farms. Finally, we will look at how the land reform related to all the other elements of the government's agricultural development program and at how Stolypin's "wager on the strong" carried over into all spheres of the rural economy.

The Effect of Privatization

The land reform, as we mentioned, was composed of two main trends: privatization and consolidation. The first of these -- privatization -- is usually dismissed by historians as relatively insignificant, doing little to change the system of peasant farming. Yet, privatization represented a sharp break in the traditional structure of peasant society. Admittedly, most of its impact was at first largely theoretical, but even this was bound to lead eventually to real change.

Privatization of peasant plots gave the mass of Russian farmers the opportunity to sell their land. Before the decree of 9 November 1906, if a peasant farmer wanted to sell his plot and move somewhere else, he was stuck in the absurd position of not being able to do so. The privatization of peasant land turned it into "capital," which could be liquidated into cash for reinvestment into some other enterprise. The peasant now could dispose of his assets in any way he wanted. In one fell swoop, a

peasant whose property consisted of a cow, a plow, some furniture and 50 rubles in the bank, was enriched by some 1,000 rubles worth of land.

Apart from increasing the peasant farmers' freedom to dispose of their assets in any way they liked, privatization could also be expected to have a salutary effect on rural overpopulation. Under communal tenure, every new peasant family would automatically inherit a plot whose size would be commensurate to the number of family members or workers in the household. Thus, the communal system provided no disincentive to breeding large families and may even have encouraged it. The impoverishment resulting from too many people living off the land was borne not by the individual family, but by the commune as a whole. Privatization would change this state of affairs. One Russian economist remarked that in Western Europe "the principle of private property puts the problem of rural overpopulation before each peasant, so that he already prepares a greater or smaller number of his children for non-agricultural professions." If the peasant's land was privately-held, he would be able to obtain a mortgage-secured loan to finance the purchase of another plot of land or some enterprise in town. The upsurge in peasant migrations to Western Siberia and to the towns in the period 1906-17 was probably due in large part to the new freedom to dispose of their inherited plots. Some observers in fact noticed a strong regional correlation between land hunger, privatization and emigration to Siberia.

Privatization also tended to have a beneficial impact on the efficiency of farm management. Generally speaking, privatization

encouraged freedom of enterprise, mobility of labor and specialization of production in the rural economy. Now that the land could be sold, those peasants who were unfit or unwilling to farm were able to cash in and move out, leaving the land to the more dedicated peasant farmers. In view of the high cost of maintaining a modern farm and the high rate of rural under-employment, the agricultural sector in Russia needed a "shakeout." The less promising peasant farmers had to be free to leave the village so that the nation's agricultural resources could be concentrated in the hands of the more efficient producers.

Nowhere is the need for an economic shakeout more clearly illustrated than in the problem of peasant horse-ownership. A horse generally needed to be worked on a large plot of land in order to pay for itself; the expense of setting aside a large quantity of land for pasture or growing fodder crops led many peasants to sell their horses and rely either on hand cultivation or renting livestock from their neighbors. In 1912, 31.5% of peasant farms had no horses and a further 32% had only one.⁵ Yet, many agronomists argued that Russia in general had too many horses, with the existing animals being grossly under-utilized on the land.⁶ Makarov, for instance, wrote that the assumption that every peasant household "must have one horse and one plow" would lead to the bankruptcy of the peasant population.⁷ The clear implication was that only a portion of the peasantry (probably the majority) should own horses and work on the farm, while the rest should be given the opportunity to do something else.

The privatization of land gave free rein to the individual

farmer's skill and initiative. The peasant farmer no longer had to worry about handing his land over to someone else when the next communal redivision took place; and was he was no longer limited in the amount of land he could own or what he could do with it. In his textbook on agriculture, Makarov wrote that farmers are very different in the quality and scope of their managerial ability. Some farmers were capable of running large, intensive operations, some were not. Each farmer, therefore, had to have the opportunity to work a farm whose size would be commensurate with his ability; confining a capable farm-manager to a small communal allotment was a waste of his potential, while giving an incompetent farmer a large plot of land would represent a waste of land resources.⁸ Privatization opened the way for agricultural resources to be matched with those best equipped to exploit them.

Now that land was both a liquid capital asset and the private property of the farmer, peasants were impelled to produce more efficiently and to take better care of their soil. Even Soviet analysts of the 1920's admitted that an independent, privately-held peasant farm had certain "positive advantages" with respect to developing the "thriftiness and industriousness" of the farmer.⁹ The privatization of land and the rising frequency of land-purchases, land-rentals and mortgage-secured borrowings, also advanced "profitability" and "return on investment" as all-important criteria.¹⁰

The effect of private ownership was especially strong when the land was consolidated into a single plot. There is substantial evidence that after privatization or consolidation,

the number of land-reclamation and construction projects rose sharply, raising the market value of the holdings as high as twice the going price for communal land.¹¹ The private peasant farmer had an incentive to clear away rocks and underbrush from his fields and to take better care of his soil. In the private consolidated farms surveyed by the Ministry of Agriculture in 1913, 41% had undertaken some form of land reclamation or improvement projects since the reorganization of their land tenure. The most common project was the sinking of wells, but there was also a lot of work done draining marshes and digging irrigation ditches. The average cost of such work, according to the survey,¹² was 47 rubles. Another way in which the value of the farm rose after the privatization and consolidation of the land was through the construction of new buildings. The average value of farm buildings (houses, barns, mills, etc.) in the aforementioned survey rose by 12% on otrubs and 67% on khutors in just a few years.¹³

Critics of the land reform pointed out that privatization had far more deleterious effects than the preceding arguments admitted. One of the most articulate such critics was Oganovsky. In a book published in 1914, Oganovsky pointed out that the privatization of land combined with the high land prices resulting from peasant land hunger would ultimately lead to the complete impoverishment of the peasantry. Ever since 1861 the land market had been a seller's market, he argued, with land fetching a far higher price than a reasonable calculation of its productivity merited. It was the peasant buyers who would have to bear the burden of carrying the heavy land payments on their

family budgets. The peasants' new freedom to dispose of their land assets was a pyrrhic victory, Oganovsky claimed, since the resulting debt burden would soon lead to a decline in production and the kind of debt bondage that centuries earlier had helped
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produce serfdom.

This argument has several weaknesses. First, land prices may have been very high and the land market may have been a seller's market, but it was precisely the sellers (the poorer peasants) who needed the money most. Secondly, it was perfectly reasonable to expect that the buyers would be able to digest their purchase and pay down their debt by increasing their productivity, an option Oganovsky neglected to mention. Finally, Oganovsky overlooked the dynamic effect of the law of supply and demand: initially land prices would be very steep and this would encourage many peasants to sell their land and leave the agricultural sector, but as ever more peasants did so, land prices would fall and the process would level off.

It is also worth noting that Oganovsky's objections were mainly theoretical. In fact, the sale of peasant land was significant in the period 1906-17, but it could hardly be considered a mass phenomenon. By law, peasant land could only be sold to other peasants. In order to safeguard against concentration of land, the law of 14 June 1910 stipulated that a given peasant farmer could acquire a maximum of six peasant allotments (he was not limited in the amount of gentry land he could buy). Of course, if Russia had been committed to a policy of laissez-faire capitalist development, the government would have set no limits at all. This continuing regulation of peasant economic development was proba-

bly all for the best, since a rapid concentration of land into the hands of a minority would have been disastrous for the nation's unemployment levels. There was some concentration of landownership going on, but it was proceeding slowly. The exception was Stavropol province, where the highest proportion of land sales was recorded. The virgin soil here was very rich, but required a large investment in horses and machinery. Most settlers before 1906 would rent out their land to the larger farmers and then hire themselves out as agricultural laborers. Once they had the right to sell their private strips, many peasants did so and ended up "squandering the money."¹⁵ On average, however, the quantity of land sold in Russia was surprisingly small, both in absolute terms and in terms of each individual sale. We can see this from the following table.¹⁶

Sale of Peasant Land 1908-14

	<u>Number of sellers</u>	<u>Number of desiatines sold</u>
1908	36,152	157,099
1909	87,458	373,009
1910	134,267	524,857
1911	147,782	533,857
1912	206,879	677,280
1913	218,970	677,009
<u>1914</u>	<u>222,680</u>	<u>685,144</u>
Total	1,022,622	3,515,513

In other words, the average size of the plot put up for sale was 3.5 desiatines, far smaller than the average peasant holding. The above table may under-estimate the degree of land sales -- the economist Brutskus speculated that a total of 1.5 million

peasant households sold some 5 million desiatins of land.¹⁷ But even so, the sale of whole peasant properties with consequent proletarianization or emmigration of the peasant household was comparatively rare. According to a Ministry of Agriculture survey on the eve of the war, the proportion of peasant households selling all of their land while remaining in agriculture was recorded as 2.3% in a district of Stavropol, 1.9% in a district of Samara, and only 0.5% in a district of Vitebsk.¹⁸ It is likely that the sellers were peasants who were unsuited to running a farm -- artisans, city workers, widows, etc. -- but were entitled to a small piece of the commune anyway. These peasants might have jumped at the opportunity to sell their land and abandon all formal links to farming. It is also possible that the sales represented a peasant farmer selling one of his numerous plots in order to pay off a debt or purchase another plot of land.

The Need for Consolidation

One of the advantages of privatization was that apart from rationalizing the agricultural sector as a whole by allowing non-farmers to leave the land, it also allowed for a certain amount of consolidation to take place through the market mechanism. Peasant farmers could now presumably sell those strips that were inconveniently-located and buy others closer to the center of the farm. But such a method of consolidating peasant strips was bound to be a lengthy process, with ever diminishing returns, since peasant farmers could be assumed to grow more

reluctant to part with their various plots over time. Some analysts pointed out that private ownership of strips actually hindered land settlement, since the latter now required the approval of the majority of the village.¹⁹ The most effective way of consolidating peasant strips was by carrying out a single, village-wide land settlement project, preferably in a redistribu- tional commune.

Consolidation of peasant lands through land settlement was a far more expensive and complex operation than the simple confirmation of peasants' strips as private property. Since consolidation of even a single peasant's lands required the redivision of lands throughout the whole village, it not only entailed a major upheaval in the peasant's farming system, but it often also resulted in an initial decline in agricultural production. When a few members of the commune consolidated their lands, they usually made the rest of the village very insecure. "Why manure the fields or clear the land when you don't know what will happen to your plot of land?" the villagers would ask.²⁰ Was consolidation really necessary? Some statistical evidence indicated, for instance, that consolidation was most advantageous when applied to large and extensively-oriented farming systems. For many of the smaller, more intensive farming systems, such evidence indicated, consolidation lost virtually all its significance. Such was the case with the peasant farms in south-western Russia, which like those in Germany and Austria were both frag-²¹ mented and highly productive.²² Kofod noted:

It would be absurd to argue that peasant agriculture cannot reach

a high level of development even under a rather complex form of land fragmentation... but [consolidation] accelerates [the intensification of agriculture] many times over, while at the same time significantly reducing the costs of farming. That level of agricultural development which would require centuries to attain under strip land tenure, is achieved under fully consolidated land tenure in a matter of decades.

Would it have been better to improve communal land tenure by carrying out cossomation, introducing improved communal crop rotations, or subdividing the more unwieldy communes into smaller units (so-called poselki)? Such non-radical land settlement had already been tried by zemstvo agronomists in Russia, Kofod responded, and had not satiated the peasant demand for better organization of land tenure. "Only the complete elimination of communal and fragmented land tenure will arrive at the final ²³ calming of the village," he argued. For one thing, only complete private ownership and geographic independence of the peasant farm could eliminate the endless, senseless arguments that ²⁴ habitually arose within the commune. And the full transformation of peasant strips into consolidated farms, as Kofod noted, ²⁵ was also demanded by economic rationality.

The history of land settlement teaches that, all else being equal, agriculture progresses the more rapidly and completely, the more rounded the plots, the more conveniently placed and centralized the farm buildings are in relation to the whole property. The clearest proof of the superiority of [consolidation] is the flourishing agriculture of the United States, where in the course of the last century the settlers were given square-shaped private plots, and also Denmark and Sweden, which had transferred from hereditary strip tenure to khutors.

The reason why consolidation was necessary was that simple

privatization failed to solve the two main problems of the strip farming predominating under communal tenure: land fragmentation and land remoteness. Strip farming commonly resulted in about 10% of the land being lost under roads and boundaries.²⁶ In other words, over 10 million desiatins of arable land were left uncultivated by the peasantry because of inefficient land settlement. Furthermore, a tremendous amount of time was lost in travelling from one strip to another. In the South especially, where communes were large and the peasant's strips were often located more than 5 miles from the village, the peasant farmer could easily walk over 1,000 miles in the course of a year just to get to his fields. All this reflected badly on the intensification of production. One survey found that if a farm had less than 10 strips, the average male worker would spend 2.6 workdays carting out manure to the fields; if the number of strips was over 20 (as it usually was), the number of workdays involved in carting manure doubled.²⁷ Rather than spending more time manuring, many peasant farmers simply stopped manuring²⁸ altogether. The same point emerges in the following table.

Yearly Total of Hours Spent Working 1 desiatin of Oats

<u>distance of field from farm center</u>	<u>hours spent travelling</u>	<u>total manhours</u>	<u>% travel time to total manhours</u>
0 versts	0	135	0
1 verst	15	150	10%
2 versts	34	169	20%
3 versts	58	193	30%
4 versts	92	227	41%
5 versts	151	286	53%
6 versts	235	370	64%

In the table we can see that the number of hours spent actually cultivating the field of oats remains the same, but the further the field was from the farm center, the more time was spent travelling. If the field was further than five versts away (a relatively common occurrence, especially in the South), travel took up more than half the yearly total of manhours. The inefficiencies entailed by land-remoteness led Makarov to argue that the optimal shape of the farm is a rectangle or square, with the house located in the center.²⁹ Agronomists had long observed that the closer a given plot was to the peasant's house, the more intensively it was cultivated (the kitchen garden in the backyard being the most intensive of all). The plots far from the house, on the other hand, were given over to unmanured grain crops and sometimes were left completely uncultivated.³⁰ With consolidation, all the peasant's land effectively became his backyard.

One of the arguments for consolidation was that it turned the peasant into an efficient and strongly-independent farmer. One symptom of this was the fact that the consolidated farmer tended to be more satiated with his land than was the case with the communal peasant. According to one survey, only 17% of khutors and 35% of otrubs found it necessary to rent land, as compared to 23% and 40% respectively of the same households before they had consolidated.³¹ With all these advantages, consolidation usually pushed the peasant to concentrate more fully than ever before on farming. Peasants on consolidated farms

were becoming professionalized and specialized farmers, rather
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than jacks of all trades as their ancestors had been.

Perhaps privatization and consolidation of lands was pursued by the peasant for purely speculative aims? After all, considering the fact that consolidated land had a market value at least 50% higher than that of neighboring communal plots and considering the fact that the process of consolidation was financed at least partly by the government, there was a chance to
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make a tidy profit from the reform. A family that made its living mostly from non-agricultural work could privatize its share of communal land, consolidate it and then sell it or rent it out at a lucrative price. In fact, this rarely happened. Let us look at private consolidated farms. According to the 1913 survey, 7% of khutors and 20% of otrubs rented out a portion of their land, driven one must assume by some unfortunate event -- a death in the family or the need to pay down a debt. Only 8% of
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consolidated farms were rented out completely. The number of consolidated farms that were sold was smaller still -- 7% of consolidated farmers sold all their land and another 6% sold part of it. The reasons for the sales according to the survey are
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listed below:

Reasons for selling off Private Consolidated Plots (1913 Survey)

1. Kept all of their land.....	15,154 (86.3%)
2. Sold all or part of their land because of resettlement beyond Urals or to purchase another farm from the Peasant Land Bank.....	711 (4.0%)
3. Sold because non-agricultural income was sufficient.....	508 (2.9%)
4. Sold because of impoverishment (death, alcoholism, crop failure)....	794 (4.5%)
5. Sold because of other reasons.....	400 (2.3%)
Total.....	17,567 (100%)

Thus, no more than half of the small minority of consolidated farmers who sold off part of their land did so because of impoverishment or bankruptcy. The rest were undergoing the beneficial process of economic adjustment -- either moving to more prosperous areas such as Western Siberia or leaving the agricultural sector for other types of work.

Another potential problem was the subdivision of the consolidated plot as it was divided between the farmer's heirs. The argument here was that with time such subdivision would create land hunger and land-fragmentation as acute as under the commune. Kofod argued that yes, subdivision of consolidated plots was proceeding at a steady pace, but that the experience of consolidated farming in Russia and Western Europe showed that family subdivision occurred much less often on consolidated farms

than under communal tenure. The Ministry of Agriculture survey found that after about four years in existence, only 2% of consolidated farmland went through family subdivisions.³⁷ Such evidence points to the fact that redividing consolidated farms was probably a very rare phenomenon and that it was far from outstripping the process of consolidation.

The Technological Superiority of Consolidated Farmers

Did consolidation allow for the rise of a generation of agricultural pioneers? The tendency of consolidated farmers to cultivate their fields more carefully, adopt more progressive crop rotations and achieve a greater degree of commercialization was noticed by many observers, both pre-revolutionary analysts and Soviet analysts of the 1920's.³⁸ There were also some notable failures in the consolidation movement. A group of khutors was established on the arid lands of Samara province without proper hydrographic investigation, for instance, and the farms found themselves short of water and experienced a sharp economic decline.³⁹ Consolidation often had an especially dubious impact on animal husbandry: the first years after consolidation and the subdivision of communal pastures almost always saw a drop in the number of cattle.⁴⁰

Foremost among the critics of consolidation was I.V. Chernyshev, who used a survey of 1,700 farms compiled by the Free Economic Society in 1910-11 to examine the effects of the

Stolypin land reform. Chernyshev argued that the correlation between privatization/consolidation and agricultural progress was minimal. While consolidated farms in the North may have improved their agriculture somewhat, in the South livestock numbers declined and farmers switched to a predatory monoculture.

Chernyshev concluded that the Stolypin land reform was motivated not by economic aims (raising economic welfare), but by political goals (the dissolution of commune).⁴¹ But Chernyshev's argument suffered from the fact that his statistics dated from 1910-1911, a time when most consolidated farms were only a year or two old and were still suffering from the difficulties of transition.

A longer time lag between consolidation and agricultural results was incorporated in the 1913 Ministry of Agriculture survey. This survey not only allowed for a time lag of three to four years on average, but it was also broader in scope (21,000 farms were included) and more detailed. Here we find a much more positive picture of consolidation. The improvement in crop yields on peasant farms that took place as a result of consolidation is shown in the table below.⁴²

<u>Comparative Crop Yields in 1913 (puds per desiatin)</u>					
<u>Type of Farm</u>	<u>Wheat</u>	<u>Rye</u>	<u>Oats</u>	<u>Barley</u>	<u>Potatoes</u>
Consolidated (Bank)	61.8	65.6	75.6	73.4	440.9
Consolidated (Commune)	55.6	54.4	72.8	66.1	570.1
Communal	51.0	51.3	59.9	60.4	421.9
Gentry	57.0	63.6	69.3	68.1	570.6

We can see that yields on consolidated farms, especially if they had been established on Peasant Land Bank land, were often higher than on gentry lands and up to 30% higher than on neigh-

boring communal allotments. The improvement in yields illustrated in the table above are all the more significant if one considers that the first years of the consolidated farm's existence were usually the most difficult and that improved crop rotations would have relatively little impact after only 3-4 years. It is reasonable to conclude, therefore, that all these improvements resulted from more careful cultivation and harvesting, from the use of land previously lost in boundaries, and from the use of fertilizers and seed-cleaning.

The improvement of peasant farming was also evident from other regional surveys across Russia. Mozzhukhin, for instance, noted that surveys in Tula, Pskov and Volhynia provinces all showed that while consolidated farms of less than 3 desiatins suffered from consolidation, experiencing a marked decline in livestock and tools, for the larger consolidated farms the picture was the opposite. ⁴³ Mozzhukhin's own findings in Bogoroditskii district of Tula confirmed what was found in many other districts -- that consolidated lands were fertilized more, plowed deeper and earlier, and subject to more complex crop rotations than communal lands. Yields were up to twice as high. Mozzhukhin explained this by arguing that consolidated farmers represented the stronger and more energetic segments of the population and that liberation from mandatory communal crop rotations and livestock grazing gave free rein to the farmer's initiative. ⁴⁴

The question of livestock was an especially touchy one with respect to the economic effects of consolidation. The costs of moving the farm and the loss of communal pasture often led to an initial decline in livestock, mostly in the South. Let us look at

the data of the 1913 Ministry of Agriculture survey. Otrub farmers suffered the most; according to this survey, their horses and cows declined by 7% and the proportion of farms without any work animals rose from 19.4% to 21.2% over a period of about four years. Such farmers may have been changing over to the profitable hand cultivation of vegetables, fruit and root crops, but more likely the decline of livestock was either a sign of impoverishment or at least an indication that peasant farmers were not yet sure how to raise livestock outside a communal environment. The figures for khutor farmers, on the other hand, indicate that they had more livestock in 1913 than before consolidation and that the number of farms without any livestock decreased. Another encouraging sign was that the number of young horses (yearlings) and calves doubled on khutors and rose by one sixth on otrubs. This was a sign that the worst of the initial livestock crisis had passed for the consolidated farms and that animal husbandry was improving. Another sign that animal husbandry was improving among consolidated farmers was the fact that by 1913 the number of households engaged in butter-making had doubled, while fully 16% of the consolidated farms had transferred to either partial or full stall feeding. Consolidated farmers' animal husbandry, therefore, suffered from the restructuring in the first years after consolidation, but then began to improve significantly.

The high cost associated with the restructuring of the peasant farming system did not prevent consolidated farmers from investing in modern farm equipment. The average value of consolidated farmers' equipment rose from 59 rubles before

consolidation to 83 rubles in 1913. The number of wooden plows per 100 households declined from 32 to 19, while the number of metal plows rose from 60 to 84.⁴⁶ In addition, there was a marked increase in the use of complex farm machinery after the farms were consolidated, as we can see from the table below.⁴⁷

Percentage of Consolidated Farms having Modern Machinery

	<u>seeders</u>	<u>harrows</u>	<u>reapers</u>	<u>separators</u>	<u>threshers</u>
Before consolidation:	1.5%	3.7%	7.5%	18.1%	3.3%
In 1913:	3.0%	8.9%	10.7%	24.1%	5.3%

It is true that at this time Russia was experiencing a general rise in the use of modern machinery, but the tempo of change seems to have been faster on consolidated farms.⁴⁸ Certainly the elimination of strip farming opened the way for using certain complex machines such as seed drills which could only be operated on a large plot of land. At the same time, consolidated farmers' increased use of machine rental stations reflected both the greater availability of such services and the increased willingness of consolidated farmers to use them; before consolidation, only 263 households used machine rental stations, but by 1913, 3,259 or almost a quarter of all the consolidated farms in the survey did so.⁴⁹

Consolidation visibly destroyed the old system of crop rotation. Whereas before the land settlement, 63% of the farms surveyed had used the 3-field system, after consolidation this figure sank to only 21%. But the demise of the old 3-field system did not mean that the farmers had switched to any definite

alternative: only 4% claimed that they had firmly established a multi-field system of crop rotation. It is unclear whether the rest had degenerated into a predatory monoculture (planting the same crop year after year without any fallow) or whether they were in the process of improvizing some form of improved crop rotation. Several factors point to the latter possibility, especially with respect to the non-black earth region. Generally speaking, the rise in yields would not have been possible if the peasants had been practicing a monoculture for several years. Consolidated farms also tended to grow a more diverse collection of crops than the neighboring communes, which would seem to indicate complex crop rotations. The cultivation of grasses like clover was reported by over a third of the farms surveyed, a four-fold increase in four years.⁵⁰ The number of farms growing root crops, though still relatively small, increased six-fold in the same period.⁵¹

Improved crop rotation initially raised farm production by eliminating the fallow lands, but its main significance was in terms of soil conservation, as a good investment in future soil productivity. Immediate, one-time boosts in crop yields could be achieved through the use of fertilizers. The average use of artificial fertilizer per farm, though still miniscule, increased from 311 pounds before consolidation to 448 pounds in 1913. The proportion of farms using some combination of manure, compost and artificial fertilizer increased from 53% before consolidation to 71% in 1913.⁵²

Even if consolidation was sometimes of questionable value for grain production, consolidated small-holders could gain a

decisive advantage in the land- and labor-intensive production of perishable goods for the urban market: milk, honey, fruit and vegetables. The fact that consolidation was leading farmers naturally in this direction can be seen in the practical steps the government and zemstvos took in helping the new farms. Rather than organizing seed cleaning or the distribution of improved machinery (useful for grain farming), the agronomic program in the areas of land settlement was directed towards the most intensive branches of agriculture: dairy farming, market gardening, bee-keeping, etc. The proportion of consolidated farms engaged in such specialized farming operations rose from 8.2% before consolidation to 12.4% in 1913. The farming improvements resulting from consolidation were reflected in the steep rise in the market value of consolidated plots, which on the eve of the war, commanded prices at least 50% higher than neighboring communal allotments.

Given the broad technological superiority of consolidated farms over traditional communal agriculture, it is interesting to note the opinions of Soviet agricultural economists of the 1920's. Freed of the political impulse to oppose all initiatives coming from the Tsarist government, these analysts approached the problems of peasant land tenure for the most part with sobriety and pragmatism. These problems -- strip farming, obsolete methods of cultivation, lack of individual initiative -- were essentially the same as they had been before the revolution. A review of the arguments in the respectable agricultural journals, Puti Selskogo Khoziaistva, Uspekhi Agronomii and Selskoe i Lesnoe Khoziaistvo reveal certain identifiable schools of thought. No one felt it

necessary to come out in favor of the peasant commune -- everybody agreed on the importance of land settlement and a major restructuring of peasant land tenure. Opinion was divided on whether to support the creation of individual consolidated farms or to push for collectivization (though most paid lip service to the desirability of collectivization as an eventual goal). With the tide of opinion steadily turning in favor of radical egalitarianism and collectivization in 1926, it is all the more interesting to find agricultural economists like A.Z. Selivanov, who otherwise stood squarely in the camp of the collectivizers, admitting to the substantial benefits of consolidation.

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Selivanov conceded that consolidation rationalized the configuration of the farm by eliminating inter-stripping and "raised the labor-intensiveness of the farm to an extraordinary degree." According to Selivanov, the drawbacks of consolidation lay in delaying the mechanization and electrification of the village. A number of scattered farmsteads was harder to provide with electricity or cooperative marketing services than a single village settlement. The consolidated farm was also less likely to make economic use of complex farm equipment than a whole village, which could pay for it cooperatively and use it on a large scale. How valid are these objections if we apply them to the Stolypin reform?

By "mechanization" Selivanov meant the employment of tractors, automobiles, and combine harvesters, all far beyond the horizon for most farmers at the beginning of the century, and even in Selivanov's time. The type of modern tools that were viable at the beginning of the century -- seed-cleaners, steel

plows, reapers and hand operated threshers -- were either easily accessible to the consolidated farm or were easily employed on a cooperative basis. Small-scale consolidated farming, therefore, was in no way a constraint on the introduction of improved agricultural equipment. It was irrational only if Russia was going to skip stages in its agricultural development. But if one were to argue that consolidation was disadvantageous since one had to develop a form of land tenure which could fit the few, expensive tractors that were being employed at the time, one would effectively be urging society to mold itself to the technology, rather than the other way around.⁵⁷ In any case, Russia had a long way to go before large-scale mechanized farming would make economic sense. In fact, the main reason for the criticism of consolidation by Soviet authors were socio-political concerns. For Selivanov and other communists of the 1920's, the fear was that the peasant would develop the "harmful illusion" that the consolidated farm was his "property" and this would make collectivization difficult.⁵⁸

The Wager on the Strong

In the decade 1906-17, Russian agriculture may not have changed technologically enough for us to speak of an agricultural revolution, but a profound structural transformation was certainly underway. By 1916, gentry-managed farms accounted for just 11% of the arable land in European Russia. Half the peasantry had left the redistributinal commune and one tenth lived on

consolidated farms. The social agronomic network, virtually non-existent in 1905, had grown into a powerful force of 10,000 agronomists, thousands of machine rental and seed-cleaning stations and tens of thousands of demonstration farms and fields. Agricultural cooperation, a relatively rare phenomenon in 1905, could boast the membership of some eight million peasant households by 1916. The old rural order was fading and a new one was taking shape. We see the emergence of a new type of peasant farmer, working individually on his private family farm, belonging to the local credit cooperative or agricultural society and increasingly relying on the latest in agronomic knowledge rather than tradition in organizing his farming system.

In this thesis, we are considering three broad trends in Russia's agricultural development in 1906-17: land reform, agronomic aid and cooperation. All three trends arose together and tended to be closely intertwined on the village level. The key to the convergence of the three trends was that they all represented a wager on the strong. As we shall see in later chapters, the "strong" in this case did not mean a small village minority, but the great bulk of medium peasants, who were fairly secure financially, relatively commercialized and generally literate and quite enterprising. These were the best candidates for consolidation. They were also the "agricultural pioneers" singled out for attention by agronomists. Cooperatives too relied on this stratum of peasant farmers, especially in the initial stages. We will be examining the role of social agronomy and cooperation in the next five chapters, but here it is worth skipping ahead to see how the Stolypin land reform encouraged

both those trends.

Agonomists liked the land reform because it facilitated the peasant's transition to a new farming system and encouraged him to seek the agronomist's advice. The break with the commune and with ancestral tradition brought insecurity to the peasant farmer -- he now found himself alone, managing his farm independently -- and consequently he often turned to the agronomist for advice.

F.V. Schlippe, who represented the Ministry of Agriculture in one of the first village-wide consolidation projects in central Russia, observed in person the beneficial effects of consolidation. This particular village had been a poverty-stricken commune, relying mostly on non-agricultural earnings; once they were separated into consolidated farms, however, the villagers immediately turned their attention to improving farm production, began clamoring for agronomic advice and, within a few years, managed to produce a noticeable improvement in crop yields.⁵⁹

The readiness of consolidated farmers to seek the agronomist's advice is confirmed by the 1913 Ministry of Agriculture study, which found that over a third of the consolidated farmers surveyed had gone to the agronomist for personal consultation.⁶⁰

Though for political reasons many agronomists continued to speak out forcefully against the government and its program of agricultural development, they nevertheless came to admit that land settlement was a golden opportunity to introduce improved crop rotations.⁶¹ Statistical surveys showed that the best moment to introduce a new farming system was at the moment of land settlement; if the peasant was allowed to slip back into the

traditional three-field system after consolidation, the costs of restructuring the farming system rose substantially.⁶² The idea of helping a peasant farmer organize a completely new farming system on a consolidated piece of land was an attractive one to agronomists; consolidated farmers became the agricultural pioneers realizing the agronomists' ideas in practice.⁶³

Social agronomy, like a river winding its way through a valley, naturally followed the path of least resistance. Consolidated farmers simply were more profit-oriented, more flexible in outlook and easier to work with. One analyst reported that after consolidation, peasant farmers developed "a desire to work hard, to innovate and to learn the correct methods of looking after the land."⁶⁴ In Southern Russia, agronomists reported that since consolidated farmers were not burdened with a traditional outlook or an obsolete farming system, they were more "energetic" and "progressive" than their communal counterparts; to the delight of local agronomists, such farmers were ready to experiment with completely new technologies.⁶⁵ Nationwide, it is symptomatic that by 1912 the zemstvos were spending 53% of their agronomic budget on areas where land settlement was taking place.⁶⁶ Strong approval of land settlement and its agronomic benefits was voiced at agronomic congresses, including the National Agronomic Congress in Kiev in 1913.⁶⁷ Some years later, a Soviet author was to accuse zemstvo agronomists of colluding with the Stolypin "reaction:"⁶⁸

Wasn't the formation of consolidated farms under Stolypin one of the tasks of social agronomy and didn't certain provincial agronomic departments turn into the consolidation departments of

the provincial zemstvos? And this was done not out of the servility of our former zemstvos, but voluntarily.

How did the Stolypin land reform affect the development of agricultural cooperatives, especially credit cooperatives? Soviet analysts debated this question in the 1920's. Some argued that rural cooperation was encouraged by the traditional collectivism of the peasant commune. Others, like the historian Kheisin, saw the commune as a hindrance to cooperation. The commune, Kheisin argued, was an involuntary union and part of the old feudal order in the countryside and tended to breed estate banks rather than credit cooperatives. Agricultural cooperation was dependent on the development of market relations in the countryside, which the commune generally discouraged. With respect to credit, Kheisin pointed out that the peasant commune tended to be associated with the Ministry of Internal Affairs' estate banks rather than credit cooperatives and he noted the experience of Western Europe, where credit cooperatives had developed only after the peasant commune had been broken up. Kheisin, like many Soviet authors, took a circuitous and tortuous route in arriving at a positive assessment of the Stolypin land reform. After waxing eloquent on the cruelty of the Tsarist reaction in 1905-7 and the ruthlessness of the Stolypin Reform, Kheisin finally concluded that the reform helped the development of agricultural cooperatives:

After 1905, the fundamental obstacles to the development of credit cooperation... weakened; the power of the commune and the lack of a legal sense of property was... reduced. The peasants began to adopt better farming methods and (state) tutelage waned. A fundamental obstacle to the development of cooperation was the peasantry's lack of creditworthiness and the absence of a village

middle class -- the basis of credit cooperation. The agrarian reform began to lay the foundations for this class. The path for cooperation was now clear.

Opponents of the land reform such as Oganovsky argued that privatization and consolidation would destroy the peasantry's cooperative instincts. The rise of cut-throat competition among peasant farmers and consequently the exploitation and impoverishment of the majority of the peasant population had already occurred with respect to the capitalist development of industry and it was now going to happen with respect to agriculture as well, Oganovsky argued.⁷¹ What Oganovsky and other critics overlooked was that agriculture was quite different from industry. Private property and commercialization in the agricultural sector did not result in cut-throat competition. Even fully capitalist farmers did not compete directly with each other, since they all sold a standardized product into a huge market and were too numerous to worry about capturing market share from each other. In fact, the development of the market economy and the need for agricultural intensification commonly drove farmers towards ever greater cooperation in pursuing their common interests.⁷² And according to several observations of the time, consolidated farmers exhibited a greater tendency to join agricultural cooperatives than their communal counterparts.⁷³

According to the 1913 Ministry of Agriculture survey, 45% of consolidated farms were members of agricultural cooperatives in 1913, while just 17% had been so three or four years before. The largest increase in cooperative membership appeared among those purchasing consolidated plots from the Peasant Land Bank; here

the number rose from 12% to 55%, perhaps indicating the greater degree of social insecurity felt by the farmers moving out onto the Bank's lands. Peasant farmers probably felt an atavistic need to be part of some kind of association; in the days of serfdom and feudalism, this association had been the commune -- in the era of commercialization, it was the agricultural cooperative. The more practical reason for the rise of cooperative membership was that the land reform encouraged the commercialization of agriculture -- probably the most important precondition for the development of rural cooperation. To the extent that privatization enabled impoverished part-time farmers to sell their land and move to the cities, the land reform encouraged specialization of production, which in turn encouraged the development of trade and a money economy. Consolidation had an even more powerful impact on the commercialization and increased productivity of peasant farming. Under these conditions, agricultural cooperatives rose and prospered.

Statistical evidence on a nation-wide basis points to the fact that privatization and consolidation flourished where both cooperation and the agronomic network were well-developed; both of these, in turn, were aided by the progress of the land reform. Together, the three elements -- land reform, agronomic aid and cooperation -- produced impressive productivity gains in peasant agriculture. (See Chapter 10) But before we go on to examine their combined impact on the Russian countryside, we must examine the nature of Russia's social agronomic program.

CHAPTER FIVE
SOCIAL AGRONOMY

The Stolypin land reform was intended to change the foundations upon which peasant agriculture rested. In most cases, no agricultural progress could be expected if archaic economic structures such as the peasant commune were not first eliminated. Peasants' strips had to be consolidated and the more enterprising peasant farmers had to be given the opportunity to organize their farm independently of their neighbors. The challenges of land reform brought the government deep into the Russian countryside, where it soon became clear that land reform alone was not a sufficient condition for agricultural development.¹ Russia's farmers needed a program of agronomic aid to help them raise their productivity, regardless of their land tenure. Russia's agricultural extension program, led by the Ministry of Agriculture and the zemstvos, arose side by side with the land reform. The program was characterized by pragmatism and some very innovative concepts concerning the possibility of government aid to peasant farmers; it soon surpassed even land settlement in scope and impact.

In this chapter we will examine the nature of Russia's agronomic network, the nature of the agronomist's work and the prevailing conceptions of social agronomy's mission in peasant Russia.

The Ministry of Agriculture, Zemstvos and Russia's Agronomists

When the Stolypin Reform propelled the peasant question to the top of the national agenda, one of the organizations that benefited the most was the Ministry of Agriculture. After struggling along on a miniscule budget throughout the 1890's and early 1900's, the Ministry of Agriculture suddenly found itself in the vortex of change. The ministry was made formally responsible for the execution of the land reform and for the modernization of all peasant agriculture. By all accounts the Ministry of Agriculture at this time was a competent and dynamic, imbued with a creative sense of mission. The organization even won grudging admiration from observers like Kaufman and Ashin who normally went out of their way to cast stones at any branch of the central government. Bernard Pares was also impressed with the organization.²

The Minister of Agriculture at this time, Krivoshein, was one of the ablest and most liberal-minded men in the Cabinet, and he had a very able assistant specially in charge of [land settlement] in Rittikh, who later for a short time was Minister. As soon as one entered this Ministry, one felt they must be engaged in work which was really going well. And this impression of efficiency and [effectiveness] became much stronger with me in the ten weeks of travel which I devoted to [the study of land settlement] in 1910 and 1911.

The newly-empowered Ministry of Agriculture was given responsibility for two broad tasks: executing the land reform and providing agricultural extension services. With respect to the land reform, the ministry delegated responsibility to the

provincial and district land settlement commissions; its power on this level, embodied in the commissions' executive members, had to be shared with other organizations such as the zemstvos, the Ministry of Finance, the Ministry of Justice and the Ministry of Internal Affairs. The second mission -- agricultural extension -- was also pursued without the ministry monopolizing all decision-making power; responsibility for executing most agricultural extension projects was devolved onto the zemstvos and various agricultural societies. Nevertheless, with ultimate responsibility for two such daunting tasks as land reform and agricultural extension, the Ministry of Agriculture took on a new stature in St. Petersburg and its budget grew more rapidly than that of any other ministry. The planned budget for the Ministry of Agriculture's agricultural department is shown below.

<u>Year</u>	<u>Department of Agriculture budget</u>	<u>Ministry of Agriculture budget</u>	<u>Government budget</u>
1906	3,897,783	35,673,000	2,510,972,775
1907	4,044,596	46,634,000	2,497,986,809
1908	4,596,066	58,042,000	2,515,515,866
1909	5,365,422	71,224,000	2,595,046,972
1910	7,494,686	85,642,000	2,533,976,088
1911	16,365,026	103,510,000	2,890,200,000
1912	22,039,861	119,891,000	2,975,252,100
1913	29,054,821	135,503,000	3,250,559,006
1914	34,927,461	157,628,869	3,558,261,499

The budget of the Ministry of Agriculture more than quadrupled in these eight years, while the budget of the Agricultural department (the department most involved with agricultural extension work) increased nine-fold. Until 1910, most of this increase was accomplished at the expense of other

government expenditures, since the total government budget showed no growth; only after 1911, with the government's tax base expanding through economic growth and with more money being spent on armaments did the government budget begin to rise across the board. But in the nine years leading up to 1914, the budget of the Ministry of Agriculture grew faster than that of any other ministry. While the government budget was 42% higher in 1914 than in 1906, Agriculture's budget had grown by 342% in the same period; the only other ministry which approached such rates was the Ministry of Education, whose budget rose 267% during this⁵ time.

With respect to the Department of Agriculture (the ministerial department most involved in agricultural extension work), most of its funds went to subsidize projects run by zemstvos and cooperatives. In 1911 these institutions received 46% of the department's budget, about the same amount as was received by land settlement commissions and local ministerial institutions; in 1914 this share rose to 68% as opposed to 30%⁶ for the commissions and ministerial organs. Buoyed by the influx of matching grants from the Ministry of Agriculture, the zemstvos expanded their own agricultural budgets with impressive rapidity. In 1898 the zemstvos spent about 1.8 million rubles on agriculture; by 1905 this had risen to 4.5 million and by 1913, to 16.2 million rubles. While total zemstvo budgets rose only 85%⁷ between 1898 and 1913, expenditures on agriculture rose 816%. It should be noted, however, that even in 1912, the level of funding for agricultural development was still very low -- according to one estimate, combined Ministry of Agriculture and zemstvo

agronomic expenditures amounted to 30 kopecks per rural inhabitant, while both central and local governments took out an estimated sixteen rubles in taxes.⁸

Nevertheless, the increase in agricultural funding permitted the rapid construction of a program of mass agronomic aid. The total number of agronomists grew from slightly over 400 in 1905 to about 10,000 in 1914.⁹ Most agronomists were employed directly by the zemstvos, although the Ministry of Agriculture fielded its own staff of several thousand instructors and specialists. In addition, agronomists were also employed by the larger cooperatives or agricultural societies.

The rapid increase in the number of agronomists servicing the peasant economy meant that the character of agronomic work changed. The first agronomists to appear in the Russian countryside were provincial (gubernia) and district (uezd) agronomists. One agronomist would service an area with several hundred thousand rural inhabitants. Such a lone agronomist would be hard pressed to acquaint the population even superficially with the concept of agricultural improvement. As the demand for agronomic aid rose, however, the district and provincial agronomists began acquiring various types of assistants: agricultural elders, instructors and specialists (to be discussed in greater detail below). The real breakthrough came around 1905, when zemstvos began dividing their districts into several counties (uchastoks), each containing a population of about 40,000 and each serviced by a county agronomist (uchastokovyi agronom). County agronomists can be considered the shock troops of Russian agronomy during the Stolypin Reform. They were able to influence the mass of peasant

households directly and it was around them that all the other forms of agronomic aid were organized. The increase in the number of county agronomists, then, is a good indicator of the development of Russian agronomic aid in general. The figures are shown below.

Number of County Agronomists as of 31 December, 1905-12

<u>Year</u>	<u>Number of county agronomists</u>
1905	10
1906	28
1907	56
1908	109
1909	310
1910	560
1911	1,112
1912	1,726

If we assume that county agronomists numbered at least 2,000 by 1914, and that each county agronomist serviced an average population of 40,000 (or 8,000 households), we can see that county agronomists had reached a total population of about 80 million -- a fairly high level of saturation. The size of the county agronomist's area of responsibility depended on his region's population density, transportation infrastructure and agricultural development. It also depended on the degree of commitment shown by the local zemstvos to agricultural extension work and on the willingness of the Ministry of Agriculture to send funds there. By the end of 1912, the provinces that were best supplied with county agronomists -- each county containing less than 6,000 families -- were Kherson, Ekaterinoslav, Poltava,

Samara, Penza, Vladimir, Moscow, Iaroslavl, Smolensk, Vitebsk and
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St. Petersburg. Due to the rapid turnover of personnel, county
agronomists occasionally had to take care of several counties at
once, but generally they were able to develop a close
relationship with the farmers of their area.

As the agronomists' numbers rose and their area of operation
shrank, they began to deal with smaller quantities of population
in greater detail. Each agronomist was able to pick out a group
of the more progressive farmers to act as pioneers of modern
agriculture in the locality and he could now begin to analyze the
peasants' budgets and compare the profitability of different
operations on the peasant farm. The mission of the local
agronomist became increasingly ambitious: the goal of introducing
a few peripheral improvements into peasant agriculture gave way
to the goal of changing the peasant's farming system as a
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whole. Eventually, Russian agronomists believed, agronomic aid
to peasant farmers would become fully differentiated and
customized, shunning general recipes and molding the program to
fit the needs of each individual farmer. The ideal for
agronomists was to construct a system similar to Belgium's. In
this tiny country, the farmers no longer needed to be convinced
of the benefits of either technological change or agronomic aid.
The farmers themselves organized agricultural societies to
promote technological improvements and consulted with agronomists
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on their own initiative.

The Work and the Organizational Structure of Russian Agronomy

One of the peculiarities of pre-revolutionary Russian society was that great technological prowess in laboratories and universities coexisted with vast poverty and backwardness in the rest of the country. Russian agricultural science could boast of such world-famous figures as the plant geneticist Vavilov and the soil scientists Dokuchaev and Glinka, but to the majority of Russian farmers the discoveries of these scholars meant almost nothing. For the average peasant, modern technology remained something elite, urban and exotic. Russia was suffering from a weakness in the process of technology transfer.

The development of agricultural technology in Russia initially had been driven by the "spirit of improvement" embodied by some gentleman farmers and the agricultural societies they organized. By the turn of the century, in Russia as in the rest of the world, agricultural research was becoming increasingly professionalized, a responsibility taken on by the government and a network of special agricultural research stations. Zemstvo and Ministry of Agriculture expenditure on research rose from about 1 million rubles in 1908, to 7 million five years later. In 1907, there were 70 agricultural research stations operating in Russia; by 1911, this figure had risen to 210 and by 1917, to 365.¹⁴ The problem was how to disseminate the discoveries of these research stations to the mass of Russian farmers. The Ministry of Agriculture and the zemstvos tried to encourage formal agricultural education for peasant children and the number of

agricultural schools expanded rapidly before the revolution. But the establishment of several hundred agricultural schools could only have a relatively small, long-term impact on Russian farming. To encourage the mass adoption of improved farming techniques, Russia had to have a program of social agronomy.

Social agronomy was the Russian term for agricultural extension work; all types of agronomic aid to the population -- private, government or cooperative -- were included in the term social agronomy. The social agronomist was a jack of all trades. He had to perform a multitude of roles: he had to be both a teacher and an organizer, a veterinarian and a hydrographic engineer, a source of information about the outside world and a representative of local interests to the central government. Since agronomists did not have the power to force peasants to follow their advice, they had to appeal to the peasants' self-interest and rationality. The peasants had to be convinced by an extensive program of advertisement and propaganda, through the books, periodicals, pamphlets, posters, village meetings (besedy) and slide shows (besedy s fonarem).

The territorial boundaries of the county were supposed to unite a region that was economically and geographically similar. Since peasant society was a "little world" all to itself, the agronomist was advised to set up his office someplace where every peasant would have to come at least once a year, for example the market place in the largest village of the county. Ideally the office of the county agronomist was supposed to be large enough to accomodate a library with the latest agronomic publications and a small museum with samples of plant species, fertilizers and

machinery. The agronomist had a common interest with both the local school teacher and the local cooperative in building some sort of a meeting hall, whether a school house, a theater or a "people's house" (narodnyi dom). In addition, the agronomist oversaw the operation of separate institutions such as a seed-cleaning station, a machinery rental station or a group of model fields.¹⁷ Conditions for county agronomists commonly fell far short of this ideal. Even in an advanced province like Moscow, agronomists had to make do with renting some squalid little rooms¹⁸ from a peasant family, as the provincial zemstvo reported:

Many county agronomists are forced to live in impossible conditions. In some cases, the choice of living quarters is based not on the optimal location, but on the possibility of finding any kind of living quarters at all. Agronomists have nowhere to store machinery, they can't organize seed-cleaning properly, and so on. These discomforts affect the productivity of the county agronomist and are one of the main reasons for the mobility of agronomic personnel which so significantly diminishes the effect of county agronomy.

Ideally, the county agronomist was supposed to stay in the locality long enough to get to know the area and gain the trust of the local peasantry. Yet, the average period of service in any given location was unfortunately much too short. In Vladimir province, for example, the average length of service was 23 months (this was a long time by Russian standards).¹⁹ Brunst reported that the average length of stay in the country as a whole was about a year.²⁰ In the Mozhaisk district of Moscow province, all 4 county agronomic posts were filled in 1910, but two years later, there was only one county agronomist serving the

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whole district. The county agronomist was commonly stationed in a primitive and often hostile world, 50 kilometers from the nearest railhead, only to find that he had to scramble to find even the most rudimentary living accommodations. Before long, he was pining away with boredom and loneliness. One disillusioned agronomist commented that most agronomists stayed in their bailiwick only long enough to conclude that it was impossible to live there.

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Under such difficult conditions, the morale of the agronomist and his selfless dedication to his work often proved decisive. Even a well financed and organized agronomic program could prove fruitless if the agronomist was not up to the task. Morachevskii, for instance, noted that if the county agronomist was well-provided with a machinery rental and livestock breeding station, his life would sometimes become stationary. This was a serious drawback since county agronomy was directed precisely towards the less-developed farmers on the periphery of the county, the ones who might not have had the initiative to come to the agronomist on their own, but who had to be actively wooed and

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encouraged. For the same reason, access to horse transport was very important. "The social significance of an agronomist without means of transport around his county is close to zero," commented

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Chayanov.

The county agronomist was a generalist, serving all the needs of peasant farming in his area; the integrated nature of the peasant farm and the primitive level of its technology meant that no specific branch of the peasant farm system could be singled out for special attention. But with Russian agriculture

becoming increasingly specialized, there arose a need for specialized agronomic aid, whether in dairy farming, bee-keeping, or market gardening. Agricultural specialists were usually employed by the Ministry of Agriculture and operated out of the provincial or district town, paying visits to the county agronomists when necessary. By 1914, there were 1,604 such specialists in Russia.²⁵

The county agronomist needed more than just the help of the relevant specialist, he needed lower-level personnel to help with the tasks of general agronomic aid in his area. Such lower-level personnel included agricultural elders (peasants who had completed a six month agronomic course) and various agronomic assistants, usually student agronomists doing their summer field-work assignment between courses. Lower-level agronomic personnel generally performed menial administrative tasks such as keeping the books, reporting to the agronomist about local conditions, distributing publicity and informing peasants about where they could get credit, marketing services or farm

supplies.²⁶ In this way the county agronomist became a manager of agronomic aid, coordinating the work of specialists on the one hand and lower-level personnel on the other.

Some corruption and over-reaching of power on the part of lower-level personnel was reported. Agricultural elders were very numerous in some provinces and began to do agronomic work on their own, without proper supervision or control. Such occurrences were common enough for some observers to warn of the dangers of

"feldsherism".²⁷ This could have grave repercussions, since a mistake on the part of the agricultural elder could undermine the

authority of the agronomist and subvert the whole agronomic
program. Samara agronomist A. Teitel cautioned:

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Agronomic work in the village usually takes place in an atmosphere of notorious skepticism and suspicion, and therefore the position of the agronomic worker becomes one of great responsibility. Every initiative, in the least bit important, demands great circumspection and caution.

Making mistakes with respect to their technological recommendations was not the only pitfall agronomists strove to avoid. Russian agronomists were acutely aware of the need to avoid the kind of authoritarian formalism vis a vis a sullen peasant population that characterized the work of other rural functionaries. Some county agronomists drew attention to the bureaucratization of agronomic work and the multiplication of the agronomist's administrative and commercial responsibilities. If the agronomist was too busy writing out reports or keeping the books for the local cooperative or farm supply depot, he was not going to have enough time for his main creative duty: talking with the peasants, giving them information and helping them reorganize

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their farming system. Here is how one former agronomist, S.P. Fridolin, remembered his first years of service:

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Whether I wanted to or not, I was forced to spend most of my first years doing office work. I read a lot, studied zemstvo reports and collected exhibits for my lectures and meetings... I would travel out into the countryside only rarely, since the cost of travelling was high and I was given a pittance for travel allowance. I had no contact with the population and I was known to very few of the farmers in the more distant townships. Only occasionally was I visited by some village chief or elder, who would come to my office for various reasons... Before me arose

the danger of falling into a bureaucratic and formalistic attitude towards my work. That was exactly what I had wanted to avoid, refusing to work for government agencies. But precisely that was beginning to happen... Overwhelmed by the [difficult] environment and by bureaucratic duties, the person of course disappears. It is a common picture...

It is not surprising that as Russia's agronomic program became more extensive and complex, a certain amount of bureaucratization should have set in. This was an unwelcome development to most agronomists. Consequently, in order to avoid the kind of bureaucratic and hierarchical administrative structure that prevailed in most of Russian society, agronomists pushed for a loose, federated-type of organization, that would be coordinated through periodic consultations rather than
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commands. The provincial and district agronomists -- the senior members of the agronomic world -- conducted financial audits of the county offices, organized the agricultural expositions and agronomic courses and supervised district enterprises such as machinery depots and livestock breeding stations. Sometimes the district or provincial agronomist would be "spiritual father" of the agronomists of the region, but in no way was he supposed to
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constrain their initiative. In such a non-hierarchical administrative scheme, accountability and coordination was to be provided horizontally rather than vertically. This meant a heavy reliance on collegiality and consultation, in the form of either
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district agronomic conferences or local economic councils.

Needless to say, a system of collegial administration and collective responsibility had its price, as agronomists were well aware. If agronomists opted for complete local autonomy and

rejected all centralization, they would destroy the "unity of agronomic work." On the other hand, excessive application of the collegial principle to agronomic work would lead to the "hypertrophy of collegiality" -- there were cases, for example, where agronomists reportedly spent as many as 100 days a year in conferences.³⁴ Analysts such as Chayanov tended to emphasize the need for greater coordination rather than greater local autonomy, arguing that a certain unity of agronomic work could be provided by the "comradely supervision" (nabliudenie) of the provincial or district agronomist.³⁵ But the essential character of agronomic administration -- as a federation of independent local agronomists -- remained.

The Urbanization of Knowledge

With industrialization, the center of power in Russian society was shifting from the countryside to the city. Along with economic production and political power, knowledge and culture were becoming urbanized as well. The old peasant wisdom and tradition, diffused among Russia's thousands of villages, had been shaken with the advent of the railroad and the commercial economy and it was urban-based knowledge, not peasant tradition, which would provide the remedy for the pain of modern dislocation. The agronomists benefited from this shift in values and cultural power. According to Fabrikant: "Agronomists have

introduced into the village new and vital ideas which have caused a revolution in its thinking. And for resolution of the problems involved in the reorganization of the farm economy, the village turns to the perpetrator of this revolution."³⁶

The problem was that sometimes the "perpetrator of the revolution" was not quite sure what kind of a revolution he was perpetrating. The local agronomist's confidence in his mission was not always as high as the more enthusiastic literature would have us believe. Many writers drew attention to a decline in the sense of duty and professionalism among agronomists and some even spoke of an "agronomic crisis". Ashin bemoaned the decline of optimism and social activism among agronomists; they were showing a lack of professional creativity and and a lack of conviction in their own rectitude.³⁷ While Ashin pointed to the agronomists'

loss of confidence, Samara agronomist Teitel saw the roots of the "agronomic crisis" in the agronomists' insufficient knowledge about the peasant economy and their lack of clarity as to agronomic goals. These drawbacks, according to Teitel, led to a host of misguided agronomic initiatives and consequently to "disillusionment and pessimism" among county agronomists and strengthened skepticism among the peasantry.³⁸ Whether county agronomists suffered more from lack of knowledge, poor living conditions or lack of confidence, there can be no doubt that their work was extremely difficult. One young agronomist wrote in the early 1920's:³⁹

The work of the agronomist is very hard. An engineer who has to build a bridge sees his mission clearly: he knows the materials that will be needed, the quality that's required, and

the specifications to which the bridge must adhere... The position of the agronomist is different. I am talking of the county agronomist, who has in his bailiwick several thousand independent peasant farms. Here, the mission is never completely clear. The engineer builds the bridge and can rejoice, because he can see the result of his work... But what is the result of the agronomist's work? Improvement in the the lives of two hundred peasant farms. And even so, can one really say that the improvement in these farms is the product of the agronomist's own work?

The ability of agronomists to act boldly and in concert with one another depended on the nature and extent of the flow of information between localities. (Generally, it is true that the less workers are subject to commands from above, the more information they need to make correct decisions and coordinate their actions with their colleagues.) In this respect, agronomic education and the rural press played an important role in creating a certain conformity of opinion among agronomists. Books and periodicals were often the agronomist's only link to the outside world and the great flood of agronomic publications at this time (in 1914, the number of agricultural periodicals was recorded at 352) contributed significantly in providing readers with new ideas and creating a consensus among agronomists. In addition, a great many conferences and agricultural expositions not only served to inform local agronomists of the latest developments in their field, but also boosted their morale.

Generally, one can say that the danger was not that the conception of social agronomy's mission was weak or unclear, but on the contrary, that it was too strong and would be pursued with excessive zeal. Indeed, some analysts began to adopt a certain undemocratic bias with respect to Russian agricultural

development. Chayanov, for instance, noticed a "dualism" between agronomists on the one hand and the elected representatives of the local population (the boards of the zemstvos and cooperatives) on the other. ⁴¹ Chayanov argued that the elected representatives had the right to set the goals of the local agronomic program, as well as audit and control the work of the local agronomist (who, after all, was their employee). But that didn't mean the agronomist should be a "soulless agent" of authority, Chayanov argued. The agronomist's work was "creative" and shouldn't be constrained by the partisan ⁴² intervention of local political organizations:

The work of social agronomy transcends the boundaries of the district and province. The program of developing the nation's agriculture is a responsibility of all citizens, and therefore the agronomist, having dedicated his life to this great task, is as much a societal agent as are the elected representatives of the population, though of course he serves not so much the population of that area to which he has been assigned, as the general agricultural renewal of his motherland... Therefore, in the same way that the zemstvo and cooperative boards represent the local population, the agronomist --in agronomic matters -- represents the movement of social agronomy itself.

Thus, social agronomy was seen as equal in importance to the will of the people. Insofar as social agronomy represented a good in and of itself, a normative value sometimes transcending the popular will, it gained its legitimacy from representing "science", which was assumed to be much more beneficial for society than any democratically expressed opinion. At best, Chayanov was walking a fine line between local democratic control and centralized tutelage in the name of rational progress. He

ended up advocating a compromise solution: "collegiality of leadership" involving both elected representatives and agronomists, the former having more authority over "general questions and matters of principle" and the latter having sway over "technical and organizational questions."⁴³

The old metaphor of agronomists imposing "urban" knowledge on rural society was quite apt. Agronomists had been trained mostly in urban schools and were accustomed to look to the city for inspiration. Yet, the leaders of Russian agronomy had acknowledged this problem and were pressing the rank and file to pay more attention to the village. In Moscow, Chelintsev argued that agronomists and experimental stations should work not only according to the logic of science, but also the "logic of life"⁴⁴ -- i.e. according to the logic of the peasant farm.

The agronomist, I.I. Damberg, argued at the 1910 Ekaterinoslav Agronomic Congress that agronomic education did not sufficiently emphasize real life experience and a pragmatic approach to problems. Agronomic education was in danger of producing only "scientific theorists." The main problem, he claimed, was neglect of the fact that farming is an "art" and "cannot be understood by learning only its scientific basis."⁴⁵ Damberg was opposed by another agronomist, L.P. Sokalskii, who advanced the view that the object of the agronomist's work was not the population and its economic welfare, but agricultural production in the most technical sense (presumably, the nature of the climate and the soil and how to achieve the maximum yield from them).⁴⁶ Such a technocratic point of view was rare among agronomists, but a good number nonetheless took a relatively

scholastic approach to peasant farming, often regarding it as a monolithic mass which could be developed through broad recipes such as introduction of grass sowing or steel plows.⁴⁷ Chayanov urged agronomists to abandon such general theories and panaceas and instead to carefully study local traditions and technology, both of which were a key to understanding the local population and its uniquely appropriate reaction to the conditions of the area:⁴⁸

Unfortunately our agronomists, often hypnotized by scholastic agronomy, approach these peasant traditions without due respect. This is a great mistake, since the technology of peasant farming has been adapted to local conditions completely spontaneously over hundreds of years and often is ideally suited to them. It can be stated unequivocally that any new technology will be firmly established only when it will be molded by social agronomy to the context of local peasant tradition.

An equally sobering view was offered by the agronomist Iu.Iu. Sokolovskii at the Poltava Agricultural Conference of 1912:⁴⁹

Who of us agronomists knows the contemporary peasant farming system, that very farming system which we are responsible for improving and whose progress we must encourage? Essentially - no one. We don't know it when we arrive in our bailiwick, and know just as little when we leave, all the more so since the time between the two is usually quite short....But in order to work sensibly for the benefit of the peasant, one has to completely immerse oneself into their economy. And if that is so, then who besides the agronomists should get to grips with the task of studying peasant farming. This will be a wonderful school, after which many pieces of advice, given out so generously now, will be perhaps embarrassing to even suggest.

The best agronomist was one who not only taught the peasants, but also learned from them. Such an agronomist could take existing peasant wisdom from a wide area, digest it, and feed it back to them in a systematic fashion. Chayanov noted: 50

The most important of our tasks is not giving the population as many new ideas and facts as possible, but awakening the self-reliance of the population and guiding this initiative into the correct path. It would be pathetically utopian to think that the reform of the economic and cultural foundations of Russian life could be accomplished through the working out of recipes and the instruction of each individual peasant household by agronomists and cooperative instructors. Our role is only of a fermenting agent setting in motion mighty elemental forces and only the independent peasantry itself is strong enough to carry out those national economic reforms which we picture to ourselves.

Just as a social agronomist had to know at what point to take his hands off a particular project, so he had to know the limits of his own scientific knowledge and when to cede to peasant traditions. The peasant audience, Chayanov argued, was very rich in practical experience and imagery, but poor in ideas and abstract logic. Therefore, the agronomist had to use plenty of practical examples and an empirical-inductive method of reasoning. Should agronomists do battle with the multitude of Russian superstitions, such as the chariot of Elijah the Prophet, which was held responsible for thunder and lightning? No, replied Chayanov. Teach your subject and leave superstitions aside. Why expose yourself unnecessarily to hostility? Use existing images and concepts. 51

Popular lectures have to be constructed on a foundation of

concepts and explanations already familiar to the listeners. Each lecturer, beginning the teaching of his course, must first of all mobilize from peasant experience all the elements he needs and on this basis construct the structure of new ideas and concepts. Ignorance of this fundamental rule threatens to pull the rug from under our feet and could lead to our speaking in a language incomprehensible to our audience. It seems to us that the task of the Russian renaissance is the transmission to the peasant of a modern scientific world view without breaking his age-old epos (tradition); in the practical world the chariot of Elijah the Prophet has to make way for the concept of electrical discharge; but, having left the practical life, it should turn into legend, occupying an honourable place in the peasant way of life.

Legends are often merely a way of explaining something which can't be explained in any other way. The agronomist's self-restraint in dealing with the local way of life and his respect for local traditions was not only a matter of tact, but also an act of deference to a folk wisdom which answered many of the questions urban knowledge had overlooked. Thus, just as the problem of bureaucratization was countered by an emphasis on local autonomy and collegiality, the problem of ideological arrogance on the part of the city-trained agronomists was countered by an emphasis on respecting local technologies and customs.

Agronomists and the Wager on the Strong

Technocratic arrogance only became a potential problem after agronomists became fairly well established in the countryside. Initially, agronomists refrained from assuming too interventionist

a role with respect to peasant farming. This was partly due to a kind of neo-slavophile or neo-populist faith in the ability of the commune to work things out for itself. Consequently, agronomists at first introduced only those technological innovations -- like steel plows or better seeds -- which did not necessitate a wholesale transformation in the peasant's farming

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system. When the agronomists tried such a strategy and found that the returns were relatively small and when, moreover, the resources at the disposal of Russian social agronomy increased dramatically after 1905, they began to consider ways of changing the peasant farming system as a whole. Work habits, farm equipment, planting schedules, family budgets, land tenure -- all the inter-related elements of the peasant economy had to be considered if there was to be a significant change in peasant agriculture. How were agronomists to approach such a task? A.V.

Chayanov, who wrote the definitive work on social agronomy,

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wrote:

The social agronomist is not so much a technical worker as a social worker. The focus of his attention is not land, livestock and other objects of farming, but people, their psychology, their will and consciousness, and their inter-relations. Aiming to create a new system of farming, the agronomist creates a new human culture, a new popular consciousness, and leaves [the people] to create a new system of farming for [themselves].

Before agronomists could even think of intervening in the peasant economy, they had to know how it worked and what caused it to change. In his studies of peasant agriculture, Chayanov explored the causes behind both continuity and change in the peasant economy. Since it is one of the clearest and most

reasonable explanations of its kind, Chayanov's theory is worth looking at in some detail.

Agricultural development, according to Chayanov, has to take place through a process of molecular change at the grassroots level, farm by farm, peasant by peasant. Every region with similar natural, economic and historical conditions will give birth to a common system of farming specially adapted to the environment. The prevailing regional type of farming system will remain unchanged as long as the environment that gave birth to it remains unchanged. The environment is subject to change, however. Rural population density could increase rapidly over a short period of time or the construction of a railroad could change market conditions for the area. Occasionally a technological invention could alter the economy of a whole region, though in agriculture, technological innovation rarely played as big a role as say, the invention of the steam engine had played in the industrial revolution. In any case, if the conditions underlying a region's economy and way of life change sufficiently, traditional farming methods would become obsolete and inadequate, opening the way for successful adoption of new techniques.

The transition from one common farming system to another is spontaneous -- similar to the natural evolution of a species in the animal kingdom, Chayanov argued. Even when a traditional farming system is solidly entrenched in a particular region, that doesn't mean that all farms are organized along the same, immutable pattern. The differences in the capabilities of individual farmers, as well as the differences in the quality of farmland all ensure a variation around the regional norm. Because

of the inquisitiveness of the human mind, even the most stagnant society is constantly in a state of movement and innovation. Individual entrepreneurs are constantly trying to deviate from the norm, to find better and easier ways of doing things. Many attempts at agricultural innovation fail and the innovator is forced back to the common farming system, but some of the innovators succeed and are soon widely imitated by their neighbors. In this way, a new common farming system gradually evolves, destined for dominance because of its appropriateness to the new conditions. Thus, according to Chayanov's Darwinian worldview, agricultural progress is spontaneous, evolving without the conscious intervention of organized social forces, without the dictates of the authorities and without a plan.

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What role, then, is left to social agronomy? Social agronomy could accelerate this spontaneous of evolution, by singling out willing entrepreneurs, working with them and helping them succeed in developing a better farming system. As Chayanov explained, the task of finding agricultural pioneers lay at the heart of social agronomy:

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Social agronomy, like any other social work, is based upon people and can affect agriculture only through personalities. Therefore it must develop close ties with all those members of society in a given region which could act as pioneers of the new culture. Successful peasant farmers, students of agricultural and cooperative courses, administrators of local cooperatives, the rural intelligentsia -- these are the first and most important points of contact for agronomic aid, the most important allies of social agronomy.

Social agronomists, Chayanov wrote, must select from among

the local population "the most active and conscious farmers," who want to improve their enterprise and "organize them into self-reliant peasant groups..."⁵⁶ Though Chayanov was hardly an advocate of laissez-faire capitalism, his explanation of agricultural progress is quite elitist. Chayanov was deeply aware of what we now call the "growth versus welfare dilemma" in development economics.⁵⁷ If investment pays off the most when it is concentrated in high-growth sectors, to what extent did economic growth demand a sacrifice of egalitarian-welfare goals? Chayanov believed that peasant agriculture was communitarian enough that the progress of a few of the more progressive farmers would benefit the peasantry as a whole. Even if the agronomist inevitably ended up working with particular individuals, Chayanov argued, he should regard these individuals as representatives of peasant farming in general.⁵⁸ But meanwhile, it was becoming increasingly clear that the peasantry was becoming socially stratified, i.e. divided into richer and poorer families. To account for social stratification and to deal with the growth versus welfare dilemma, many agronomists began to speak of a "differentiated agronomic program" to suit the different types of peasants. Helping the weakest peasants is very difficult, argued the agronomists, but at least a differentiated agronomic program doesn't "throw to the winds of fate those farms for whom the path of economic development is not altogether clear."⁵⁹

It is interesting to note that the language above implies that the weakest peasant farms required welfare, not development, since they were virtually useless from the point of view of economic growth. This was indeed a dilemma, since most

agronomists were at least moderately socialist in political orientation. But they were also pragmatists and Chayanov was not the only agronomist to place his wager on the "sober and the strong." The agronomist A.A. Minin made an interesting proposal in 1914 to deal with the dilemma. Minin observed that the poorest elements of the village had no useful role in the Stolypin Reform (which he supported). He also noted that the village poor were often regarded by the rest of the peasantry as parasites no better than loansharks and shopkeepers. In order to protect the weakest elements of the village from being bankrupted by the Stolypin Reform, Minin proposed a novel idea: organize the poor into production cooperatives, similar to the collective farms of the Soviet era. Such production cooperatives would serve to employ the mass of poor peasants, protecting them from total impoverishment or proletarianization. With proper management, Minin argued, the production cooperatives could prevent the village poor from acting as a ballast on the community or from flooding to the cities in unemployable hordes. In other words, it was hoped that cooperation of production would allow the village poor to avoid becoming a drag on the local economy, but Minin admitted that all the driving force of agricultural development had to come from the stronger, more progressive peasantry, for whom cooperation of production was not necessary.

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Other agronomic writers took the same approach as Chayanov and Minin. Brunst wrote in 1914 that the zemstvo agronomist initially regarded the peasantry as a "sluggish" and "uniform" mass. After a while, the agronomist came to realize that, on the contrary, the peasantry contained quite a variety of

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different types and that "by relying on people with initiative", he could achieve great progress in introducing agricultural improvements. Brunst recommended that besides conducting meetings for the benefit of the whole village, the agronomist should organize special agricultural courses for the more enterprising peasants. The courses would create "a very valuable element in the village, serving as a crucial support for the

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agronomist..." Similarly, in his 1911 book on social agronomy, K.S. Ashin loudly criticized the Stolypin government and its "wager on the strong". In approaching the practical question of organizing agronomic aid, however, Ashin wound up making his own type of "wager on the strong", these being the minority of peasant farmers who stood out for their efficiency and productivity and who, according to Ashin, should represent the focus of the agronomic program.

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As the saying goes, you can bring a horse to water, but you can't make him drink. In order to achieve results, social agronomy had to change the outlook of the peasant farmer. The social agronomist had to awaken the activism of the population and give them a psychological push (emotsionalnyi tolchek).

"Without such a psychological push," argued Chayanov, "no amount of empirical evidence will be convincing and all propaganda will

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end up merely a curious story..." The most effective psychological push for the Russian peasant farmer was observation of a neighbor enjoying the fruit of some agronomic improvement. The key task for Russian agronomists, therefore, was to nurture and encourage a stratum of agricultural pioneers, who would lead the villages into agricultural improvement. Upon such pioneers --

whether they were the peasants who consolidated their land under the Stolypin land reform, or the farmers who implemented an agronomist's suggestions, or the founding members of an agricultural cooperative -- depended the success of Russia's agricultural development program.

To find such pioneers, agronomists had to abandon the neat, scholastic agronomic theories they had been taught in school and learn how appreciate the subtle differentiation in the peasant village. One analyst wrote that agronomists had to understand "the influence of outstanding individual entrepreneurs, whose farms are as important to the progress of [agriculture] as the work and talent of the inventor is to industry. How often we used to pass by without noticing... an extraordinarily rational organization of livestock feeding or an exemplary kitchen garden or an extremely clever way of organizing a crop rotation... And concerning any attempts to search out such pioneers, there was very rarely even a mention."⁶⁵

As much as Russian agronomy was a mass program, with mass education of peasant farmers through lectures, brochures and expositions, it was also quite elitist in focusing on the more enterprising minority in the village. This was yet another dilemma confronting the county agronomist as he set about his job. Combined with the other dilemmas -- bureaucratization versus decentralization, scientific rationality versus respect for local traditions -- the difficult question of the agronomist's "wager on the strong" meant that he had to walk a thin line in peasant Russia. Whether he would succeed in doing so depended on his individual intelligence, energy and tact.

CHAPTER SIX

THE WORK OF THE AGRONOMIST

When the newly-arrived county agronomist looked out over his bailiwick, he was likely to be struck by the magnitude of the task that lay before him. The peasant economy was suffering from low crop yields, inefficient crop rotations and primitive equipment. Peasant land tenure was fragmented into a multitude of tiny strips. Village livestock was poorly fed and had no pedigree. The system of marketing agricultural products and purchasing farm supplies was painfully inefficient, while the shortage of credit in the rural economy threatened to turn any agronomic project into a form of charity work. What was the agronomist to begin with? Where was the string that could unravel the knot of tradition and obsolescence and how should the rural order be reconstructed?

The path agronomists took in developing peasant agriculture mirrored the path of the Stolypin agricultural development program in general. As we saw in the introduction to this thesis, this strategy boiled down to a simple progression: (1) dislocation, (2) differentiation, (3) development and (4) self-perpetuation. The agronomic program underwent the same evolution, with each stage following on the heels of the preceding one. In the first stage -- dislocation -- agronomists were concerned with simply making an impact on peasant society. They did this by arriving in the village accompanied by a slide show or a travelling agricultural exposition. The task of jolting peasant

society out of its lethargy and resistance to change was made easier by the fact that traditional peasant agriculture was increasingly showing signs of strain. Agronomists also benefited from the fact that they were riding into the village behind the disruptive wave of the Stolypin land reform; and peasant society was made more amenable to change by rapidly increasing literacy rates in the village. In the second stage -- differentiation -- agronomists tried to single out the more enterprising peasant farmers to act as agricultural pioneers. In the third stage -- development -- agronomists organized various initiatives such as seed-cleaning, the purchase of better machinery or cooperative marketing to help all peasant farmers, focusing especially on the chosen pioneers. In the final stage -- self-perpetuation -- agronomists encouraged peasant self-reliance by handing over control of the various organizational initiatives to local cooperatives. These four stages are examined below.

The Agronomist Arrives: Agronomic Propaganda

Russian agronomists zealously proclaimed their own vital role in revitalizing peasant agriculture. One agronomist spoke of the "agronomic army moving into the village" and of agronomists as the "forgers of the renaissance of young Russia." ¹ Certain of the importance of their mission, agronomists were ready to take the initiative in introducing the concept of social agronomy into the village. A good agronomist was not a sage, but an activist, an agitator, constantly prodding peasant farmers to try new and

better methods of production. Brunst advised agronomists to²
aggressively capture the attention of farmers:

Don't wait for the farmer. Go to him. Don't wait for questions to arise, but do something that will make the farmer listen, take interest and try out the agronomist's suggestions.

Initially the tools of the agronomist were limited to speeches and demonstrations. Upon arrival in his bailiwick, the first measure the agronomist usually took was to organize lectures and meetings (chtenia i besedy) in the villages of his area. "During the long winter evenings, the organization of... meetings, where everybody talked freely of their needs enabled the agronomist to draw closer to the population, to establish a good trusting relationship with them, and identify potential collaborators [in pioneering agricultural improvements],"³ remembered one former agronomist. As the network of agronomists spread across Russia, the number of agricultural lectures grew rapidly. By 1912, over a million listeners were registered⁴ attending some 11,000 lectures annually. The most lectures by far occurred in the province of Poltava, followed by Kharkov and Kherson provinces; significantly, as we saw in the previous chapter, these provinces were exceptionally well staffed with⁵ agronomic personnel. Lectures usually took place in the winter and focused in detail on one specific subject, such as the proper way to feed livestock or introduce grass hays into a crop rotation. Organizing a lecture or a meeting was a good way for the agronomist to introduce himself to a village. After having heard the agronomist at the meeting, the peasants ceased

regarding him as merely a zemstvo functionary and began to look upon him as a "familiar person" who could be freely consulted on any problem. One county agronomist reported:

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It seems to me that even if these meetings don't immediately leave a visible impression, then in any case they give us the opportunity to get acquainted with a large part of the population and sound out their various needs and opinions. And furthermore, here we can acquaint the population with what an agronomist is and what his role among them is.

In order to overcome the skepticism of the peasantry, agronomists came up with special gimmicks to attract an audience. The gimmick most commonly used was a type of slide projector called the magic lantern. The magic lantern fascinated peasant audiences and ultimately became the agronomist's most valuable tool. As one county agronomist argued:

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The magic lantern is helpful in two ways: first in clarifying what is being explained and second -- and this is perhaps the most important -- as an object of fascination. Having heard of the magic lantern, the peasant will go with greater enthusiasm to "marvel at the pictures" than to hear about "what he already knows and understands" [i.e. farming].

Another good way of breaking down the solipsism of the peasantry and introducing the agronomist with a bang was to have him arrive accompanied by a travelling agricultural exposition. Travelling agricultural expositions were often sent to those areas where social agronomy was either weakly developed or not yet established. The travelling agricultural exposition was usually set up in the local school or cooperative and lasted

three to four days. The rooms would be hung with posters and bright-colored materials to give the place a "festive atmosphere." Various examples of agricultural machinery were set outside in a shed. Visiting agronomists organized lectures on grass-seeding, commercial dairy farming, etc., spending the rest of the time explaining the exhibits to the visitors. The expositions often created a "profound impression" on the visitors. It was then up to the local agronomist to follow up with other measures, "so that the impression wouldn't die and the social relations established with the local population wouldn't be broken off."⁸

The visit of travelling agricultural expositions became a fairly regular occurrence in Russia, and not just in regions where social agronomy was weakly developed. Poltava province for instance played host to 33 expositions in one year; the expositions were visited by a total of 78,321 people.⁹

Country fairs also became a common event. These were generally larger affairs than the travelling expositions. Like the expositions, country fairs featured agronomic lectures and exhibits of agricultural technology, but they also included more pure entertainment and various curiosities. Agronomically, the most valuable contribution of the country fairs was a series of prize competitions in farming, livestock and handicrafts. These competitions enabled the local peasantry to compare different methods of production and established a competitive atmosphere that encouraged economic innovation. They also illustrated the economic elements of the region and thus played a valuable educational function for agronomists and local peasantry alike.¹⁰

The Agronomist Established: Selecting Agricultural Pioneers

The organization of lectures, the handing out of pamphlets and brochures or the organization of agricultural expositions could only go so far in convincing the peasants to change their farming system. Peasant farmers were very poor and their farming system had only the thinnest margin of error; they would hardly jeopardize their families and adopt some new production strategy just because they had read about it in a pamphlet or had heard about it in a lecture. Similarly, agricultural expositions or fairs were often only perceived as curiosity shows. As one observer commented: "The visitors [at a country fair] see huge gourds or cabbages, excellent bulls or calves, exceptionally rich and full heads of wheat, but at the same time they don't know under what conditions these results were attained..."¹¹ Peasant farmers would only agree to adopt a new technology if they were able to see how the technology worked under conditions similar to their own farms. The peasants required visible proof and the best such proof was the sight of one's neighbor prospering as a result of the new technology. For this reason, one of the top priorities for agronomists was to find out who in the village was a good candidate to try out a new technology. After having introduced the concept of a new technology to the whole village, the agronomist had to focus on cultivating allies within the village who would pioneer the new technology. One veteran Russian agronomist, M.E. Shaternikov, described how a peasant village¹² usually came to adopt grass hays into its crop rotation:

The agronomist first arriving in the village preaching the introduction of grass in crop rotations is usually met with a skeptical attitude and with exclamations filled with incomprehension. "We don't understand this clover one bit! You're concerned with our livestock, but there's nothing for us to eat", and so on. However, the agronomist shouldn't be put off by this incomprehension, since it is completely natural -- the listeners simply don't want to be bothered and push away anything foreign and unfamiliar. It is essential for the agronomist to carefully examine the audience while he is speaking and to try to find within it one or two attentive listeners in whose eyes he can detect a spark of interest. Usually after the talk, they come up to the lecturer themselves; if this doesn't happen, he has to search them out and have an especially thoughtful and detailed talk with them about grass-cultivation so that they understand it completely. Having accomplished this, the agronomist can contentedly leave the village, and returning in a week or two, he will find his audience reborn. There is no longer any crude rejection. There are many doubts and there is still a lot of disbelief about the benefits of clover, but the questions take on the most practical and concrete form: "Where shall we organize the fourth field, where will we get the seeds," etc.

It was natural for county agronomists, being relatively few in number, to focus their attention on a minority of the most enterprising peasants. We have seen in the foregoing chapters how most agronomists came to approve of the agronomic principles behind the Stolypin land reform and themselves made a kind of "wager on the strong". The agricultural pioneers on whom the success of Russian agronomy was based could be those individualists who decided to take advantage of the decree of 9 November 1906 and consolidate their lands or they could be young communal peasants who eagerly listened to the agronomist's suggestions and enrolled in special agricultural courses. As Chayanov noted: "Such is the power of propaganda with the

peasantry, that converted peasants often become fanatics of agronomic progress... The creation of a cadre of such peasant pioneers is a matter of the first priority for social agronomy..."¹³

Most of Russia's potential agricultural pioneers were to be found in the younger generation. Young farmers and even children represented the soft underbelly of the tradition-hardened peasant village. Though the number of agricultural schools was growing steadily at the beginning of the 20th century, formal agricultural education was still a matter of the distant future for most farming families. The agronomist could achieve a more modest, but immediate effect by convincing the local schoolteacher to give primary education an agricultural bias: maths could be taught as book-keeping; science instruction could be focused on biology and chemistry; geography could include the geography of farming around the world, and so on. The number of rural schoolteachers was growing rapidly during the Stolypin Reform and, as we shall see below, the tactical alliance between the local teacher and the local agronomist was visible on many levels. For the agronomist, the farmer's children were an invaluable channel to influencing the farmer himself. The organization of boys' and girls' clubs was a major component of the agricultural extension program of the United States and could be successfully applied in Russia. Louis Guy Michael, an Iowa agronomist who was invited by the Bessarabian provincial zemstvo to help develop corn production, organized several such clubs and had them compete for the best methods of raising corn in the school kitchen gardens. When the children began to produce a

better crop than their parents, the picqued farmers were shamed into adopting Michael's suggestions concerning seed-cleaning and better cultivation.¹⁴

For young farmers interested in breaking with village tradition and improving their production methods, agronomists organized short courses. Usually organized during the rainy season when travel was difficult, such courses could last anywhere from several days to several months. The subject matter included a study of the predominant form of agriculture in the area (i.e. dairy, flax, or wheat) and certain elementary skills such as book-keeping; classroom work would be accompanied by field trips, real life examples and experiments.¹⁵ The typical agricultural course consisted of about 40 students. The selection of students for the course was a very important matter, since this was often the path towards membership in the farming elite. While some agronomists saw the desire to sign up as a qualification in itself, other agronomists believed that course-members should be carefully recruited either by the agronomist or by the local cooperative.¹⁶ Some of the students at the longer-term courses were not peasant farmers at all, but scribes, aspiring agronomic assistants, cooperative workers and teachers. Teachers were especially important, because if they were made to understand the aims of the agronomist and if their help could be enlisted, the agronomist could acquire a "very powerful ally" in the village, as well as access to the facilities of the local school network.¹⁷ Louis Guy Michael reported that teachers and priests were the two types of rural authorities who were invaluable in helping spread agricultural improvements.¹⁸

The great majority of students, however, tended to be peasant farmers, usually young, literate and relatively modern in outlook.¹⁹ A major problem with graduates of these courses was preventing them from migrating out of the area in search of higher-paying occupations. A 1910 Agronomic Conference in the Don Territory, for instance, stressed that agricultural courses should aim "to develop the younger generation's love for farming" and try to "keep the young people on the land."²⁰ If the students could be convinced to remain in the community, they would usually play an important role in improving the agriculture of the region. One survey found that the best-organized farms in any given region usually belonged to graduates of agricultural courses and that around these farms there always gathered a string of imitators.²¹ Brunst noted this effect in a 1910 article:²²

We have to remember that our population lives in communes and decides all its questions communally. The presence of better educated individuals [i.e. course students] may therefore prove highly significant. Furthermore, since the course students are the more advanced farmers, they will act as pioneers of improved farming methods, irrespective of whether they are private-consolidated or communal farmers.

Another way of encouraging the emergence of agricultural pioneers was to subsidize them. In Poltava, for instance, subsidies of up to 200 rubles were awarded based on the degree of reorganization undertaken by the farmer. Such subsidies were not the main incentive for agronomic improvement, but represented "a kind of compensation to the farmer for the risk which in his opinion he is taking on himself in introducing new technology."²³

Small subsidies played a role in another successful agronomic measure: the organization of a demonstration allotment or field on a peasant farmer's land. The agronomist would draw up a contract, agreeing to give the peasant farmer free seeds or a small cash grant in return for the farmer's following the agronomist's advice on what crops to plant and how to cultivate them. The organization of demonstration plots and fields on peasant land was a strategy advocated especially forcefully by the influential Samara agronomist, A. Teitel, who described the process in the following way:

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Upon receiving his assignment, the agronomist settles into his bailiwick. After having acquainted himself with local conditions, he begins introducing agronomic measures, mostly with respect to field-crop rotations. The agronomist searches out the most developed peasants, who agree to introduce the recommended changes under the agronomist's personal supervision. Subsequently, the attention of the agronomist is focused on the farms of these peasants. In order to develop the necessary authority, the agronomist should not allow these farms to undertake any experiments in whose results he is not certain; he introduces only those measures which in his opinion are guaranteed to succeed. In this way, the farm under his supervision is evidence [that improved technology works] to its neighbors.

The demonstration fields, cultivated on peasant lands with the resources of the peasant family, proved immensely useful with respect to Russia's agricultural development. On the one hand, a demonstration field on a peasant's land enabled neighboring peasants to see with their own eyes the effects of agronomic improvement. On the other hand, demonstration fields taught the agronomist what modern farming techniques were viable in his

area; one analyst spoke of demonstration fields as "schools" for
the agronomist. ²⁵ Though they had to maintain close supervision
of the demonstration fields, agronomists were urged to avoid
subsidizing the projects financially, since this would weaken
their demonstration value. ²⁶ In fact, it is unlikely that
demonstration fields were heavily subsidized, since they
proliferated very rapidly throughout Russia without making a
large impact on the budget of either the zemstvos or the Ministry
of Agriculture. It is not possible to get a precise number of all
the demonstration fields and demonstration farms in European
Russia, but an educated guess would put their number on the eve
of the war at about 50,000, almost all of them established since
²⁷ 1906. Such proliferation was more a reflection of the activism
of Russia's agronomists and of the peasant farmers' willingness
to try out new technologies, than a result of government
subsidies.

In areas where social agronomy was already firmly
established, the agronomist began to spend more time on
individual consultations than on general lectures and courses.
Such consultations resembled visits to the doctor. The agronomist
would make it known that he would be available for consultation
on a particular day either in his office, the office of the local
cooperative, the tea house, or some other public meeting place.
Through consultations, the agronomist was able to maintain
contact with his course graduates and with the agricultural
pioneers of his district. He would catch up on the latest farming
problems in the area and be able to give the farmers very
specific and thorough advice on what needed to be done. The fact

that individual consultations were already taking up much of the agronomist's time was a sign that he had passed the stage of acquainting himself with the local population and establishing his credibility; he had now become an authority whose opinion was considered in the decisions of local farmers.

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The Agronomist Gains Authority: Organizing Development

When an agronomist was assigned to a particular county, he was told to draw up an overall plan for agricultural development in his area and identify specific objectives such as the replacement of the wooden plow (sokha) with a metal one (pluga) or the introduction of the seed drill (riadovaia sealka) into peasant farming. The implementation of certain small improvements with a rapid pay-off was essential in gaining the trust of the peasantry. The most successful such project took place in Moscow province, where zemstvo agronomists concentrated on two goals: introducing steel plows and grass hays; the results were "enormous" and the project was a great success, "despite very limited resources." According to one estimate, agronomists were responsible for converting 4,000 peasant communes in the provinces of Moscow, Tver, Novgorod, Vladimir and Kostroma to multifielc crop rotations; in Moscow province alone, 31% of all communal lands were changed to multifielc rotations.

Such quick, significant triumphs must have bolstered the morale of agronomists all over Russia, but unfortunately they were relatively rare. After a certain period of working with

peasant farmers, agronomists found that marginal improvements were not sufficient to keep the peasantry out of poverty. At every turn, agronomists were running up against the obsolete foundations of the peasant farming system.³² It wasn't much use trying to introduce new plows or seeds when peasant farming was based on archaic crop rotations or an almost complete lack of commercialization. Agricultural development strategy had to address these fundamental questions before it could introduce many of the technological innovations available at the time. Agronomists came to realize that for a great number of peasant farms "the missing factor is not water, not phosphorus and not even nitrogen, but a proper organizational plan for peasant farming."³³

As agronomists increased in numbers across the Russian countryside, they grew ever more confident in their job and ever more ready to initiate the organizations necessary for agricultural progress. At the regional agronomic congress in Ekaterinoslav in 1910, one hears the first mention of the concept of the agronomist as organizer (agronom-organizator); this concept was echoed at agronomic congresses in Moscow in 1911 and Poltava in 1912. With these congresses, Russian agronomists began to realize³⁴ their role as organizers of Russian agricultural development. The plans to improve peasant agriculture began assuming ever more ambitious proportions. No longer did agronomists just talk of introducing improved plant varieties and farm equipment; they began to speak of changing peasant crop rotations, reorganizing the system of animal husbandry and organizing credit and marketing cooperatives. This was a new stage of evolution for

Russian social agronomy. If the agronomist's introductory meetings and lectures represented his arrival in the village, and if his organization of agricultural courses and demonstration indicated that he was settling down in his locality, then the assumption of an organizational role meant that he had now put himself in the peasant's shoes and was helping resolve agricultural problems in the field, side by side with the farmers of the village.

Every problem in Russian agriculture had a remedy that required organizational initiative. The fragmentation of peasant land tenure could be redressed through the organization of land settlement. Lack of credit in the rural economy could be alleviated through the organization of credit cooperatives. The excessive managerial conservatism of peasant farmers could be changed through the organization of courses, lectures and exhibitions. Poor quality seed could be improved through the organization of seed-cleaning stations. Bad quality livestock could be improved through "control associations". The lack of cheap, modern equipment could be alleviated through the organization of machinery depots and rental stations. The peasant farmer's lack of commercialization could be redressed through the organization of marketing cooperatives. In their search to spur Russian agricultural development, agronomists took on all of these organizational initiatives. Let us consider some of them in greater detail.

With respect to improving grain farming, one of the simplest measures was to organize a seed-cleaning station. Seed-cleaning machines, which were relatively simple and cheap to operate,

could be extraordinarily effective in giving an immediate boost
to crop yields.³⁵ Nowadays, we take good quality seed so much for
granted that we forget that in those days a good portion of what
the farmer cast on the field was infertile, effectively chaff;
that meant that the farmer had to throw a much greater quantity
of grain onto the field in order to get the same harvest. Seed-
cleaning stations in Vladimir province enabled farmers to raise
the productivity of their spring sowing by 50% on average.³⁶ A
cheap, simple and effective way to raise yields, seed-cleaning
spread rapidly throughout Russia -- on the eve of the war,
agronomists had organized at least 8,000 seed-cleaning stations
across the country.³⁷

The livestock problem, one of the most worrying aspects of
Russian agriculture, had received surprisingly little attention
in the nation's agronomic program. But this began to change on
the eve of the war. The Ministry of Agriculture, for instance,
which had spent only 200,000 rubles on matters of animal
husbandry in 1909, was spending 1.4 million rubles four years
later.³⁸ Most government and zemstvo funds in this area were
spent on the standard agronomic techniques: lectures and short
courses given by specialists and dairy instructors. Livestock
exhibitions were also coming into vogue, most notably in
Iaroslavl province, where one five day exposition was attended by
over 10,000 people.³⁹ County agronomists also began to organize
control associations, especially in the important dairy areas of
Iaroslavl and Western Siberia. Control associations were a form
of mutual book-keeping, keeping track of the bloodlines, feeding
habits and milk-fat content of each cow in the village herd.⁴⁰

The resolution of the livestock problem and the encouragement of dairy farming demanded a resolution of Russia's fodder question, specifically the expansion of grass cultivation. Agronomists encouraged such a change through their talks and meetings, through organizing model fields, and by giving out grass seeds for free or at zero-interest.⁴¹ The increase in grass cultivation points to the success of their work. Some 1.6 million desiatins in European Russia were planted with grass hays in 1916, almost triple the amount in 1901.⁴² The greatest success came in areas where commercial dairy farming had already developed at least to a certain extent. Correlation between successful development of the two was found in the provinces of Vologda and Moscow, for instance. Work on the introduction of grass in the latter province started in 1905; by 1917, observers noted that everywhere grass hays were introduced, they resulted in a "significant reorganization of the whole farming system".⁴³

Another major constraint on agricultural development in Russia was the poor quality or utter lack of farm supplies available to the peasantry. In order to improve the quality of farm supplies available to peasant farmers -- whether cheap metal plows, tin sheet or fertilizer -- county agronomists organized agricultural depots (selskokhoziaistvennye sklady). These depots, commonly managed by the agronomists themselves, were in fact general stores selling everything from machinery, hand tools and fertilizer to nails, seeds and cement. Through the depots the peasants could obtain modern agricultural equipment. The wares were widely acknowledged to be of good quality, an important feature for the peasant farmer, who traditionally valued

durability and effectiveness over price.⁴⁴ Since its wares were sold at cost, the depot often played a pivotal role in driving down the prices of competing private merchants. From the agronomist's point of view, the depots also provided a valuable point of contact with local farmers and a good place to disseminate agronomic propaganda.⁴⁵

Agricultural depots spread with impressive rapidity throughout Russia after 1906 and played a major role in the nation's rising investment in farm equipment. In 1902, there were only 300 depots in Russia, with a turnover of some 5 million rubles -- 15% of the total sales of agricultural equipment in Russia.⁴⁶ With the advent of the Stolypin Reform, the sales of agricultural depots flourished. According to one survey, by 1910, 310 out of 370 zemstvos were engaged in the sale of agricultural equipment, with total sales of 12 million rubles.⁴⁷ By 1912, the sales of just government-run depots (as opposed to cooperative-run depots) in Western Siberia amounted to 8 million rubles, more than was sold by all depots across Russia a mere ten years earlier.⁴⁸ By 1914, it was estimated that agricultural depots run by the Ministry of Agriculture, the zemstvos and the cooperatives accounted for half the seeds and machinery sold in Russia.⁴⁹ This is an especially impressive statistic when one remembers that the purchase of agricultural machinery almost tripled in this period, rising from 40 million rubles in 1906 to 116 million rubles in 1912.⁵⁰ Since depot sales rose from 15% of total sales in 1902 to 50% of total sales in 1914, it is evident that it was the depots that accounted for most of the growth of agricultural equipment sales during the Stolypin Reform.

The depots managed to develop such enormous sales -- over 50 million rubles in 1912 -- by exploiting the previously untapped peasant market. One survey of depots in Kazan province found that immediately after 1905 peasant farmers accounted for only a quarter of the purchases; by 1916 they accounted for 80%. Similarly, on the eve of the Revolution, the peasantry constituted virtually all the buyers from depots in Kherson province, 96% of the buyers in Samara and 90% in Kharkov.⁵¹ Virtually all the increase in demand was for modern, complex machinery. A survey of 8 provinces over the ten years before the revolution showed that the demand for simple machines like plows and hand instruments (scythes, sickles) remained stable, but the demand for reapers tripled and the demand for seed drills more than quadrupled.⁵²

Another way for the agronomist to encourage the adoption of improved equipment was to organize machine rental stations. These were a smaller affair than the depots and therefore commonly managed by the county agronomist. Intended to introduce modern equipment to the peasant in the same way that demonstration fields introduced new crop rotations, machinery rental stations were rarely profitable and were heavily subsidized by the zemstvos.⁵³ The idea was a good one. For a small user fee the peasant was able to rent a reaper or seed drill or threshing machine, gaining access to equipment that he couldn't dream of buying. Machine rental stations spread very rapidly -- on the eve of the war they numbered at least 12,000 -- and played an important role in the growing mechanization of Russian agriculture after 1905.⁵⁴

Complex machines like cultivators, threshers or cream separators were usually out of reach for the peasant smallholder; their expense was such that they could only be justified if used on a large platform of land. Some analysts regarded machine rental stations as a form of cooperative machinery use. But strictly speaking, these institutions were more a government service than a cooperative, and as such, they probably suffered from the same weaknesses that afflicted machine rental stations in the 1920's: much of the equipment lying about either underutilized or broken. ⁵⁵ A machinery cooperative, strictly speaking, would involve a contract between a number of farms for the joint purchase and shared use of machinery. Mention of these kinds of organizations is comparatively rare in the literature before 1917, though most instances of cooperative machinery use probably went unrecorded, taking the form of informal contracts (dogovory) between farmers to use a particular machine. Otherwise, when a peasant bought any piece of equipment as complex as say, a thresher, chances are that he rented it out to neighboring farmers in order to get a decent return on his investment.

Generally speaking, the assumption of an organizational role by the agronomist meant that he not only had to provide the peasant with bricks for the building (better seeds or a better plow), but also suggest how the building should be built (crop rotations, animal husbandry and budget strategy). In other words, the agronomist was to formulate a comprehensive plan of changing the peasant's farming system. He could often realize such far-reaching change by focusing on just one or two of the key aspects

of the peasant's farming system. Chayanov described it this way: "The social agronomist, [having analyzed] the farming system and having drawn up a plan of essential organizational changes, realizes them in a series of technical innovations; introducing the latter, he will inevitably restructure the farming system as well."⁵⁶ The introduction of grass into the crop rotation, for instance, could lead to the elimination of fallow lands and to the organization of modern stall feeding for livestock. Similarly, the introduction of a cream separator (for butter-making) into a village could lead to the development of commercialized dairy farming.

Other agronomists, recognizing the need to reorganize the peasant farming system, went further and urged the agronomist to organize collective entities such as cooperatives or groups of consolidated farms in order to disseminate agricultural improvements. Only by organizing agricultural progress communally, the argument went, could the agronomist achieve a mass transformation of peasant agriculture. The agronomist had to draw up a comprehensive agronomic plan including land settlement measures, crop rotations and cooperation of certain branches of the farming system; this plan would then be ratified by the peasant assembly as a type of contract of economic development and welfare.⁵⁷ Such a comprehensive and orderly reorganization of peasant farming was probably achieved only very rarely, but the idea is indicative of the growing ambitions of Russia's agronomists.

The new organizational approach to agronomic aid raised the question of the degree to which the agronomist had to be

authoritarian in pushing forward his plan for the rationalization of the peasant farming system. Some agronomists noted that Catherine the Great had introduced potatoes into Russia "with the help of cannon and executions."⁵⁸ Hyperbole aside, perhaps it was necessary to force the peasants to modernize? No, responded Chayanov. The social agronomist could be considered the organizer of agricultural modernization only insofar as his task consisted of the acceleration of the spontaneous evolution of agriculture. For Chayanov, "agronomist-organizer" did not mean "boss" similar to the agro-organizer on gentry estates. The agronomist-organizer dealt not with wage laborers, but with independent farmers who couldn't be ordered to do anything. In other words, the agronomist-organizer couldn't realize any plans by his own volition -- he could only hope to influence the intelligence, will and self-interest of the farmers of his area.⁵⁹

It's interesting to look back on the dynamic era of the Stolypin Reform to see what was thought of the kind of agricultural strategy later pursued during Stalinist collectivization. Was the stress on a collective approach to agronomic aid and the ever-present temptation of a science-based authoritarianism a premonition of 1928? Even those agronomists who advocated the cooperation of various farm operations such as harvesting, marketing and livestock grazing, never mentioned complete cooperation of production (full collectivization), with the possible exception of Minin. Agronomists only mentioned communal development plans on the understanding that the communities were made up of individual family farms; forced communal solutions, such as the imposition of optimal crop

rotations or mass privatization upon a particular region, were strongly condemned. The agronomist was to have only a consultative role, allowing each farm to develop creatively and according to its own peculiar needs.

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The Agronomist Relinquishes Control: Local Self-Reliance

The roots of agronomists' self-restraint lay in purely practical considerations. There were too few agronomists and too many peasants to manage the restructuring of peasant agriculture directly. Lack of funds and personnel meant that the zemstvos and the government agencies de facto had to leave many projects of economic development to the cooperatives and to the private sector. As Chayanov argued, society doesn't have the capability of carrying out the necessary reform even if it uses the full extent of the government apparatus. "The work of the farmer is of such a particular, local nature, it is so carefully adapted to each little clutch of land, that no externally-directed authority will be able to manage the farm if it is to be at all intensive. One can say that the skill of the farmer consists above all in the ability to take care of details. Only the farmer himself, having acquired a knowledge of his land through long years of practice, can successfully operate his farm, let alone reform

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it." Therefore the agronomist had to play the role of a "fermenting agent" in agricultural development, speeding it along and directing it into the most rational channels. (Chayanov

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didn't mention that the real fermenting agent encouraging agricultural change was the market, though perhaps this was assumed to be a given.) Although the agronomist introduces the idea of reform and helps bring it to life, "the reformer and organizer of the system is the peasant himself."⁶³

By 1910, agronomists had fully accepted the necessity of comprehensive restructuring of the peasant farming system, but they had also come to realize that they could only produce results by employing the "saving force" of cooperatives and local self-reliance. The Ekaterinoslav Agronomic Congress of 1910, for instance, resolved that "agronomists are preparing to act not only as technicians -- as 'engineers' of agriculture -- but as social workers and organizers, fully conscious that their work would be impossible without an array of self-help organizations among the rural population."⁶⁴ That meant cooperatives.

"If we continually argue that the success of agronomic aid can only be built on the foundation of the self-reliance of the population," wrote Chayanov some years later, "then we are talking first of all about cooperation, as self-reliance in its most organized form." Agronomists considered cooperatives "the sounding board of agronomic propaganda."⁶⁵ Cooperatives proved useful in organizing agronomic lectures, in disseminating agronomic literature, in establishing libraries and experimental fields, in organizing farm supply, marketing, machine rental, seed cleaning and cattle-breeding operations.⁶⁶ One survey of 1,322 credit cooperatives in 1911-12, for instance, indicated that many conducted non-banking operations: among other things, 14% managed farm supply depots, 11% operated machine rental

stations, 9% had seed-cleaning stations. "We can say with certainty," wrote Chayanov "that without cooperatives, social agronomy is incapable of maintaining contact with the population of a region and that its lonely voice will be lost among the

thousands of households." This view was echoed by the econo-

mist, Khizhniakov:

The work of the zemstvo agronomist is indissolubly linked with the cooperatives. The cooperatives provide the agronomist with a receptive audience and are themselves an indispensable condition for economic progress among the population. As a result, zemstvo agronomists very often take on the role of cooperative organizers and instructors. In the last several years, the zemstvos have hired specialists in cooperative work to carry out specially defined duties as cooperative instructors.

The agronomists and the zemstvos generally were happy to see cooperatives take over many local economic functions -- this was a cost-free way of spreading agronomic improvements and setting the business of agricultural development on a sober commercial basis by mobilizing the energies and financial resources of the local population. One of the speakers at the Ekaterinoslav Congress, for instance, argued that since the task facing social agronomy was now the reorganization of the peasant farming system, the zemstvos had to provide farmers with the necessary capital for such a reorganization. But instead of continuously doling out subsidies, the speaker argued, the zemstvos should simply organize credit cooperatives and leave these to function independently. The nature of social agronomy, the speaker concluded, was that it was based on the self-reliance and initiative of the local population.

It was more than just expediency that made agronomists support agricultural cooperation. Joining a cooperative was often an essential step in the progress of small farm, since it gave it the possibility of attaining economies of scale. Chayanov explained the principle of cooperation this way: "The small farm separates from its organizational plan those branches which favor large-scale operations and, uniting with other interested parties through a cooperative, organizes them on a large-scale basis."⁷¹ Whether in credit, marketing or the provision of farm supplies, cooperation was always linked with the growing commercialization of the peasant economy. Hence, the growth of agricultural cooperatives proceeded alongside the restructuring of peasant farming. Nowhere was this clearer than in the effect of cooperative marketing on peasant farming. In the words of the Moscow provincial agronomist, "the organization of cooperative marketing is in many cases the most effective means of reorganizing the farming system and raising its productivity and profitability."⁷²

Another agronomist described the experience of peasants in a hemp-growing region in Orel province. The by-product of hemp is valuable as cattle feed, since it increases the fat content of the livestock. Despite agronomic propaganda, the peasantry in Orel didn't feed the hemp byproduct to their own cattle, preferring to export it instead. But as soon as a cooperative butter-making plant appeared in the area and milk began to be priced according to its fat content, the peasant demand for hemp byproduct for their cattle skyrocketed. The peasants also suddenly became interested in the services of livestock-breeding

stations. "All [agricultural cooperatives] bring the farm closer to the market, and insofar as the market demands [better quality and efficiency in production], it indirectly influences the organization and technical character of the farm," commented the agronomist. "Where there appears a butter-making plant, for instance, there will soon follow grass-sowing, the improvement of livestock, improved feeding, and much else. Everything that agronomists tried in vain to achieve through sermons and demonstrations is easily achieved as soon as there appears on the scene an economic interest -- the ruble."⁷³

Whether the peasants joined cooperatives from the desire to rationalize production by achieving economies of scale or from an orientation to the market, cooperative members represented the agricultural pioneers of the Russian countryside as surely as the consolidated farmers. "Rural cooperatives bring together the most active and developed part of the the population," wrote one observer. "Agronomic aid will be successful insofar as it works hand in glove with the rural cooperatives."⁷⁴ Cooperatives provided agronomists not only with a receptive audience, but also with an opportunity to prove their usefulness to the local population. At a meeting of the Ufa Provincial Agronomic Council in 1913, one agronomist reported that "if the agronomist wants to gain popularity, he has to go to the credit association and help the confused people there bring order to their books, help them understand credit operations. Having thereby acquired the trust of the working population, he can organize agronomic measures through the cooperative."⁷⁵ In fact, in both Ufa and in neighboring Perm province, almost all agronomic projects such as

seed-cleaning or distribution of equipment were reportedly run by
 the credit cooperatives. ⁷⁶

Thus, there were many reasons for agronomists to look upon
 cooperatives as an essential part of agricultural development and
 a crucial part of their work. Organization of cooperatives was
 one of the first things that the agronomist did when he arrived
 in his bailiwick. ⁷⁷ The following survey of 215 cooperatives in
 Moscow province revealed that zemstvo agronomists assumed a
 leadership role in the majority of the organizations. ⁷⁸

Agronomists and Rural Cooperatives in Moscow Province, 1913

Type of cooperative	% organized with help of agronomist	% receiving consistent agronomic aid
Credit	66%	54%
Consumer	29%	28%
Agricultural	59%	85%
Dairy	83%	100%
Handicrafts	28%	25%
Average (weighted)	60%	55%

Agronomists encouraged the development of cooperatives by
 giving talks on the virtues of cooperation and organizing courses
 on book-keeping. ⁷⁹ It was hoped that such instruction would not
 only encourage the peasants to join cooperatives, but would allow
 the cooperatives to be self-sufficient. "But considering the sad
 experience of the more enlightened Western European peasantry,"
 commented Chayanov, "we harbor no hope that peasant book-keeping
 will have any kind of mass development in the near future." ⁸⁰
 Consequently, due to the lack of people capable of keeping the
 books, the agronomist or some other local government employee
 would usually have to take care of the book-keeping himself.

The success of the cooperative movement created a kind of identity crisis among zemstvo agronomists. Were they part of the cooperative movement or were they agents of the zemstvos?

Chayanov noted that agronomists had widely divergent views on this question. "Some agronomists, having developed... cooperatives without cooperators, are forced to singlehandedly lead and even 'manage' the cooperatives." Such agronomists tended to regard cooperatives merely as an instrument of their program, much in the same way that they regarded their own farm supply depots or seed cleaning stations. But other agronomists "completely forgot about their zemstvo duties and effectively became agents of the cooperative movement, serving as members of the board and differing from their cooperative comrades only in the source of their income."⁸¹ In Moscow province, agronomists tended to spend at least a third of their time on various forms of cooperative work.⁸² One former agronomist commented that because the agronomist felt insecure with the broad and ill-defined aims of social agronomic work, he jumped enthusiastically⁸³ into cooperative work with its "real and concrete goals." Another agronomist would recall: "I have to admit that cooperation took up almost all my time and moreover captured all my thoughts."⁸⁴

As both cooperation and the zemstvo agronomic organization matured, the question came down to which of the two would take the leading role in the agricultural development of the country. In regions where zemstvo agronomists had been instrumental in building the cooperative movement, such as Moscow and the Urals, they demanded to be given control over the organizations, serving

as chairmen of cooperative assemblies, conducting audits of cooperative business and supervizing all cooperative trading operations.⁸⁵

The issue moved to a different resolution, however. Though instances of cooperatives employing their own agronomic personnel and carrying out their own agronomic projects were relatively rare, cooperatives rapidly developed into institutions with their own special interests and a substantial degree of independence. Since county agronomists were unable to meet the demand for cooperative work, the zemstvos in 1913 began to organize special cooperative instructors, specializing in dairy production, consumer cooperation, credit cooperation, etc.⁸⁶ Cooperatives began to take the initiative in inviting agronomists to organize agronomic courses, provide consultation services, manage depots and stock breeding stations.⁸⁷ Soon some observers were proposing that all social agronomy should be overseen by the cooperative administration, with agronomists presumably paid a flat fee for consultation or receiving commissions on various commercial projects. This effectively meant duplicating the zemstvo agronomic network, constructing a parallel organization complete with county, district and provincial agronomists.⁸⁸

Relations between cooperatives and zemstvos were far from smooth. The 1912 Cooperative Congress denied zemstvo delegates the right to vote, even though questions on zemstvo activities figured prominently on the agenda. Similarly, every annual shareholders meeting of the Moscow Narodny Bank (the central cooperative bank) resolved to exercise caution in admitting zemstvo funds as shareholders or even in doing business with the

zemstvos. Evidently, in the eyes of cooperators, the zemstvo conservative reaction after 1905 and the subsequent purges of "subversive elements" had given proof that the zemstvos were in the same camp as the government; as an agency, the zemstvos were to be used by the cooperatives, but only with great wariness.

The absence of a proper delineation of functions between zemstvos and cooperatives, says Chayanov, often led to "serious struggles and conflicts." Many of these conflicts, he says, were a product of "the distrust harbored by democratic cooperation towards the officially authorized zemstvo". Chayanov recounts frequently hearing the opinion of fervent cooperators that "the broad development of cooperative movement will ultimately make all zemstvo institutions superfluous." On the other hand, "many zemstvo figures assumed that the creation of the volost zemstvo would obviate the need to organize any types of cooperatives".⁹⁰

Even the benevolent intentions of the zemstvos carried danger. One economist wrote that both agronomists and zemstvos could potentially stifle cooperation with "aid" and tutelage. If the zemstvos crossed that important line where aid became control, local economic initiatives could be discredited as "gentry undertakings." An example of such an action was when the zemstvo funds of small credit tried to take on the role of credit unions by coordinating the flow of funds among local credit cooperatives.⁹¹ Another observer argued that the zemstvo "must not infringe upon the independence of cooperation, its freedom to take whatever forms it wants and its freedom of initiative."⁹²

Chayanov called for the functions of the two institutions to be divided rationally. Zemstvos should take care of road-

building, the telegraph and postal networks, enforcing the rules of commerce, organizing local medical and veterinary services, running primary and adult education, and of course, establishing a network of social agronomy. Credit, marketing, retailing consumer goods and farm supplies were the areas left to the cooperatives. In no case was the zemstvo or the zemstvo agronomist to manage the work of the cooperative, as they would be betraying both zemstvo principles (no commercial activity) and cooperative principles (non-involvement in government and politics). If there weren't enough competent managers or bookkeepers, for example, the agronomist was to organize courses for them; if the cooperatives' financial base was weak, the zemstvo was not to subsidize them, but rather loan them money through the funds of small credit.

The reason why the conflict between zemstvos and cooperatives seemed so important was that the character and interests of the two institutions were very different. As agronomists often noted, zemstvo undertakings never mobilized the self-interest of the local population as well as the cooperatives. If the zemstvo organized a seed-cleaning operation, for example, the population would often remain unconcerned with any financial losses of this project, since the losses would be made good by the zemstvo budget and by the tax-payers of the area. Such lack of interest was not common among cooperatives, whose budget usually was financed by membership dues. But the very advantages of cooperatives -- their basis in commercial profitability -- was a disadvantage when matters concerned projects that did not bring an immediate financial gain -- road-building, education,

medicine, public health, large land reclamation projects and
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agronomic aid.

Nowhere was this difference of character clearer than in the arguments that went on over farm supply depots. Initially, depots were managed and subsidized by the zemstvos and the Ministry of Agriculture. But as their operations expanded, many depots evolved into self-sufficient cooperative undertakings, based on the initiative and financial savings of local farmers.⁹⁶ This "privatization" of institutions that had previously been wholly government-managed had certain advantages -- less bureaucratization and a greater degree of self-accounting -- but to the extent that commercial and educational goals diverged, privatization also had its drawbacks. Many agronomic measures, for example, could not have been undertaken if they had had to have been based on short-term profitability.

Farm supply depots were in fact founded on contradictory premises from the very beginning: on the one hand, they were commercial enterprises, which had to at least break even, and on the other hand, they were social-agronomic organs, whose "first priority" was educational. This contradiction made itself felt every time a question of policy came up. For instance, if the depot was intended to make money, it had to sell familiar brands of agricultural machinery at a markup; if it was intended to introduce peasant farmers to modern machinery, it would sell unfamiliar brands at cost and with easy terms of credit.⁹⁷

Initially, most depots were supervised by local agronomists, who were likely to stress their non-commercial mission. But even good agronomists often turned out to be poor managers and

traders. Consequently, many depots became cash-starved and bogged down with bad loans. Government subsidies mounted. Many agronomists found that the long hours required to manage the depot took away from the time they had for other agronomic tasks. In short, there were many good arguments for the agronomists ceding control of the depot to some sort of local farmer cooperative.⁹⁸ But other agronomists were loath to forgo the job of managing the depot. As one agronomist was to note, the sale of farm supplies was one of the most important points of contact between the agronomist and the population. "When the peasant is thinking of spending money, then he begins to listen attentively. [Managing the farm supply depot is a great opportunity to develop] the best kind of close relations with peasant farmers, on a practical, purely business-like basis."⁹⁹ In France, for instance, farm supply depots served as the center for all agronomic aid -- through them courses were organized, agricultural societies established, demonstration fields set up¹⁰⁰ and periodicals published.

Gradually, however, most observers came to realize that the privatization of the farm supply depots was an inevitable consequence of their success and maturity. The institutions needed to be put on a sound commercial basis. The job of providing easy credit was to be given to credit cooperatives or to zemstvo funds of small credit. The introduction of new machinery into the village was to be the task primarily of the machinery rental stations. The agronomist could then go back to what he did best: talking to the peasants, inspiring them with new ideas and helping them implement farming improvements.¹⁰¹

Agronomists occasionally had trouble propagating their ideas among cooperative members. Some agronomists pointed to the futility of organizing agricultural lectures at the cooperative assemblies, since the peasants were usually too taken up with the work of the cooperative to give any attention to the lecturer. In one district, the local agronomist reported, the members of the local credit cooperative would meet to discuss business and having finished their discussion of credit operations, would leave the assembly, regarding the agronomic lecture that followed as completely irrelevant to the interests of the cooperative. ¹⁰²

A similar problem was noted with respect to the zemstvo funds of small credit by one of the participants at the Ufa Agronomic Conference. "Agronomic projects are regarded as risky experiments [by the members of the fund] and are tolerated only out of propriety. These funds do not pursue any cultural and educational aims and increasingly resemble normal banking establishments." ¹⁰³

The argument that went on between zemstvos and cooperatives continues to this day around the world. It is essentially the old conflict between Government and the private sector, between centralization and decentralization. The rural cooperative movement represented the peasantry's powerful impulse to commercialized self-reliance, and as such it made many agronomists uneasy. With cooperatives, the peasantry was finally taking charge of its own destiny.

CHAPTER SEVEN

THE RISE OF COOPERATION

The growth of cooperation in the years of the Stolypin reform is one of the most extraordinary aspects of that period. Though Russia was one of the last great powers to develop a mass cooperative movement, the speed of its growth soon placed it in the leading ranks of world cooperation. Russia had a greater number of cooperatives and a greater proportion of its population in cooperatives than practically any other country. The phenomenal growth of the movement can be seen in the figures below.

Number of Cooperatives in Russia 1904-1916

<u>Type of Cooperative</u>	<u>31 Dec. 1904</u>	<u>31 Dec. 1916</u>
Credit Cooperatives:	1,430	16,057
Consumer Societies:	950	20,000
Agricultural Societies:	700	6,000
Agricultural Associations:	1,000	2,500
<u>Dairy or Handicrafts Associations:</u>	<u>2,000</u>	<u>4,000</u>
Total	6,080	48,557

Consumer societies numerically grew faster than any other type of cooperative, but they were usually small, financially weak and urban-based. The real jewel of the cooperative movement, as we will see later, was credit cooperation. With respect to Russian cooperation in general, obviously something had changed after 1905. That year, cooperatives had approximately one million members; by the end of 1916, this figure had jumped to an estimated 24 million. Credit cooperatives and agricultural societies alone counted 12 million members; in other words, if one takes

into account that each member accounted for a family of five, half the peasantry of European Russia and Western Siberia had joined cooperatives, even taking some double-counting into consideration. At the same time, from a fragile network of a few associations, agricultural and credit cooperation grew to wield considerable economic clout, accounting for some 1.8 billion rubles in turnover by the end of 1916.⁵

In this chapter we will give a brief overview of this remarkable movement. First, we will look at how several leading cooperative thinkers defined cooperation and we will examine the question whether cooperatives were capitalist institutions, socialist or something in between. We will then look at the different roles of the central government and the rural intelligentsia in supporting the cooperative movement. This will be followed by an examination of the social content of the cooperative membership and of the growing dominance of peasant entrepreneurs in running local cooperatives. Finally, we will look at agricultural societies as an example of how cooperatives interacted with the zemstvos and agronomists in disseminating improved agricultural technology.

The Nature of Cooperation

The essential function of cooperatives was the pooling of resources, transforming a multitude of weak units into a powerful economic entity. Credit cooperatives did this with respect to peasant savings; trading cooperatives did it with respect to

collective marketing or wholesale purchases. Cooperatives were an organic outgrowth of small farm agriculture, allowing smallholders access to markets, capital and technology normally accessible only to larger farms.⁶ For this reason, in almost every country where small farming predominated, the commercialization and intensification of agriculture was accompanied by the rise of some form of cooperation. The development of fruit farming in California was made possible by the rise of the California Fruit Growers Association. Germany's evolution in the 19th century from primitive grain farming to an intensive system of mixed farming based on the multi-field crop rotation was accompanied by the development of rural credit cooperatives.⁷

In many cases the new possibilities opened up by cooperation resulted in the creation of completely new industries in a variety of agricultural regions. It is not an exaggeration to say that often the growth of cooperation was directly correlated with the development of agriculture.⁸ This was strikingly illustrated in the case of Denmark. Still backward in the 1870's, Denmark's agriculture grew to be one of the most sophisticated in the world by the turn of the century. This was due in large part to the establishment of cooperatives, which not only marketed the country's dairy and pork products around the world, but also organized agronomic projects such as exhibitions, courses and lectures. According to one estimate, at the beginning of the century, over half of Denmark's gross national product passed through agricultural cooperatives. Thus, the experience of Danish agriculture, and the central role of cooperatives in that country, was a powerful source of inspiration for agronomists and

reformers trying to improve peasant agriculture.⁹

It was more than its success in Europe that made the idea of cooperation attractive to virtually every segment of Russian society. The difficulty of placing cooperatives on any specific point in the ideological spectrum meant that all political factions could legitimately claim cooperatives as their own. To revolutionary socialists, the cooperative movement in the countryside represented a demonstration of the working masses' economic potential and the awakening of their class consciousness. To liberal reformers, rural cooperation represented the long-awaited appearance of entrepreneurial spirit among the Russian peasantry and the golden road to "civilizing" the masses. One liberal advocate of cooperation, for instance, argued that the cooperative movement could accomplish "the reconstruction of the economic order, the breaking down of class differences and the economic differences between the sexes, the dreams of international peace and brotherhood."¹⁰ The Tsarist government, though at times hostile towards the cooperative movement, ultimately embraced agricultural cooperation as a cornerstone of its agricultural development program. To the peasantry, of course, cooperatives simply represented the best way of advancing their own economic interests.

The Russian intelligentsia and the agricultural press actively debated the precise nature of cooperation. Both socialists and their ideological opponents tried to fit cooperatives into their view of the world. Socialists, for instance, saw cooperatives as a step towards full socialization of production. This view was echoed in the work of the agronomist Ashin, who saw

cooperative development as directly linked to economic development, with both ultimately leading to complete socialization of production. Ashin saw agricultural (and cooperative) progress as a series of stages. In the first stage, as peasant farming becomes commercialized and evolve from the three-field crop rotation, economic progress is mirrored by the rise of credit cooperatives. This is followed by the second stage, when peasant farmers become more commercialized and begin to develop farm supply and marketing associations. The third stage sees cooperatives extend their reach to certain branches of food processing and consumer goods production (meat packing, butter-making, and flour milling). Finally, in the fourth stage, all production becomes cooperative and all property, except for the household and the home plot, is collectivized. ¹¹ While the first three stages in Ashin's scheme (cooperation of credit, trade and processing) were borne out in the agricultural development of many countries at the time, the fourth stage (full cooperation of production) remained a theoretical postulate.

Many Russian economists took pains to deflate exaggerated expectations that cooperatives represented some new form of economic production that would lead to socialism. Tugan-Baranovsky conceded that the rise of cooperatives differed markedly from the rise of capitalism. Whereas capitalist institutions had developed spontaneously and on the basis of individual self-interest, cooperatives represented a deliberate and conscious effort on the part of the intelligentsia to reconstruct society in a planned manner. ¹² But while cooperative and capitalist institutions developed differently, the institutions

themselves were rather similar. "The cooperative enterprise is neither an institution of charity, nor an organ of propaganda, nor a political organization, nor a labour union," wrote Tugan-Baranovsky. "It is an economic organization in the interests of a certain group of people and, in order to be successful, it must be run in a business-like manner, on the basis of strict commercial accounting, in the same way as any capitalist enterprise." ¹³

Prokopovich also dismissed the idea that cooperatives represented a new form of economic production, arguing that, with the possible exception of certain handicrafts associations, cooperatives played only a "subsidiary role with respect to the economy of their members" and remained completely dependent on it. ¹⁴ And Makarov also took pains to point out that cooperatives were ¹⁵ wholly dependent on the businesses of their members.

The socialist strain in the Russian cooperative movement was undoubtedly very strong, especially among the early "cooperators" -- i.e. the leaders of the movement, who usually came out of the third element. But the socialist tendency was countered by many staunch defenders of private property. One of the leaders of Russia's cooperative movement, A.N. Balakshin, for instance, assailed the tendency to paint cooperation with socialist colors. "Russian cooperators regard private capital with haughtiness and with a sense of their own superiority," he wrote. "But they forget that private capital does not take its stand on exploitation only, and that altruistic ideas are not foreign to it. We know of capitalists who have built cathedrals. Shaniavsky left big funds for a people's university, and the merchant Tretyakov bequeathed his unique, rich gallery of Russian masters to the

town of Moscow."

Clearly, the cooperative movement included all sides of the political spectrum. Cooperatives are indeed difficult to define in terms of political ideology. A cooperative is neither a purely capitalist nor a purely socialist institution, containing elements of each. In some ways it is similar to a commercial bank or stock-holder corporation. Like the latter, cooperatives are usually open to anyone who is willing to open up an account, buy a share or pay a membership fee. Like the corporation, the cooperative is a legal entity, established on the basis of corporate bylaws or a mutual contract, and based on the limited liability of shareholders and members. Ultimate authority rests with the general meeting of members, which like the shareholders of a corporation, elects a board of directors. In Russia, since cooperatives were relatively simple organizations compared with latter-day corporations, the elections were usually direct rather than by proxy. The affairs of the enterprise were managed by the board -- usually two or three elected members -- sometimes assisted by an elected council to supervise their work. Finally, the cooperative resembles a capitalist firm in that it has to show a profit, must compete on the free market and depends for its survival on the marketing, accounting and management skills of its leadership.

But there are some significant differences between cooperatives and stock-holder corporations. Power inside the cooperative is democratic: though there is usually no limit to the number of shares any individual can buy, voting takes place according to the principle of "one member, one vote." Even more

importantly, cooperatives benefit their members in ways which are much more complex and hard to quantify than is the case with a public corporation. The management of a corporation, for instance, can clearly be judged on how large a dividend is payed out to shareholders or on how much the company's stock appreciates on the stock market. The shares of the cooperative, on the other hand, can not be traded and the dividends are usually fixed. Since in most cases the members of the cooperative are also its customers, management can produce value for its members in one of two ways: first, by making a profit, which is then remitted proportionally to all members; or second, by providing members with superior services (cheap credit, farm supplies sold at cost, minimal fees charged for marketing, etc.). The two courses of action are inversely related: the more the cooperative provides low-cost services, the less profit it is able to remit to the members, and vice-versa.

Since the value of cooperative services and other downstream benefits is hard to quantify and therefore can lead to managerial inefficiencies, the optimal course of action for the cooperative is the first one: to make a profit and then remit it to the members in the form of dividends. But this course of action contains the danger of hiding the benefits of cooperation (at least for most of the year, when there were no remittances) and losing market share by abstaining from underpricing private competitors. For this reason, Russian cooperators tended to follow the other path. Makarov, for instance, wrote that "cooperative credit differs from private capitalist banks in that the aim of its activities is not the maximum return on capital,

but the provision of cheap, accessible credit to its members." ¹⁷
The final difference between cooperatives and capitalist companies is that, as Prokopovich noted above, the cooperative is only a subsidiary to the business of its members. The cooperative typically remains focused on performing a narrow set of functions. Its members -- say a group of family farms -- while taking a proprietary interest in the organization's welfare, for the most part work independently of the organization.

The Cooperative Movement and the Government

The first effort to develop a mass network of rural cooperatives came in the late 1890's. In the period 1895-98, the government drew up a series of model statutes for various types of cooperatives: consumer societies, credit associations, agricultural societies, etc. In the following decade, though, the growth of the cooperative network was disappointing. By 1904, there were only a few thousand small cooperatives throughout the whole country. This led the Special Commission on the Needs of Agriculture to conclude that cooperation was "a dream of the future." Due to the lack of individual initiative and intelligent leadership, and because the rural economy was still relatively uncommercialized, the environment for the development of cooperation in the village was not deemed favorable. Rural cooperation was "an exceptional phenomenon," concluded one of the reports of the Commission, possible only where the work was taken

up by some energetic and intelligent member of the upper or
middle classes. ¹⁸ Then came 1905. Ironically, it was the cooperatives' role in the Liberation Movement of 1904-5 which convinced the government that these were indeed important organizations.

Although some authors were to argue that the government was hostile to cooperation because "cooperation, as one of the purest forms of collective self-reliance in economic life, is completely incompatible with a bureaucratic regime and bureaucratic tutelage," ¹⁹ the real reason for the government's suspicion was the active participation of the revolutionary-minded third element in the cooperative movement. Reluctant to admit the existence of widespread opposition among the rural masses, the government was quick to blame the insurrection on left wing agitators among the rural intelligentsia, who had insinuated themselves into peasant society by taking up posts in cooperatives, local government and other rural institutions, "financing the revolution on tax-
payers' money," ²⁰ as one irked marshal of the nobility commented. Long suspicious of the expanding relationship between the third element and the peasantry -- a relationship which threatened to supplant its own traditional bond with the peasants -- the government encouraged widespread purges of the third element by the Ministry of Internal Affairs and the right-wing zemstvos. Cooperatives were hard hit. The land captains often dismissed cooperative boards, cancelled general meetings and broke up cooperative conferences. ²¹

Taking the brunt of the purges were the cooperatives which carried out trading activities for the poorer peasants and the working class: mostly consumer societies and handicrafts

associations. Any such cooperative had a ready foe in the person of the local merchant, and the latter often denounced the cooperative as a hotbed of revolutionaries to the police. These denunciations were common and quite damaging to the cooperative movement. Prokopovich reported in 1913:

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In general, the position of rural members of the intelligentsia participating in the cooperative movement is very difficult. The main task of cooperation is the re-organization of the commercial economy of small producers on the basis of comradely mutual aid in the struggle against the exploitative tendencies of the usurers, loan-sharks, and shop-keepers. Precisely these monied people of the village, however, wield a large degree of influence and clout. Any cooperator, therefore, must first of all carry out a hard struggle against the more prosperous and active elements of the village, those who wield not only significant economic power, but substantial political and administrative influence as well. Lacking political rights and being constantly under surveillance, cooperatives find this struggle all the more difficult, since they must also overcome the opposition of almost all the rural authorities -- the village constable, the district police officer and the land captain.

To be sure, St. Petersburg's suspicions were not unfounded. As Soviet writers were later to admit, socialists in the third element did use cooperatives as a platform for revolutionary agitation. Beginning with the Saratov Congress of Cooperatives in 1904, a string of cooperative congresses in various provinces called for the development of cooperatives based on the "changing political foundations" of Russia -- a barely veiled reference to the Revolution. Nevertheless, excessive repression of the cooperative movement proved to be both politically and economically counterproductive for the government -- politically so, because it merely reinforced the hostility of the cooperators and

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economically counterproductive, because cooperation was crucial to Russia's agricultural development.

The government's attitude had never been entirely consistent. While the Ministry of Internal Affairs took the lead in repressing the cooperatives, the Ministry of Finance and the Ministry of Agriculture worked hard to encourage their development. Administrative hostility was most consistent towards the consumer societies and some of the handicrafts cooperatives, probably because these organizations generally represented the poorer (and more radical) peasants. Consistent antagonism was also shown towards the unions and congresses of the cooperative movement, since these threatened to rival the government on the national political stage. With respect to those cooperatives, like agricultural societies and credit cooperatives, whose beneficial effect on agricultural development was clear and who rarely engaged in any political agitation, the government showed only strong support.

When Stolypin arrived in St. Petersburg and the government began to undertake the matter of agricultural development in earnest, cooperatives received a tremendous boost. The model statutes for cooperatives that had been drawn up in the 1890's had failed to produce sufficient results and consequently were all re-written in the period 1904-8. The minimum membership fees and share prices were reduced and the functions of cooperatives were expanded. In addition, the Ministry of Finance established a cadre of inspectors of small credit, based in provincial or district towns, who would help organize credit associations and audit their books. Government subsidies to new cooperatives also

increased.

Other ministries were mobilized to help in developing the rural cooperative network. The repression of the revolution was giving way to social conciliation and matters of economic development; the peasant rebellion had not even subsided before the Council of Ministers began praising and encouraging the third element in their cooperative work. The Ministry of Finance's credit inspectors and the Ministry of Agriculture's agronomists were already deeply involved in the cooperative movement, but other ministries also began joining the crusade. The Ministry of Education, for example, encouraged local teachers to help the development of credit cooperatives by joining up as members of the board or as book-keepers.²⁴ Similarly, the Holy Synod encouraged local priests to take part in organizing and running the cooperatives.²⁵ The Synod declared that credit cooperatives were "different from other types of credit institutions, since they are based not on material interests, but on comradely foundations, on the basis of mutual responsibility and trust, and cannot exist without the idea that economic interests must unite people among themselves on the basis of Christian reciprocity."²⁶ Here, in the government's and the church's turn towards cooperation, we see the hope of reconciling the classes and breathing life into the slavophile idea of a corporate state. The government, by infusing the cooperative movement with the more loyal of its employees, hoped to guide the movement away from political subversion, replacing revolutionary socialism with Christianity and patriotism. This was a clever policy, rather reminiscent of the Zubatov trade unions, created by the Ministry of Internal

Affairs in the early years of the century.

The government's appeal met with an enthusiastic response from the third element, which had been waiting for the opportunity to lead just such a crusade for the economic liberation of the nation's working masses (and cooperatives were independent enough for the radical intelligentsia to avoid feeling as if they were supporting the government). Within a few years, various ministries were voicing their concern that their local employees were sacrificing their official duties for cooperative work. In 1911, for example, the Ministry of Education urged rural teachers not to let their participation in the credit cooperatives detract from their teaching duties.²⁷ The Governor of Livonia issued a circular reproving volost scribes for getting carried away with cooperative work and forgetting about their official responsibilities.²⁸ The cooperative movement, like the peasant economy, was in the midst of an astounding boom and high ministerial officials evidently could only urge caution to local employees not to lose their heads.

Cooperatives and the Third Element

The change in model statutes and the government's encouragement of rural cooperation clearly had an enormous effect, but the main factor in the cooperative movement's growth was the participation of the rural intelligentsia. In a village, where the bulk of the people were illiterate, the skills of an

educated person were very valuable. Someone who could keep accounts, deal with bureaucratic regulations or draw up contracts was of great use to the village community. For this reason, as we saw above, Stolypin and the Council of Ministers soon realized that the participation of the third element was essential to the success of the cooperative movement. Though commercially less adept than the local merchants and money lenders, the local intelligentsia made up in dedication and perseverance what they lacked in terms of business skills. They proved instrumental in the growth of the cooperative movement. ²⁹ The rural economist Khizhniakov, for instance, found that the degree to which cooperatives had developed in various districts was directly related to the participation of the zemstvos and the local intelligentsia in cooperative work. ³⁰

Our cooperatives are still being imposed from above, rather than growing up through the initiative and self-help of the local population. As a result of the primitiveness of the population and its lack of certain essential habits and skills, our cooperation is still a delicate flower requiring careful nurturing by a pair of skilled hands. Therefore its successful development is wholly dependent on the nature of the local intelligentsia, its dedication to cooperative work and its ability to develop and lead the cooperative movement.

Cooperators were an amorphous group of entrepreneurs. In a way one can classify the Russian cooperative movement according to who were its leading cadres at any given point in time. Russian cooperation evolved through a succession of stages in which each generation of cooperators was superseded by the next, larger generation: the gentry philanthropists who started the movement

in the 19th century were gradually eclipsed by government functionaries such as the State Bank's inspectors of small credit and by the thousands of agronomists, teachers and other members of the third element; during the war, these old-style cooperators were increasingly overshadowed by a new stratum of cooperative administrator-bureaucrats in the cities and clever peasant leaders on the village level. To get an idea of who was formally credited with starting credit cooperatives, let us look at the following survey:

Survey of Credit Cooperatives in Moscow Province 1908-11

26	organized by peasants
9	" " agronomists
7	" " clergy, doctors or teachers
4	" " landowners
2	" " marshals of nobility
1	" " chairman of the zemstvo board
1	" " land captain
1	" " inspector of small credit
<u>1</u>	<u>" " agricultural society</u>
52	Total

This proportional picture of organizers is confirmed by a similar survey of credit cooperatives in Perm province; here peasants organized the most cooperatives (35%), followed by agronomists (19%); priests, teachers and volost scribes each organized 11%. The proportions are slightly reversed when one considers agricultural societies, which tended to have a greater educational role than did the credit cooperatives. The following is a survey of 1,700 societies in 1912.

A Survey of 1,700 Agricultural Societies in 1912

<u>Percent of</u> <u>agricultural societies</u>	<u>Organized on the</u> <u>initiative of:</u>
31%	agronomists
24%	peasants
11%	landowners
9%	clergy
8%	teachers
5%	land captains, scribes
5%	other cooperatives
7%	other
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100%	

What these figures don't necessarily show is the strong role played by the central government. This was especially true with respect to credit associations, which usually relied on the State Bank for start-up capital and on the inspectors of small credit for guidance. Tugan-Baranovsky even remarked that credit associa-
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 tions were almost like Potemkin villages. Other observers responded that state funds soon ceased to dominate the finances of the credit cooperatives and that cooperative membership grew rapidly, indicating that cooperatives were independent, popular
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 organizations led by local entrepreneurs and activists.

Whether one sees cooperation as a genuine mass movement or merely as a successful modernization campaign led by intellectuals and government administrators, it is impossible to deny the importance of the cooperative cadres. Even a mass movement, after all, has its theorists, its agitators and its leaders. And these self-styled missionaries certainly took to their task with zeal. But at the same time, cooperation was a

grass-roots movement. If constructive popular movements were perceived to have been very rare in Russian history -- "the state had grown strong while society had grown weak," to use Kliuchevsky's famous phrase -- then the cooperative movement was a refreshing example of popular initiative in which the state and the intelligentsia, though important, for once were not the decisive factor.

Peasant Managers and the Cooperative Movement

Cooperation's mission of educating the peasantry in democratic action and economic management was widely considered to be one of the most important aspects of the movement. It was often argued that cooperatives were constrained by the narrow-mindedness and primitivism of the peasants and many cooperatives therefore undertook educational and cultural tasks for the enlightenment of the peasants. According to one war-time survey, 75% of the older credit cooperatives and 52% of the newer cooperatives stated that they ran some sort of cultural-educational program (lectures, courses, tea houses, peoples' palaces, etc.)³⁶ Cooperatives published their own periodicals, both local and national³⁷ in scope; by the end of 1917 these numbered 117. Peoples' houses or palaces were like village clubs, with a library, a tea room, and lectures or live entertainment in the evenings. Peoples' theaters were especially popular; they were organized by local zemstvos or by cooperatives. The plays were produced by a "musical-dramatic troupe", consisting of the peasants themselves.

One correspondent reported:

A conference of co-operative societies of the province of Vologda convened in February, 1914 for the purpose of discussing the educational aims and possibilities of co-operation. In some places, mostly as a result of interference on the part of the officials, the playhouses were made to produce low and vulgar farces, vaudevilles, and similar plays of the music-hall turn, which, however, was strongly resented by the peasants, who protested, and finally the attendances dropped. "What the peasants want," reported some delegates, "are plays with some deep moral meaning, reproducing the sorrows and joys of real life, inspiring the hearers with higher ideals..." Where sufficient freedom and discretion is allowed to the "peasant circles", they usually introduce plays by some of the best authors and playwrights, such as Tolstoy, Chekhov, Ostrovsky, and others.

The cooperatives also proved to be an excellent form of civic education, teaching peasants the skills of democratic organization and financial management. The cooperative general assemblies in particular were an excellent school, despite the disorder and heated argument that often prevailed. For Chayanov (writing under the alias Ivan Kremnev) cooperatives before the revolution represented a kind of "rural soviet," a local democratic organ uniting the interests of the peasants and representing them on the national level.

As the peasants gained cooperative experience, the gentry and rural intelligentsia who had led the movement in the early days were confronted by the emerging force of peasant cooperators, voicing contempt for the high ideals of the older generation and increasingly willing to claim their central position in the movement. Balakshin recalled:

I remember the enthusiasm with which we started upon the formation of a cooperative creamery association. It was not the material side alone that interested us. It was a moral satisfaction for us to do some good for our fellow men. We felt that not by bread alone will man live. It was, so to speak, the honeymoon of cooperation, full of festive feeling. The struggle with the opponents of cooperation has brought to the surface the egotistical instincts of self-preservation. We took greater interest in the material advantages of cooperation, in dividends, than in its exalted aims and objects. The ideal side was getting obscured by material cravings. People without any ideals whatever turned to the cooperative movement with the object of advancing their personal ends to the detriment of the cause.

Balakshin seemed to be saying that careerists and revolutionaries were taking control of the cooperatives. What is definitely true, however, is that the larger the cooperative movement grew, the more independence it gained from the government agents and intelligentsia who had initiated it. There appeared large numbers of professional cooperators, employed as instructors, managers, book-keepers, auditors, etc. This transition from domination by government or intelligentsia cooperators to a growing corps of self-reliant peasant managers represented a fundamental change in the relations within the cooperative movement. Tugan-Baranovsky described the evolution of credit cooperation in the following way:

Initially, [the credit association] was an institution established through the initiative of the inspector of small credit or some other outside figure. Its members took no interest in it whatsoever and saw it only as a source for receiving loans out of government funds. However, the longer a credit association was in existence, the stronger became its educational influence on its members. At first, a small group from the immediate management begins to take a conscious interest in the affairs of the association. Subsequently, this group

increasingly takes root in the local community and increasingly begins to attract the peasantry from the village into the conduct of its affairs.

As cooperatives spread throughout Russia's towns and villages, the older generation of cooperators (gentry, government functionaries and members of the intelligentsia) were gradually overshadowed by the new breed of peasant or worker cooperators, contemptuous of the intelligentsia and often hostile to government and private property. Already at the 1908 Cooperative Congress, one peasant delgate was heard declaring: "Those days when the working masses obediently followed the leadership of the intelligentsia are passing, and in many localities, have already passed irrevocably." ⁴¹ This was perhaps an inescapable consequence of success: as cooperatives introduced more local self-reliance, even the appreciation for the intelligentsia's special skills began to vanish and rank and file peasant members began to eclipse non-peasants in the management of cooperatives. This is evident in a 1913 survey of credit associations concerning the ⁴² educational level of village-level cooperative administration.

Educational Level of Credit Association Management

	<u>University</u>	<u>Intermediate</u>	<u>Elementary</u>	<u>Illiterate</u>
Board members	2.7%	11.2%	85.4%	0.7%
Council members	4.2%	10.5%	83.5%	1.8%

The table shows the vast predominance of people with only elementary education in the management of credit associations. Since it is reasonable to assume that most members of the gentry and the rural intelligentsia had more than an elementary

education, we must conclude that they represented no more than 15% of the cooperative board members. The demise of the intelligentsia within the cooperative movement is a dramatic change from the early days of cooperation. But it was inevitable considering the very rapidity of the movement's growth. If, by a conservative estimate, we assume that each cooperative had an average of four board and council members, then the 26,000 agricultural cooperatives (all rural cooperatives, excluding consumer societies) must have had at least 100,000 such executives. A movement on this scale could not have been managed by anybody besides local peasants, though as we shall see, non-peasants still retained a dominant leadership role in agricultural societies.

Even in those branches of cooperation such as credit associations, where peasants had taken over the management of the grassroots organizations, the cooperative intelligentsia continued to play an important role. Those non-peasant cooperators who were truly committed to the cause either continued to carry out their duties on the village level or moved up to serve in the burgeoning national cooperative apparatus. They staffed the higher-level cooperative organisations such as the provincial unions, the larger agricultural societies, the Moscow Peoples Bank, etc. In addition to serving in the cooperative administration itself, the non-peasant cooperators occupied positions in the cooperation departments of the zemstvos and various educational institutions. As cooperation began to prove an important force in the Russian countryside in 1906-17, any organisation that dealt even remotely with the peasant economy

opened a special section dealing with cooperation. The cooperative movement began to develop an extensive staff of its own experts: the largest staff of "cooperative instructors" was maintained by the powerful Moscow Union of Consumer Societies, but cooperative courses were also run in the universities of Kharkov, Kiev and Omsk among others. Special mention must be made of the Shanyavsky People's University in Moscow, which not only educated cooperators at its courses, but also organised a system of travelling lecturers who ventured far and wide over Russia, explaining the principles of cooperation. ⁴³ Finally, the growing cooperative press also demanded a large number of cooperative intelligentsia. By 1917, there were over 100 cooperative periodicals and a string of publishing organisations spreading information, propaganda and developing a national "cooperative ⁴⁴ consciousness."

The cooperative movement was intended to be a multi-class effort at improving the local economy and resolving the class struggle. Instead of reconciling the classes, however, the cooperative movement soon began to reflect the class struggle going on around it. While the higher-level cooperative organizations began to work with government or the Duma opposition on a national level, the majority of rural ground-level cooperatives started to develop a marked anti-government, anti-urban and anti-intelligentsia bias. The class antagonism was reflected in the discord between consumer societies on the one hand and credit ⁴⁵ cooperatives and agricultural societies on the other. It was also indicated by the peasantry gradually taking control of the bulk of the ground level cooperative movement from the

intelligentsia. Soviet historians like V.V. Kabanov, therefore, may be right in postulating that a kind of class struggle was emerging in the cooperative movement, a class struggle that was only resolved in 1917-19, when the top of the cooperative movement was purged and replaced by the emerging generation of "red cooperators."⁴⁶

Whether this was true or not, two things are certain: first, that the cooperative movement succeeded in awakening the democratic instincts of self-reliance among the Russian peasantry and second, that the network of small, self-reliant cooperatives was becoming an increasingly powerful and complex organization and necessitated a growing administrative apparatus to coordinate the cooperative movement on the national level.

The latter point can be seen in the mounting evidence that the cooperative movement was becoming bureaucratized. Some observers of rural cooperation began to notice a certain amount of peasant alienation from what were supposed to be organizations of peasant self-help. Prokopovich, for instance, noted an "us and them" attitude of the rank and file membership toward the board of the cooperative.⁴⁷ General meetings of the cooperative were only sparsely attended, and there were many complaints that meetings were formalistic to the point of incomprehensibility. Peasants often regarded credit cooperatives as just another place where they could get a loan, rather than a body organized for their collective advancement. This attitude would seem to be confirmed by a survey of credit cooperatives in Iaroslavl province: over three quarters of the cooperatives reported that the population regards them as an organ of the state, rather than

their own organization. One observer recounted the following
symptomatic tale of rank and file alienation.

A peasant, on his way back from work will call out to the book-keeper, "I'll come by the association on Sunday for some money." When he comes for the loan, the board will sign him up as a member, and the cashier will hand him the money - that's the extent of the relationship of the member to the cooperative organization.

When the peasants did regard the cooperative as their own institution, attitudes towards outsiders tended to be suspicious and hostile. Prokopovich notes a case when a credit cooperative refused to allow a non-peasant, a member of the local intelligentsia, into their cooperative. The local inspector of small credit, however, insisted that the cooperative must have at least one member of the intelligentsia on its advisory committee, and eventually forced the peasant to accept the person in question. Life was made very difficult for the unfortunate altruist -- his life was threatened, and when this didn't work, his ink was sabotaged so that his writing would fade away on the paper. Finally, the goal was achieved and the man declared that he was leaving the cooperative. The inspector of small credit then closed down the cooperative for a whole year, in reprisal, after which the peasants finally came around and agreed to elect
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intelligentsia to their board and advisory council.

Prokopovich argued that the peasants' distrust of those "in charge" in the cooperatives was not due to class differences. Most of the cooperative executive staff, after all, was composed of peasants. Rather, it was the venality and careerism of the

cooperative administration, which irked the peasants. Prokopovich cites peasant opinion that only those related to board members or those who bribed the board with a good lunch or a good drink were able to get loans. Consequently, rank and file members often responded with a tried and tested democratic cure: re-electing a whole new board "so that the old ones wouldn't start giving themselves airs."⁵¹

It was a mark of the soundness and maturity of the cooperative movement that the burning issue ceased to be how to convince peasants to join cooperatives and was replaced by the dilemma of reconciling increasingly sophisticated operations on the one hand and growing bureaucratization on the other. It was also a mark of the cooperative movement's maturity that the "pupils" (i.e. the peasants) had begun to strive for such a degree of independence from their erstwhile "teachers" (the government agents, gentrymen and rural intelligentsia who were involved in the movement).

Social Content of Cooperative Membership

Cooperatives were not egalitarian in their membership. They tended to represent the solid middle and rich peasants of Russia -- a majority of the rural population, but not everyone. "Experience has shown that (in order to make use of cooperation), working people must have a certain amount of economic security and wealth. The lower budget groups of working people, especially

those with an irregular income, cannot be active members even of
the consumer societies," wrote Prokopovich.
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Minin, in an examination of pre-revolutionary agricultural cooperatives, concluded that though poor and middle peasants predominated numerically, rich peasants accounted for a disproportionate number of members. As cooperatives developed, the relative weight of the rich peasants declined and it was the other strata
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of the village who derived the most benefit from cooperation.

While the more prosperous peasantry contributed a disproportionate amount of the savings, the mass of the middle peasants were the ones to take out loans. Loans were limited by law to 300 rubles without collateral and 750 on security;
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interest rates were fixed at a relatively low rate. Thus, the fact that the rich peasants provided most of the deposits and that these were then loaned out to the mass of the members was a positive development. The debtors were hardly falling into debt bondage (especially if they managed to avoid going to the local loan-shark) and the whole phenomenon of credit cooperation represented a redistribution of investment funds. Concerning the membership of credit cooperatives we have several surveys. This one covered 1,928 credit associations nation-wide in 1911 and
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used the national horse census of 1904-6 as a control.

Horses Owned by Cooperative members and the General Population

<u>Category</u>	<u>% cooperative members</u>	<u>% population</u>
Without horses:	10%	34%
1 horse:	26%	38%
2 horses:	33%	20%
3-4 horses:	20%	6%
5 horses or more:	<u>11%</u>	<u>1%</u>
	100%	100%

The table shows that cooperatives had a greater proportion of households well-endowed with horses and a smaller proportion with few horses than did the general population. In other words, cooperative members tended to be significantly richer than the general population, at least in regard to horses. A similar, but slightly weaker, relationship was found in a 1904 survey of credit associations in Kharkov, Taurida and Ekaterinoslav provinces. ⁵⁶ A zemstvo survey of 15,365 credit association members in Ufa province in 1911 uncovered some interesting characteristics. The survey found that the average cooperative member had a larger family than the average peasant farmer, but he owned approximately the same amount of land -- he merely farmed it more intensively (sowed more desiatins) and rented more land. This led Krasilnikov, the local zemstvo analyst, to conclude that cooperative members were "more enterprising" and "more industrious" than the average peasant. ⁵⁷ The Ufa survey showed that in terms of horse-ownership cooperative members were definitely wealthier than the average farmer, but that this tendency weakened over time as increasing numbers of poor and middle peasantry joined up. ⁵⁸ We can see this in the following table. ⁵⁹

Horse-ownership among credit association members in Ufa Province

<u>Group</u>	<u>Percentage in each group</u>	
	<u>1906</u>	<u>1911</u>
Without horses:	2%	4%
1 horse:	16%	28%
2 horses:	29%	32%
3-4 horses:	34%	25%
5 horses or more:	19%	11%
	100%	100%

The table shows that the stronger peasants were the first to join, but that the proportion of members who were middle and poor peasants increased with time. Another analyst, writing in 1913 about agricultural cooperatives in Chernigov province, argued that the cooperatives did not represent a "wager on the strong"; they represented "the working part of the population, the middle and the poor peasants, but only those poor who have their own farm." ⁶⁰ And this can safely be said about most Russian cooperatives, especially since a mass movement of 10 million member households could not help but be dominated by the middle peasantry.

Agricultural Societies

In the following chapters we will be examining the crucial role of cooperatives in Russia's agricultural development. As we shall see, cooperatives advanced agricultural development merely by their own existence, by fulfilling the need for credit, farm supplies and marketing services. But cooperatives were also

linked directly to the agronomists' attempts to disseminate knowledge and improved agricultural technology. To illustrate this relationship and to glimpse the dynamics of cooperative development we can take a look at agricultural societies.

Agricultural societies are not often thought of as cooperatives, since cooperatives are usually assumed to be economic entities and players in the market. We tend to envision agricultural societies as similar to the venerable scientific clubs that played such a large role in promoting English agriculture in the 18th and 19th centuries. In Russia some agricultural societies did fit this image, but the vast majority were quite different. Most Russian agricultural societies were very small and located deep in the Russian countryside; 80% were based in areas that contained only a few villages.⁶¹ Russian agricultural societies were composed overwhelmingly of peasant farmers. A 1912 survey of 95,000 agricultural society members found that in the most common small-scale society, independent peasant small-holders (excluding tenant farmers) constituted 91% of the membership. The remainder of the membership was made up of gentry landowners, tenant farmers, agronomists, philanthropists, scientists, and other members of the provincial intelligentsia.⁶²

The primary aim of the societies was educational: the organization of lectures, courses, expositions, the publishing of periodicals, etc. Consequently, despite the large peasant component, agricultural societies tended to attract the more advanced portion of the population; the 1912 survey found an average literacy rate of 84% (versus a nationwide literacy rate of 28%).⁶³ The leadership of the societies tended to come from

groups outside the peasantry. The following is a survey of 1,283 societies carried out in 1912.

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Social characteristics of Agricultural Society Leadership

<u>Group</u>	<u>% of chairmen</u>	<u>% of secretaries</u>
Peasants:	42%	33%
Landowners:	16%	4%
Clergy:	13%	6%
Teachers:	9%	22%
Land captains, scribes:	4%	11%
Agronomists:	5%	9%
Other:	<u>11%</u>	<u>15%</u>
	100%	100%

We can see from the table that peasants constituted the plurality, but not the majority of agricultural society chairmen and secretaries. Interestingly, members of the gentry and the clergy often took up posts as chairmen, but worked as secretaries relatively rarely. Conversely, teachers, land captains, scribes and agronomists were rarely agricultural society chairmen, but often served as secretaries.

The weakness of the agricultural societies was financial. Self-financing could come from either membership fees or payments for business services; membership fees were limited (4% of societies' revenues, according to one survey) in the interests of not excluding the majority of the population, while commissions for agricultural services were also kept down (23% of societies' revenues) in order to make them as widely accessible as

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possible. That meant that over half of the societies' revenues came from subsidies or loans provided by the Ministry of

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Agriculture, the zemstvos or private patrons.

The agricultural societies' financial dependency did not prevent them from growing rapidly and playing an important economic role in their locality. With time, the financial dependency presumably decreased -- the data above refers to 1911, when agricultural societies were in their initial stage of development. That agricultural societies were not just hollow, state-subsidized institutions is indicated by their rapid growth, as we can see from the following table.

<u>Agricultural societies in Russia</u>	
<u>Year</u>	<u>Number of Societies</u>
<u>as of 31 Dec.</u>	
1895	175
1901	268
1907	1,275
1913	3,000
1916	6,000

By the end of 1916, agricultural societies included 430,000 paid-up members and could boast of an annual turnover of an estimated 60 million rubles. Agricultural societies spread very quickly -- three new societies a day after 1913 -- and thus proved their financial viability and their suitability for Russian agricultural conditions. Another reason to think that agricultural societies were increasingly gaining financial strength was the growth in their various educational and commercial services, some provided free, others for a fee. By 1914, agricultural societies boasted 66 experimental and research facilities and 20 agricultural schools, not to mention a multitude of courses and lectures. They were, in the words of one sympathetic observer, primarily "propaganda institutions."

Agronomists liked agricultural societies for being a point of contact with the population and the fact that they were organizations which united people with common economic interests and entrepreneurial impulses. This was the view of one of the agronomists speaking at the Ekaterinoslav Congress, for instance. But, he argued, in view of the backwardness of most of the population, agricultural societies can't limit themselves to educational functions, but must provide visible material benefits for their members: cooperative procurement of farm supplies, marketing services and consultation services. Zemstvos should help agricultural societies by subsidizing their projects and jointly planning a program of agronomic aid. ⁷¹ With or without zemstvo support, the majority of agricultural societies (79%) in fact became involved in economic operations. ⁷² One publication mentioned that in 1915 agricultural societies operated 1,151 demonstration fields, 1,231 stud farms, 1,260 libraries, 1,454 machine rental stations, 1,030 seed cleaning stations, 806 agricultural depots, and so on. ⁷³ The involvement of agricultural societies in these kinds of activities may have been even more extensive. A 1916 survey of 2,977 societies found that they ran ⁷⁴ the following operations:

demonstration fields.....	1,454	societies
stud farms.....	1,340	societies
libraries.....	1,260	societies
machine rental stations.....	1,044	societies
schools, museums, bookshops.....	203	societies

Agricultural societies were most widely developed in Polta-

va, where they numbered over 300 by 1915.⁷⁵ A 1911 survey of 45 agricultural societies in Poltava found that they had 504 model fields. A survey of 187 societies a year later revealed that over the course of the year they had organized 1,008 lectures attended by a total of 49,410 listeners. 133 societies had libraries, containing a total of 29,696 books. 35 agricultural expositions were organized by societies in 1912 (some attended by up to 10,000 visitors). 234 societies operated machine rental stations, offering 2,083 pieces of equipment and 174 societies ran seed-cleaning operations, which were used by 20,046 farmers over the course of the year.⁷⁶

Another telling example is the Shumilin Agricultural Society founded in the Don Territory in 1905. Though average in size by Russian standards, this society proved itself remarkably active, at least by local newspaper accounts. By 1911, it had offices in the town square: a two-story building, which it it shared with the local consumer society. The society offered the usual seed-cleaning, farm supply and livestock breeding services, but it also organized expositions, demonstration fields, and employed two agronomists. Since this was horse and cossack country, the Shumilin ran a veterinary station, staffed by a veterinary assistant. Like many other agricultural societies, the Shumilin society also took it upon itself to promote local economic interests. It successfully petitioned the government for money to open a basket-weaving school, a rest home, and a post office; it also convinced the provincial authorities to build a bridge over the local Peskovatka river.⁷⁷

Often an agricultural society's commercial operations, if

successful, won it popularity and trust among the population. But if commercial operations grew too extensive, the agricultural society often organized other cooperatives to do the job -- credit cooperatives, consumer societies or dairy associations. The 1912 Ministry of Agriculture survey found that almost 30% of agricultural societies had started new cooperatives. 45% had either financial ties or were running joint projects with other cooperatives. ⁷⁸ Sometimes agricultural societies would play the role of a cooperative union, coordinating the activities of all the cooperatives of the area. These so-called Central Agricultural Societies played an important role in Vitebsk, Riga St. Petersburg, Pskov, Vladimir and Kostroma.

The largest agricultural societies represented the interests of Russian agriculture to the central government, organizing national congresses, lobbying for changes in laws, railroad rates and tariffs. The most important such organization undoubtedly was the venerable Moscow Committee on Rural Credit and Industrial Societies (otherwise known as the Moscow Agricultural Society), along with its St. Petersburg branch. Apart from publishing several very influential periodicals, the Moscow Agricultural Society was instrumental in drafting the model laws for the first Raiffeisen credit cooperatives (credit associations) and the Moscow Peoples Bank. The Kharkov Agricultural Society was also very important, running a farm supply operation which recorded 700,000 rubles of sales in 1912, boasting an impressive research center and several agronomists on the staff, and maintaining an office in Minneapolis. Other, more specialized agricultural societies such as the Imperial Poultry-Rearing Society were

active in the technological advancement of their respective
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branches of agriculture.

This gives some idea of the breadth of activities organized by agricultural societies. Their value for agronomists and their influence on Russia's agricultural development was significant. Yet, they were not even the dominant type of rural cooperative. That honor belonged to the credit cooperative.

CHAPTER EIGHT
COOPERATION AND CREDIT

Credit cooperatives were the lynchpin of the cooperative movement. They were the most numerous form of rural cooperative and by far the strongest economically. The emergence of the new Russian farmer -- specifically the success of land settlement and agronomic measures -- depended on the ability of the peasant farmer to invest in his farming system. There was only so far that either government or zemstvo subsidies could go in financing agricultural innovation. The solution was to mobilize existing peasant savings and establish a rural banking system, which would provide a real interest rate on savings, while giving farmers access to cheap credit. Given the proper market mechanisms, this would set in motion the great capitalist phenomenon of multiplying a small amount of initial funds into a large capital base. The importance of credit in any program of agricultural development was underlined by Chuprov in 1906:

Only through the broad development of easily accessible credit... can we explain the amazing speed of the technological transformation of the German or Italian village. The example of the West clearly shows that without the organization of a mass credit system, which is both broadly-based and expedient in form, it's not possible to even think of any successful large-scale changes in farming.

In this chapter we will examine the importance of credit to the peasant economy and the impact of the rise of credit cooperatives. We will trace the evolution of these institutions

from their beginnings as fragile organizations dependent on the guidance of the inspectors of small credit or some other members of the rural intelligentsia, to a powerful network headed by regional and national credit unions, wielding significant clout in the national economy.

Importance of Credit in Agriculture

For a farmer, a large proportion of his assets are fixed -- in the form of land and buildings; this is especially true when there is a low degree of agricultural mechanization, and hence a low degree of investment in equipment and other moveable resources. The importance of his fixed assets means that the farmer often needs long-term credit; in Russia, the peasants received such long-term credit from the Government in the 1861 Emancipation settlement and, later, from the Peasant Land Bank. In addition to large fixed investments in property and buildings, the farmer commonly makes numerous medium- and short-term investments. He makes a several-year investment in livestock or a piece of equipment and he makes a half-year investment in seeds, fertilizers or hired labor during the work season. Since the farmer faces a lag time of six months or more between his expenditure and the return, he often needs credit to tide him over the dry period. If medium- or short-term credit is difficult to obtain, the farmer is forced to pay extortionate interest rates for his farm supplies or sell his produce immediately on a soft market.

In Russia at the end of the 19th century, as the self-sufficiency of the peasant economy was eroding and rural production was becoming increasingly commercialized, the peasantry experienced a sharp money shortage.² The need for credit became acute, with demand far outstripping supply. A new generation of loan sharks and money lenders arose, spreading throughout the countryside and charging interest rates as high as 40%.³ The most common form of credit was provided by shop-keepers, who sold the necessary consumer goods, loaned out money and charged steep interest rates on peasant accounts. After the harvest the shop-keepers/moneylenders would often act as grain merchants, taking a hefty commission on marketing peasant produce. These were the kulaks, the infamous bogeymen of Soviet propaganda.

Everybody agreed that the interest charged by private lenders in the countryside was extortionate. Peasant farmers were hemorrhaging money in the form of interest payments and income lost to middlemen and financiers. An alarming number of peasants were falling into debt bondage to the local kulak. The question was what to do about it. At first, the government took an administrative approach, trying to enforce a law limiting interest rates to 12%. This did not work. The demand for credit was so high that both peasants and money-lenders conspired in sidestepping the regulations.⁴

The government's impulse to cap interest rates by administrative fiat was misguided, since it did not go to the root of the problem. The problem was not high interest rates or the existence of unscrupulous money-lenders -- it was the shortage of rural credit. Kulak credit was the lesser of two

evils, the greater evil being the absence of any credit whatsoever. The peasant chose to go to the moneylender because he had to. As a later generation of agricultural economists would point out, the private moneylender was not such an evil figure as he was made out to be. His money was available, whereas government or cooperative loans were not. The high interest rates reflected real factors of risk and demand. If the Russian government had succeeded in imposing a ceiling on rural interest rates, the consequence would have been either capital flight from the peasant economy or the concentration of capital as moneylenders understandably chose to deal only with the safest borrowers. The best solution, as Nikolai Bukharin was to note in the 1920's, was to fight extortionate kulaks and middlemen by outcompeting them on the market. Rather than driving away the peasants' only available source of credit, one had to provide an alternative. In Stolypin's Russia such an alternative emerged: a broad-ranging network of credit cooperatives.

A well developed system of credit cooperation helped the peasantry in several ways:

First, credit cooperatives, with their short-term loans at 11% or 12% interest, drove down kulak interest rates by providing an alternative source of credit.

Second, credit cooperatives played an integral role in the process of commercialization of the peasant economy. Since they relied on mobilizing existing peasant savings, credit cooperatives could develop only where a commercialized rural economy had already arisen. But by rewarding savings accumulation and providing cheap credit, they also encouraged the process of

commercialization. Previously, if the peasant farmer accumulated any cash savings, he was likely to hide them in his mattress, in which case the money went out of circulation both for him and for the national economy. If he was willing to travel to the nearest city, the peasant farmer could deposit his savings in a commercial bank in order to earn interest, but in that case his money would probably be reinvested in the urban economy. The virtue of credit cooperatives was not only that they provided peasants with a convenient place to deposit their savings and earn interest, but also that the savings would be reinvested precisely where they were needed most: back into the peasant economy.

Third, while credit cooperation encouraged the process of commercialization in the peasant economy, it also enabled peasant households to pursue a more profitable budget strategy. The accessibility of cheap credit allowed the peasant farmer to hold off on marketing his harvest until prices were higher later in the year; he could also purchase farm supplies at a moment when prices were lowest, without waiting to have the cash in hand. This was no small gain. The price of a horse, for example, was almost 45% higher in April than it was in December.⁷ The monthly fluctuations of grain prices were equally significant and the ability of the peasant to hold off on marketing his goods effectively raised his income considerably.

Finally, credit cooperatives were a channel enabling peasants to tap outside sources of capital, from government funds⁸ to private investments. One agronomist explained the process:

Each medium farmer, if taken alone, constitutes a very small financial unit. If you add up all his property, you find it is not worth much -- perhaps 1,000 rubles. When you combine several such farmers, say 100 people, then their combined property is worth 100,000 rubles, already a sizeable sum. Against such a security it is possible to give a lot of money. Furthermore, to lend money to an individual, especially if one doesn't know him very well, is dangerous, but to lend to a hundred people, especially if they vouch for each other, is perfectly feasible.

The Cooperation of Credit

At the beginning of the century, the Russian village was notoriously poor and short of capital. It was in arrears on taxes and redemption payments, and heavily in debt to merchants and money-lenders. Who would have thought in 1906 that ten years later the Russian village would have constructed a rural banking system with over a billion rubles in assets. This development was nothing short of spectacular. Perhaps it was due to the general economic renaissance of the Russian village. But it is symptomatic that while credit cooperatives spread to every corner of Russia and multiplied their assets almost 20 times over in the period 1905-16, the Ministry of Internal Affairs' response to the rural credit problem -- the peasant estate banks -- continued to number around 5,000 and only managed to triple their assets in this time. Evidently, the development of a credit system in peasant Russia was intimately linked to the particular advantages of cooperative credit.

Developing a cooperative credit system was by no means a simple process. As the agronomist Minin remarked, cooperatives

were caught up in a vicious circle based on the poverty of the rural population. The lack of capital in the countryside meant that rural cooperatives were initially very weak financially and this financial weakness damaged their credibility in the eyes of the peasants, who hesitated to invest their precious savings in unproven institutions. If credit cooperatives didn't receive a large dose of start-up capital from the outside, therefore, they were doomed to slow and painful development.¹¹ This had been the fate of the savings and loan associations (ssudo-sberegatelnye tovarishchestva), which relied on shareholders' equity for their base capital. Since the savings and loan associations had to charge a hefty sum for shares or membership fees (usually about 50 rubles), the organizations tended to be limited to the wealthiest peasants, merchants and town dwellers. Not surprisingly, the growth of savings and loan associations in the period 1895-1916 was steady, but not spectacular.

The explosive growth of credit cooperation after 1905 undoubtedly reflected at least to some degree the general economic upsurge accompanying the Stolypin reform, but it was also due to the success of a new model of credit cooperative: the so-called credit association (kreditnoe tovarishchestvo). If Russian credit cooperation had been limited to savings and loan associations, it would not have emerged as an important national phenomenon. But the credit associations, which were first set up in 1895 on the model of the Raiffeisen cooperatives in Germany, enabled credit cooperation to develop into an impressive mass movement. Instead of obtaining their start-up capital by issuing shares to the public, credit associations usually borrowed the

necessary amount from the State Bank, the zemstvos or some private lender. With outside investors priming the pump, credit associations could be established in even the most poverty-stricken areas. There were other characteristics that made credit associations especially accessible to the majority of the peasant population. Membership was contingent not on the purchase of shares, but on entry fees of usually not more than five rubles. Loans were made not on collateral, but on trust; a peasant did not need to have substantial commercial property to secure a loan -- he only needed one or two members of the cooperative to vouch for him. Because of the provision for outside start-up capital, the low cost of membership and the ease with which one could take out loans, credit associations proved to be the ideal form of cooperative bank for peasant Russia.

In the decade following the establishment of the first credit association, however, the new institutions grew rather slowly. By 1905, there were only about 800 credit associations with several hundred thousand members. In view of such modest progress, the government decided to revise the statute on credit associations in 1904. According to the new statute, the State Bank was encouraged to play a greater role in financing credit associations and a new corps of functionaries -- inspectors of small credit -- were established to help organize the credit associations. The powers of credit associations were expanded: they were now allowed to engage in trading operations and to form regional credit unions. The new statute was hardly a few months old before Russia plunged into anarchy. During the revolution of 1905, credit cooperatives found themselves squeezed from all

sides: both from the side of the government and from the side of the revolutionaries. They suffered from the rash of bank robberies and brigandage (or "expropriations") that occurred at this time, though, as peasant cooperatives, they tended to be victimized less than other types of banks.¹² Since many credit cooperatives had participated in the Liberation Movement, they were also subjected to some government repression, mostly in the form of prohibitions of cooperative congresses and the formation of credit unions. By 1911, even these relatively modest repressions ended, and the government approved 5 additional credit unions and the creation of a central cooperative bank, the Moscow Narodny Bank.

Though theoretically credit associations could receive their start-up capital from the zemstvos or from private sources, in practice the bulk of the capitalization came from the State Bank. The average State Bank loan to a credit association was from 3,000 to 10,000 rubles at 5% interest. Since the State Bank eventually came to invest a substantial amount of money in the credit associations -- 86 million rubles in 1915 alone -- it was understandable that it should insist on retaining considerable auditing and oversight powers. These functions were carried out by inspectors of small credit. The inspectors, who numbered about 400 in 1912, operated out of provincial or district town, acting as "curators" to the associations, auditing their books and approving major questions of policy.¹³ They were empowered to investigate associations at any time, to see that they complied with the law and their own by-laws, to call general meetings at any time and to suspend elected officers whenever abuses were

discovered. Tugan-Baranovsky observed that "in the person of the inspector of small credit, each association had a chief or, more specifically, a guardian, who guided almost every step of the association."¹⁴

The activism of the small credit inspectors in travelling the Russian countryside, helping to organize credit associations and getting them approved by the Ministry of Finance undoubtedly had a great influence on the rapid growth of rural credit cooperation. Even more important was the inspectors' role as auditors. For a credit institution, a system of reliable auditing of accounts is essential in maintaining the trust of the depositors and investors. With their knowledge of accounting and of how to enter the market or deal with the government bureaucracy, the inspectors proved of continuing value to the cooperatives -- "like spectacles for a man with poor vision,"¹⁵ observed one cooperative board member. The inspectors also provided a valuable service to the cooperatives by generally representing their interests to the central government -- possibly one reason why credit associations were persecuted so much less than other types of cooperatives.

Were credit associations, then, only an extension of the State Bank and the Ministry of Finance? Hardly. The government's capitalization of thousands of credit associations, for instance, was not a very expensive operation. Government loans played an important role in supporting credit associations, especially in the early years of their existence, but as credit associations grew more profitable and attracted more peasant savings, government loans shrank to under 10% of the cooperatives' capital

by 1916.¹⁶ This hardly represented a condition of subsidy addiction. Nor did the government suffer any net loss on the operation. Up until 1911, for example, the State Bank earned almost 6 million rubles in interest on its capitalization of credit associations, while losing only 400,000 rubles on bad loans.¹⁷

Credit associations succeeded because they were accessible to the majority of the population and were based on the use of local assets. Considering the poverty of the peasant economy, credit associations proved surprisingly healthy financially. Out of the 10,000 credit associations in existence between 1905 and 1914, only 79 failed, though 10% were listed as "hopeless" and effectively insolvent.¹⁸ This is an impressive rate of success. Neither bad harvests nor the occasional case of fraud, it seems, could stop the growth of rural credit cooperatives. The total number of credit cooperatives is shown below.¹⁹

<u>Year end</u>	<u>Number</u>	<u>Credit Cooperatives 1895-1916</u>	
		<u>Members</u>	<u>Deposits (Rubles)</u>
1895	724	200,000	9,300,000
1900	783	300,000	13,800,000
1905	1,680	729,107	37,500,000
1910	6,693	3,447,035	150,600,000
1914	14,586	9,475,412	404,800,000
1916	16,261	10,478,000	682,300,000

In the ten years up to 1916, an average of over a thousand new credit cooperatives were established every year. The fastest numerical and membership growth took place among the credit associations. In 1905 there were about 800 credit associations; by 1916 they numbered about 12,000 with over 8 million members.²⁰ Out of the membership of all the credit cooperatives, 16% were

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town-dwellers (mostly in the savings and loan associations). That meant that in 1916, fully 8.8 million credit cooperative members were rural inhabitants. Assuming that each member accounted for a family of six, rural credit cooperatives serviced a population of 53 million, almost half the rural population. It is interesting to compare this rapid growth with the fate of the traditional peasant estate banks operated by the Ministry of Internal Affairs: between 1905 and 1916, their membership held steady at 2.4 million, while deposits increased from 22 million rubles to 74 million rubles.

The Structure and Operations of Credit Cooperatives

The regions where credit cooperation was most developed -- central and southern Russia, the Urals and Western Siberia -- also had the largest average size of cooperative. The Directorate of Small Credit reported in 1911 that almost 60% of credit associations had more than a thousand members. This contrasts sharply with the average membership of the Raiffeisen-type credit cooperatives throughout most of Western Europe, which rarely exceeded 90 or 100. The reason lay in the greater wealth of the average depositor in the German credit cooperative: according to one estimate, the average German depositor accounted for 700 rubles of turnover capital in his cooperative, compared with the Russian depositor's 75 rubles. Thus, the large size of Russian credit cooperatives was necessary to concentrate scarce

administrative and financial resources; it lowered overhead costs and increased financial security. But it was bound to have some deleterious effects.

The credit association relied completely on the personal knowledge it had of its debtors -- the peasant's trustworthiness was his collateral. Russian credit associations must have found it difficult both to gain a personal knowledge of a debtor's trustworthiness and to ensure that the loan was used properly for productive purposes. Consequently, it would come as no surprise if the Russian credit associations were painstakingly cautious in dispensing loans. One economist found that the larger the region covered by the cooperative, the smaller the proportion of the population that would become members. The peasant would hesitate to travel long distances to join the cooperative, while the cooperative, not having personal knowledge of the applicant, would be much more hesitant in accepting new members.

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Not all peasants were served equally with credit. The more land, capital and labor a farm had, the larger the loan it was able to receive. The further a farm was from the cooperative, the less likely it was to be a member and if so, the less likely it was to receive a large loan. Statistical data showed that this tendency was especially prevalent with respect to the smaller peasant farms -- for a small farm, it was crucial to be close to the cooperative.

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The large size of the credit cooperatives had political implications as well. The larger credit cooperatives inevitably had to substitute a meeting of representatives for the general meeting of all members, with the result that the majority of

members often did not participate in the affairs of the cooperative except to elect delegates. Thus, the peasant members would miss out on that valuable educational benefit of cooperation -- an introduction to democratic procedure and self-reliance -- while the cooperative would inevitably suffer from the lack of participatory spirit among the rank and file. ²⁸ Although those Soviet authors who ascribe the large size of credit cooperatives to the deliberate, cynical calculation of the "kulaks" to concentrate power in the hands of the board ²⁹ are probably mystifying the issue, there is no doubt that large cooperatives suffered from a certain bureaucratization.

It was especially hard to mobilize the hidden savings of the peasantry in the first years of the cooperative's existence. It was hard enough for the peasant to scrape together any savings at all and it was certainly ambitious to expect him to stop burying the money in the yard and deposit it in some newly-established institution. This is why the very number of credit cooperatives and their membership was an important indicator of the movement's development, even if the amount of money deposited was minimal. After the cooperatives proved themselves over a period of a few years, deposits could be expected to pour in. That the cooperatives had gained the trust of the peasantry on a mass scale on the eve of the war can be seen from the influx of deposits during the war itself. As credit cooperatives established themselves in rural society, they received the lion's share of rural savings. Prokopovich estimated that in 1913-14, cooperatives received 47% ³⁰ of the new rural savings.

The cooperatives offered 6-7% interest on savings accounts,

but charged 10-11% on loans. Both these rates were quite high, especially for an environment of almost zero inflation. But what was even more extraordinary was the 4% spread between the interest on the deposits and the loans; this was much higher than the 0.5% spread in German cooperatives, for instance, and indicated the high risks of lending to peasant farmers.³¹ How can one explain the rapid growth of deposits in the credit cooperatives? Undoubtedly this was due in large part to the general economic renaissance of the Russian village after 1906 and to the increasing acceptance of credit cooperatives by the local population. Some Soviet authors, however, attempted to explain this phenomenon by the increasing participation of the wealthier elements of the village in the cooperatives.³² It is true that 32% of the members accounted for 61% of the deposits, in other words that the cooperatives relied heavily on the money of the wealthier peasants for their financial stability.³³

This did not mean that credit cooperatives were an instrument of the kulaks. While the more prosperous peasantry contributed a disproportionate amount of the savings, it was the rest of the members who accounted for most of the borrowing. In other words, the credit cooperatives gave the medium peasants access to capital (consisting of the deposits of richer peasants) at much lower interest rates than if that money had been borrowed on the private market. As one State Bank official argued at a Congress of Small Credit in Orel province: "If a member deposits say 2,000 rubles, then such a member will have no reason to apply for a loan of any significant size. You should try to attract precisely these kinds of members. Then your deposits will grow

and you will work with money entrusted to you by the population.
You will become self-sufficient." ³⁴ This view was supported by a credit inspector who said, "It would be very good if you have more of these kinds of members who save. They are not the ones to whom the doors of the credit association should be shut; the doors should be shut to that hungry mob which is crawling from everywhere into the association. 'Loan me 50 rubles, I have sold my last head of cattle.' These people should be pitied and can be given charity, but lending to them would be unwise." ³⁵ Similarly, the Moscow Congress of Cooperative Credit in 1911 agreed that "the main condition for the success of the associations is the participation of as many prosperous members as possible." ³⁶

The attraction of the monied elements of the village was an important factor in the financial strength of rural credit cooperatives. Another factor was the low incidence of defaults. One of the main reasons for this was peer pressure, since loan applicants had to get a third party to vouch for them. The sponsor of the loan was hardly going to take this responsibility lightly since all the members were interested in the financial health of the cooperative. Some historians mention a few cases in which cooperatives had to turn to the zemstvos, police or land captains to help them collect on loans, but the main force seems to have been the collective responsibility and self-interest inherent in the cooperative organization. ³⁷

An even more important reason for the low default rate was the cooperatives' policy of "strictly ascertaining the reason for the loan and supervizing its investment." ³⁸ Cooperative loans were meant only to be used for raising production, not for the

peasant's immediate consumer needs. This had been the policy since the enactment of the 1896 statute and was stated even more unambiguously in the revised version of 1904. The rationale was sound. Only investment in improved production would raise the peasant's standard of living and ensure repayment. As one economist pointed out, if loans were not used productively (merely to cover consumption expenses in a bad year, for instance) the credit cooperative would turn into yet another instrument imposing debt bondage on the peasantry. ³⁹ The productive use of loans was one of the rules strictly enforced by the inspectors of small credit. Presumably word of how the loan was used got back to the credit association through the social grapevine. Was the money drunk away or did it go to buy a horse -- the neighbors were sure to know.

But as Prokopovich reminds us, under conditions of the not-fully-capitalist peasant economy, it was often difficult to distinguish household (personal consumption) expenditure from production investment. ⁴⁰ In practice, it was also very difficult to supervise the way in which loans were used, especially in the larger cooperatives where members did not know each other very well. There was little to prevent a member from applying for a loan to buy improved seed grain for instance, and then using it to buy flour for winter consumption. Nor was strict supervision an unambiguous good. A survey of Iaroslavl cooperatives quoted the opinion of one cooperative representative that strict supervision of the proper use of loans was neither practicable nor desirable. It would mean "imposing a nanny on the debtor, distrusting him, and demeaning his human dignity," the cooperator

said. He pointed out that such tutelage had never benefitted the peasant in the past and was unlikely to do so now.

In order to minimize the risk of cooperative loans and ensure that they would be accessible to the maximum number of members the government fixed a limit on the size of the loans that could be given out: 1,000 rubles for a loan on collateral (usually in the loans-savings associations) and 300 rubles for a non-secured loan. In practice, the average loan was much smaller, though it increased as both commercial farming and credit cooperation matured. The average indebtedness was 197 rubles in the savings and loan associations and only 62 rubles in the credit associations. The loans were predominantly short-term (with a term of up to one year), but the proportion of long-term loans (3-5 years) was increasing, representing 42% of all loans by 1914. Not surprisingly, the larger the peasant's family, horse-ownership and fixed capital, the higher was his creditworthiness and the larger the sum loaned to him by the credit cooperative. But the limits set upon the size of the loans ensured that this discrepancy would not be very great.

The small loans provided by the credit cooperatives did not eliminate the credit squeeze in the village and usually had to be supplemented with borrowings from private sources if the credit were to be used for anything more than an incremental change to the peasant's farming system. In 1906, as we can see from the table below, 26% of cooperative loans were used unproductively or outside the farm; by 1913, this portion had sunk to 14%.

How Credit Cooperative Loans were Used

<u>Purpose</u>	<u>1906</u>	<u>1913</u>
<u>Productive investments:</u>		
Livestock and fodder	26%	23%
Purchase and rental of land	19%	26%
Construction	11%	11%
Farm supplies	8%	10%
Handicrafts supplies	7%	7%
Hiring of labor	2%	3%
<u>Unproductive or non-farm investments:</u>		
Purchase of goods for retail	12%	7%
Personal consumption	9%	5%
Debt repayment	5%	2%

The opportunity to rent an extra piece of land or buy an extra horse or piece of equipment predictably served to improve peasant agricultural production. The one statistical examination we have -- a survey of 229,000 credit association members carried out by the Finance Ministry's Directorate of Small Credit in 1911 -- indicates that peasant farmers became considerably richer as a result of their membership in a credit association. The table below shows the condition of the cooperative members in 1911, as compared to when they first joined the cooperative (probably not more than 5 years earlier, on average).
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Effect of Credit Association Membership on Peasant Farmers

	<u>upon entry</u>	<u>1911</u>
desiatines sown	8.1	9.4
heads of working cattle	2.2	2.5
heads of dairy cattle	1.7	1.9

According to the table above, peasant farmers' land-

ownership and livestock ownership both improved as a result of their membership in credit associations. This is especially significant when one recalls that the amount of land and the number of both horses and dairy cattle per peasant household were all declining in this period. The foregoing survey reinforces the reasonable conclusion that the establishment of such an effective rural banking system as Russia's network of credit cooperatives greatly aided the general development of the nation's agriculture.

Credit Cooperatives and the Growth of Cooperative Unions

The growth of new credit cooperatives peaked in 1912, and declined slowly thereafter. The Department of Small Credit attributed this to a saturation of many parts of Russia with credit cooperatives. Many cooperators, however, argued that credit cooperation had reached a dead end. If it was to develop any further, credit cooperation needed unions. There could be little further progress in developing either cooperative credit or cooperative trade in depth without higher level cooperative organizations -- either secondary level unions (uniting one or more provinces) or tertiary level unions (uniting whole regions or the country as a whole). Since credit cooperation was the best developed branch of the cooperative movement, it would be here that unification would first develop.

Credit cooperative balance books were affected by the highly

cyclical nature of peasant savings. Peasant members all needed loans at approximately the same time of year -- in the spring -- and would receive their revenue half a year later -- autumn and early winter. Credit cooperatives needed outside funds to tide them through the financial dry season. They needed extra cash to cover their loans during the work season and they needed somewhere to invest savings during the winter. Many local cooperatives suffered from liquidity shortages. Others, especially those in the Baltic, had an excess of deposits. But there was no cross-regional organization to distribute these funds, no union to bring together buyer and seller. Under these conditions both parties suffered -- one because it had insufficient funds and the other because it had to pay its depositors an interest rate while receiving a smaller rate of return by keeping the funds or investing them in the money market. Credit unions could prevent this outflow of funds from the credit cooperatives to the commercial banks, as well as help organize new cooperatives and provide consultation and trading services. With truly "cooperative" logic, Tugan-Baranovsky states that credit unions "wholly retained the advantages of the localization of credit associations, but eliminated the disadvantages of the credit institutions' small size."

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While the government was relatively indulgent towards allowing local credit cooperatives to participate in the country's agricultural development, it regarded any cooperative union with undisguised suspicion. Unions, especially a national union, would "crown the edifice" of cooperation, and rival the government on the national stage. Even after the law of 1904

permitted cooperative unions, the government constrained their development with innumerable bureaucratic obstacles. Before even the smallest union could be legalized, for instance, it was necessary to obtain a report from the Minister of Finance, a decree from the Council of Ministers, and approval from the Emperor. As a result some unions had to wait as long as six years for approval. In order to get around the government's restrictions on unification, the cooperative movement improvised substitutes. Often a strong local agricultural society would take on the role of a cooperative union, providing leadership and trading services for the cooperatives in their region. The law of 1904 permitted another type of "substitute credit union": the zemstvo fund of small credit. By 1913, 167 such institutions had been set up, with a combined balance of 59 million rubles. About half of this money was loaned to various cooperatives, while the rest went for loans to individuals.

The average zemstvo fund was not very large. In 1913, only 13 out of the 167 zemstvo funds had balances of over 1 million rubles; the rest were not much larger than a big credit association.⁵³ Usually run by the district agronomist or some other responsible zemstvo employee, the zemstvo fund often played a valuable role in the cooperative movement. By 1917, for instance, zemstvo funds had financed the creation of more than 500 credit cooperatives, but the bulk of this activity was undertaken by a minority of especially active zemstvos. In any case, the zemstvo funds of small credit could not make up for the lack of genuine credit unions. Unlike credit cooperatives, zemstvo funds of small credit were not run by the people who used them and consequently

did not elicit the self-interest of the local population. The peasants reportedly regarded the zemstvo funds merely as sources of government funds and tried to fleece them for all they were worth.⁵⁴

Otherwise, credit cooperatives could turn to the State Bank or to commercial banks for financing. The State Bank played the largest role in this sense, since the provision of credit cooperatives' start-up capital was one of its mandates. The Bank could make further loans to cooperatives, but only on condition that credit cooperatives clear all debt from their books at least once a year.⁵⁵ The sources of credit for credit cooperatives is shown in the table below:⁵⁶

Borrowing by Credit Cooperatives as of 31 December, 1913

State Bank	57,175,000
Zemstvos	29,817,000
Private individuals and organizations	9,877,000
Various Institution of Small Credit	6,122,000
Private and Cooperative Banks	<u>5,853,000</u>
	108,845,000

But cooperatives needed their own higher-level institutions. Both the zemstvos and the local cooperatives continually spoke of the need for such unification.⁵⁷ The trend towards greater unification is evident in the growing number of provincial or regional cooperative congresses. The number of congresses held every year grew from just 6 in 1906, to 21 in 1910, to 81 in 1913.⁵⁸ Three national cooperative congresses were also held: the first -- in Moscow in 1908 -- proved politically too radical and was dispersed by the police; the second -- held in St. Petersburg

in 1912 -- excluded consumer societies; and the third, which was successful in all respects, was held in Kiev in 1913. The need for cooperative unions and cooperative trading operations came up at every cooperative congress. ⁵⁹ It was a sign of the times that by the time the Third National Cooperative Congress convened in 1913, the question of unification had evolved to such a degree that now the main issue concerned the form a national cooperative union should take. (Representatives from the South pushed for a loosely federated structure, while those from the Moscow area ⁶⁰ pushed for greater centralization.)

The government, however, refused to ratify all but a few regional unions before 1914. Only the strain of wartime and the need to accept cooperative help in alleviating the goods crisis induced the government to ease its cumbersome regulations. Consequently, credit unions which had numbered just 2 in 1905 and even in 1914 numbered only 11, rose to 83 in the first two years ⁶¹ of the war. Most of these new organizations were relatively small, representing on average about 52 cooperatives and 40,000 households. The cooperatives which joined the unions tended to be the stronger organizations with larger financial resources and ⁶² better developed trading operations. Even by 1916, therefore, cooperative unification was still in its incubation stage.

On the national level, ironically, cooperative unions met with a more favorable response. The Moscow Union of Consumer Societies had been established in 1898; in 1908 the Shaniavsky People's University was inaugurated to serve as a national institution dedicated to the cause of cooperation, while the Union of Siberian Dairy Associations was established and began

its rise to national and international prominence. All cooperatives could benefit from the establishment of a central cooperative bank to accept deposits and make loans and this idea was brought up at the First Congress of Consumer Societies in 1896 and at the Congress of Savings and Loan Associations in 1898. The government was reluctant to permit such an institution. At the 1908 Cooperative Congress, government representatives were irked when the congress flatly refused to ratify plans for a national cooperative bank closely tied to the State Bank.

Despite these constraints, the Moscow Narodny Bank opened its doors in 1912 as a public corporation financed purely by cooperatives and by selected individual "friends of cooperation." The forebodings of some cooperators did not materialize. The Bank successfully issued 2 million rubles worth of shares by 1914. Not only was the Moscow Narodny Bank able to find two million rubles of share capital from purely cooperative sources, it also managed to attract an enormous influx of deposits, achieving an impressive rate of financial expansion as can be seen below.

Operations of the Moscow Peoples Bank (in thousands of rubles)

<u>Year</u>	<u>Share and reserve capital</u>	<u>Deposits</u>	<u>All liabilities as of January 1</u>	<u>Annual turnover</u>
1912	1,000	660	2,300	22,700
1913	1,000	2,260	4,300	53,600
1914	2,000	3,800	8,400	110,200
1915	2,020	10,900	27,600	243,200
1916	2,090	36,800	83,800	1,188,400
1917	10,470	153,300	321,000	5,823,500

What a triumph the establishment of the Moscow Narodny Bank

must have seemed to cooperators. Here was credit cooperation emerging from the villages, often in spite of government opposition, to assert its growing financial autonomy and its national significance. At the very time when credit unions and the Moscow Narodny Bank were asserting their financial viability in Russia, similar institutions in Germany were collapsing in bankruptcy and scandal. When the Central Bank of German credit associations tried to develop greater autonomy from the government in 1911, the latter reacted forcefully and withdrew all its funds from the Bank. This brought the Central Bank near bankruptcy, which it managed to avoid only by giving up its financial independence and merging with the Dresden Commercial Bank. At the same time, Germany cooperators were shocked to hear of one of the country's most important cooperative unions collapsing amidst a financial scandal which landed several executives in jail. Finally, the heaviest blow to the German cooperative movement came in 1913 with the financial collapse of the German counterpart to the Moscow Peoples Bank, the Imperial Cooperative Agricultural Bank.

"Worst of all," writes Tugan Baranovsky, "was that the Imperial Bank, like many other (cooperative) credit institutions... had essentially abandoned its duty to serve the development of peasant small credit and gradually acquired the nature of an everyday commercial bank. The Bank invested a large part of its working capital into the capitalist Agricultural Credit Bank. In fact, these two institutions became practically indistinguishable."⁶⁴

The lessons to be learned from the German experience are

two-fold: firstly, that credit cooperation, no matter how large its financial resources, remains dependent on the government; and secondly, that at a certain level of development, cooperative credit becomes coopted into the capitalist money market -- cooperative banks, instead of distributing their financial resources, among the peasants and the cooperatives, begin to pump money out of the peasant economy into commercial banks and the state treasury. But when this transition began to take place, it could be seen as the final sign that cooperation had come of age.

Credit Cooperatives during the War

With the mid-summer harvest of 1914 came the Great War. At first the war proved a shock to the credit cooperatives. There was a run on all the banks, including credit cooperatives, which was overcome only with some difficulty. ⁶⁵ Most of the export markets for Russian agricultural products were closed off and even the transportation network linking the domestic market began to break down. Many of the cooperatives' book-keepers and managers (not to mention millions of peasant farmers) were called to arms. But Russia's peasant farmers and their cooperatives stood firm. The fact that agricultural production continued undiminished despite all the hardships was a tribute to the soundness and resilience of the rural order as it had been constructed in the eight years since Stolypin became Prime Minister in 1906. Despite raging inflation and a shortage of consumer goods, peasant farmers continued to produce a massive

surplus, at least until 1917. Since they couldn't buy much with their cash, the peasants invested their money into cooperative savings accounts or livestock.

It is interesting to contrast this with the situation that was to prevail a decade later, under the New Economic Policy, when goods shortages or inflated prices for manufactured goods caused peasants to withhold their marketings, reverting to a self-sufficient economy and causing food shortages in the cities. But in the Russia constructed by Stolypin, peasants continued producing surpluses for the market, and merely invested their liquid savings in bank accounts, a potent indication of their trust in the banking system and in the economy generally.

This is not to say that life went on as always in peasant Russia during the war. The rapidly mounting liquid savings of the peasantry and the equally rapid disappearance of both consumer and producer goods from the market entailed a wrenching change in the way credit cooperatives operated. While cooperatives accumulated funds in the form of deposits, the demand for loans fell off sharply. With much of the male work force away and few investment opportunities available, the peasants were reluctant to spend their accumulated cash, and were even more loath to take out loans. The cooperatives were thus left with a large surplus of funds and few opportunities to put the money to work. Savings deposits in ground level credit cooperatives increased from 284 million rubles at the end of 1913 to 682 million rubles by the

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end of 1916. How credit associations used these funds is shown
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in the table below.

Assets of Credit Associations as of December 31, 1913-16

<u>Assets:</u>	<u>1913</u>	<u>1914</u>	<u>1915</u>	<u>1916</u>
1. Loans	86%	82%	69%	49%
2. Free funds	9%	11%	20%	34%
3. Plant and equipment	3%	4%	4%	4%
4. Merchandise on hand	2%	2%	5%	9%
5. Other assets	<u>0%</u>	<u>1%</u>	<u>2%</u>	<u>4%</u>
	100%	100%	100%	100%

As the table shows, by the end of 1916, loans constituted less than half of credit associations' assets. Free funds (cash savings without a place to be invested) had expanded to an astounding 34% of assets -- unthinkable only a few years before in the credit-starved Russian countryside. While the total assets of the credit associations at this time nearly doubled, from 305 million rubles to 601 million, while free funds grew from 27 million rubles to 202 million in 1916. The newly-formed credit unions, which began to flourish at this time, did even worse. As of July 1, 1916, only 14% of their funds were spent on loans. Much of the money accumulated by credit cooperatives and credit unions was invested in government bonds or deposited in commercial banks -- most of the 202 million rubles in credit association free funds was spent this way, as were 34% of credit union funds. This meant that not only were peasant savings not being invested in the rural economy, they were not even being invested in expanding cooperation's role in the economy. Given the strength of the population's demand for consumption goods, it is perhaps surprising -- and certainly disappointing -- that more funds were not invested in trade and the production of consumer goods. At most 17% of credit associations' assets were invested

in this way at the end of 1916. Since credit unions could be expected to be stronger in distributing funds among cooperatives and investing in cross-regional trade, the proportion of their funds invested in commerce was up to 52% in 1916.

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The fact is that the war presented a golden opportunity to credit cooperatives. Having grown financially strong, they had a chance to carve out an important position for themselves in the country's production and trade. Certainly both the demand and the financial means were there. How can one explain, then, that far more money flowed into the coffers of the government and commercial banks than into cooperative projects? Patriotic motives? As we will see in our discussion of cooperative trade, it was possible to serve both the war effort and the cause of cooperation. But credit cooperatives, instead of exploiting the economic and organizational potential of the cooperative movement, reverted to the traditional channel of Russian economic development: pumping out huge amounts of (rural) cooperative capital for the use of the government and the commercial banks. Originally credit cooperation was promoted with the idea of accumulating capital in the countryside in order to build up the rural economy at the village level. During the war, credit cooperatives became an agent of the centralization of capital and its investment in the cities or in the war effort.

It is possible that credit cooperatives missed an historic opportunity to expand the reach of cooperation into new fields of trade and production. We will be examining the role of cooperatives in Russia's domestic and international trade in the next chapter. With respect to credit cooperatives, the fact that they

didn't do more should in no way detract from the grandeur of their real achievement. The fact is that credit cooperatives permitted peasant Russia to develop a powerful banking system in a remarkably short period of time. Having created this banking system, cooperative members should not have been surprised to see their organizations begin to act like banks all over the world -- paying a reliable interest rate on savings and investing the funds where they could bring the greatest return.

CHAPTER NINE

COOPERATION AND COMMERCE

Cooperation was clearly a very successful concept with respect to credit, but this was a function that was relatively easy to perform. When cooperatives began to enter into other aspects of the peasant's economy, they found them to be more complex and much more difficult to influence. Yet, as we saw in Chapters 6 and 7, the organization of agronomic measures to improve peasant farming was a natural outgrowth of cooperatives' mission to perpetuate peasant self-reliance and self-interest. We have already seen how peasant farming systems could be improved and peasant incomes could be raised through the organization of agricultural extension and a rural banking system. An equally effective way of spurring agricultural development and improving rural living standards was to rationalize the system of rural trade. If distant markets could be made more accessible to peasant farmers, if transportation and marketing fees could be reduced and if a greater quantity of improved farm supplies could be brought to the village, the prices of peasant agricultural produce would be raised and the prices for farm supplies would be lowered; this, in turn, would spur the commercialization of peasant farm production and raise the technological level of peasant farming. These were sufficient reasons to impell all different types of cooperatives to enter into rural trade.

Whereas the organization of an effective credit system served to improve the peasant economy on the village level, the

rationalization of rural trade promised to do much more, since it would bring the peasant farmer out of his traditional isolation and integrate the village economy into the world market.

Cooperative trade, therefore, was a new and higher stage of agricultural cooperation and it captured the imagination of many cooperative workers. At a Siberian conference in 1900, for example, one agronomist from Tomsk declared: "I see a picture of the near future when the Siberian peasant, united in big associations, will stretch out his hand to the Manchester working man and enter into direct relations by handing the product of his labor directly to the consumer."¹

In this chapter we will look at the way in which different types of Russian cooperatives went about realizing this dream. We will examine the role of cooperatives in the provision of farm supplies and in the marketing of grain, flax and dairy products. Finally, we will look at how cooperative trade fared under the stressful conditions of war.

Cooperatives and the Provision of Farm Supplies

The farm supply activities of cooperatives were constrained by several factors. Firstly, peasant farmers generally bought very little of their farm supplies for cash on the market. They were accustomed to getting most of what they needed from home or from their neighbors. But cooperation of an economic activity could only take place where the money economy was already fairly well developed. Lack of commercialization in much of the

agricultural sector, therefore, was a problem. Peasant farmers, we are told, were ill-acquainted with improved varieties of seed and farm equipment and did not see the need to invest cash in such improvements. Secondly, cooperative farm supply was dependent on receiving advance orders so that goods could be bought wholesale and then sold to the last item. Since cooperative sales strategy called for low or even zero mark-ups, any goods that were not sold and kept in inventory resulted in a loss of money for the cooperative. The problem was that the peasants were skeptical of new types of farm equipment and refused to order them in advance. Even with familiar products and brand names, the peasants were accustomed to buying something only after having looked it over and thought things out, waiting until the last minute to put down money. Cooperatives often complained that they received too few orders for goods, but when the shipment came in, the peasants would clean out the shelves and demand more.²

Cooperative farm supply operations were run out of depots, similar to the ones described in earlier chapters. The cooperative purchase of farm supplies was started by the zemstvos, mostly in the interests of gentry agriculture. Cooperatives entered the field in earnest after 1905 and their operations grew rapidly. The expansion of cooperative farm supply reflected both the growing sophistication of the Russian farmer, who was increasingly willing to purchase modern machinery, and the growing sophistication of the cooperative movement which was willing to provide the service. No one type of cooperative monopolized farm supply operations; rather, farm supply

operations were performed by whichever type of cooperative organization happened to predominate in a particular region. In central and southern Russia, that meant credit cooperatives; in the Ukraine, agricultural societies; in the North and South-West, consumer societies; in the Baltic, agricultural associations. Any type of cooperative served primarily as an organization of self-help and self-reliance, branching out beyond its statutory functions to meet whatever demands of the population seemed uppermost at the time.

The strongest branch of the cooperative movement was credit cooperation. Credit cooperatives were by far the most numerous and financially the strongest of all rural cooperatives before the war. Since agricultural associations and the more commercially-minded agricultural societies relied on subsidies and equity capital to support their commercial operations, they were generally viable only where the rural population had reached a certain level of education and economic prosperity. While agricultural societies were not appropriate for every region, credit cooperatives were ubiquitous and had the financial strength to undertake trading operations. It was natural for a credit cooperative to branch out from pure savings and loan operations to projects designed to improve the economy of its members. One agronomist noted that credit cooperatives were naturally impelled to undertake agricultural extension services:

Rural credit cooperatives, which are dedicated to improving the economic condition of their members, can't be disinterested in all the methods of raising their members' income. This is why they are responsible for disseminating agricultural knowledge among

the population and the organization of various projects aiding in the development of proper farming methods.

Agronomists tended to regard credit cooperatives as ideal vehicles for their work and in regions such as the Urals, the success of agronomic work was seen as directly correlated to the development of credit cooperatives.⁵ For their part, credit cooperatives found it beneficial to organize agricultural depots and machine rental stations, to set up libraries and museums, and arrange agronomic lectures and meetings. Since credit cooperatives gained financial stability by having more members, they often used the provision of such agronomic services as a gimmick to attract new members.⁶ With respect to agricultural trade, credit cooperatives undertook farm supply operations not only because it was in their interest to help their members prosper, but also because the fields of credit and farm supply were intimately linked. The most common form of private credit, after all, was trade credit: the village kulak tended to be both a retailer of farm supplies and a grain merchant and a money-lender. The peasant would commonly buy a piece of equipment on the security of his harvest in the spring and pay for it (with a hefty interest) in the form of produce in the fall. This fact alone ensured that credit cooperatives, in their struggle against private money-lenders, would enter the field of selling farm supplies and marketing the peasants' harvest.⁷

While this may have been the cooperative ideal, in practice the cooperatives were constrained by several government policies. The model statutes for credit cooperatives required cooperative members to pay in advance for their purchases, while the

cooperatives themselves had to finance their trading operations from special funds created from their reserve capital. This type of financing was woefully inadequate. Even by 1914 all these funds totalled a little over 10 million rubles -- hardly enough to make a significant impact on rural trade.⁸ Several cooperative congresses called for permission to use cooperatives' turnover capital to finance trade and for the creation of special insurance funds in case of losses.⁹ But the government was understandably hesitant to allow cooperatives to invest the savings of members into trading operations, since these were by nature a much more risky operation than small-scale, short-term lending. Another constraint on cooperative purchase of farm supplies was the lack of cooperative unions to coordinate the flow of funds and goods across a wide area.¹⁰ The importance of cooperative unions is illustrated by the case of Siberian dairy cooperation, where the establishment of a regional union resulted in a take-off of cooperative trade. St. Petersburg's opposition to unions in other branches of agriculture, therefore, probably served to significantly limit cooperative trade.

Nonetheless, despite these constraints, the rationale of introducing the cooperative principle into the purchase of farm supplies was so strong that purchasing operations by credit cooperatives grew at an impressive clip, as can be seen in the table below.¹¹

Purchasing Operations by Credit Cooperatives 1906-1916

<u>Year</u>	<u>Number of cooperatives</u>	<u>Percent of all cooperatives</u>	<u>Total purchases (in rubles)</u>
1906	165	8%	700,000
1908	641	15%	2,400,000
1910	1,334	20%	6,600,000
1912	2,990	27%	18,100,000
1914	5,854	40%	40,000,000
1916	10,602	65%	267,900,000

Harnessing the self-interest of the local population and selling a broad array of goods at cost, credit cooperatives took on the characteristics of a chain of discount stores, selling to the lower end of the mass market. In many areas, they soon drove the more exclusive private merchants out of business. One official English publication, counseling British businessmen on trading opportunities in Siberia observed in 1916:

In regard to agricultural machinery and implements, the effect of the facilities offered by these credit associations... has been to cause many wholesale firms to withdraw from business. While this is regrettable in a sense, it has its compensations, as the manufacturer is on safer ground in selling to credit societies. His rate of profit will be diminished, but in view of the probability of a larger turnover as the consumption of agricultural machinery increases, his aggregate profits should be greater. The strong point about the credit associations is that they possess the local knowledge which enables them to sell to the right people, and, most important of all, they possess the means of securing a relatively quicker liquidation of debts, and of enforcing payment in doubtful cases. Their losses from bad debts are said to be practically nil. The wholesale firm, on the other hand, has still the best class of farmers with whom to trade, and, in practice, prices do not fall below a figure offering a reasonable profit.

Another kind of cooperative that grew to have an important role in providing farm supplies to the peasantry was the consumer society. Consumer societies initially saw their mission as providing food and household goods at wholesale prices, but the stronger societies soon began selling farm supplies as well. Consumer societies were fairly well developed before 1914, but subsequently, with the breakdown of normal channels of trade during the war, they mushroomed across Russia. Numbering 10,080 in 1914, they grew to 35,000 by 1917, according to one estimate; out of this total, 31,000 or 89% were village consumer societies, with a total membership of 7.5 million members. ¹³ Though the individual consumer society was a humble affair -- the average rural society, for instance had only 242 members -- the great number of these organizations meant that they had a significant effect on the provision of farm supplies among other things. ¹⁴ Credit cooperatives, with their generally better-heeled members, tended to regard the more proletarian consumer societies with disdain. ¹⁵ Consumer societies had sprung up spontaneously, often on shaky economic and legal foundations, and therefore were particularly in need of the help of financial sponsors such as the credit cooperatives. One correspondent wrote in 1917: ¹⁶

Tens and hundreds of new [consumer] societies were opened and conducted their operations for several months, without obtaining expert advice, because in the present Russian villages every man who can read or write is up to his neck in work. Many of the new societies will probably fail because of this. In some instances, the societies are formed by the village grocer or miller, who, with their stock gone, hope with the aid of a cooperative shop, to obtain a supply... Many of the societies will, however, survive, principally those working hand in hand with the credit

associations, and will prove of the greatest benefit to the population.

To be sure, much of the consumer cooperative movement had arisen precipitously, as an act of desperate self-defense against consumer shortages, but even so, it was more than just a numerically impressive, but effectively weak rural phenomenon. The primary value of rural cooperatives, as we have seen, was to give form to peasant self-reliance and as such, consumer societies provided an excellent organizational base upon which cooperative farm supply could be established. In some cases, this potential was realized, especially in the case of higher-level organizations such as consumer unions and the enormously successful Moscow Union of Consumer Societies (renamed Tsentrosoyuz in 1917), which not only distributed a large volume of goods but organized their own production facilities as well; during the war, according to one estimate, the combined production by consumer unions of consumer goods (candles, soap, clothing, flour, etc.) and equipment for farming and cottage industry reached almost 300 million rubles annually.¹⁷

Apart from credit cooperatives and consumer societies, a whole variety of other organizations undertook cooperative farm supply operations. As we have seen in foregoing chapters, probably the largest single component in the cooperative farm supply market was the network of agricultural depots run by zemstvo agronomists. But other institutions also operated farm supply depots. The Ministry of Agriculture ran its own depots and Russia's 6,000 agricultural societies also became important participants in the farm supply market. Together, the zemstvos,

the Ministry of Agriculture, the agricultural societies and other types of cooperatives captured half the market for the sale of agricultural equipment on the eve of the war. As we saw in Chapter 6, the operations of these depots during the Stolypin reform expanded more rapidly than the market as a whole, and hence we can conclude that they were in large part directly responsible for the tripling of farm equipment purchases by Russian farmers in the period 1906-1914.

Understandably threatened, the major private manufacturers of agricultural equipment formed a cartel early in 1914 in order to block cooperative wholesale purchases of farm supplies and to protect the private firms' network of dealers and merchants. Named Urozhai, the cartel deliberately charged cooperatives a higher price for the wholesale purchase agricultural equipment. To counter such a powerful competitor, the zemstvos and the cooperatives began to organize their purchases through ever larger regional unions. The zemstvos began to cooperate in the sale of agricultural machinery as early as 1899, when 40 zemstvos in the central agricultural region joined a farm supply network organized by the Orel provincial zemstvo; during the Stolypin Reform, many more such zemstvo associations were established to facilitate the purchase of agricultural machinery, including the Southern Russian Zemstvo Association established in Ekaterinoslav in 1911 and the Kiev Association of Western Zemstvos established in 1912. The Moscow Narodny Bank in 1913 organized a trading division to help its member cooperatives in purchases and marketing; though the work of this division was reported to be woefully disorganized, its yearly turnover reached almost 15 million

rubles by 1916. In 1915, the Moscow Narodny Bank, the Orel Society of Zemstvos, the Kiev Society of South-Western Zemstvos and the Ministry of Agriculture entered into an agreement to form a trading cartel of their own. Several observers later remarked that the resulting government-zemstvo-cooperative syndicate (named Selskosoyuz) stood to gain a virtual monopoly on the trade in farm supplies.²¹ The opportunity never came, however, since the revolutions of 1917 broke out two years after the establishment of the cartel.

Cooperative Marketing

Just as the peasant farmer could benefit substantially from obtaining modern farm supplies at low prices, he could also benefit from an improvement in the marketing of his produce. If peasant farmers could pool their produce and market it themselves, they could economize on transportation costs and appropriate some of the merchandising profits for themselves. As we shall see, in some branches of agriculture, such as dairy production, the organization of cooperative marketing was directly related to the commercialization of peasant farming. In other branches, such as grain or flax production, cooperative marketing was less developed, but it nonetheless helped raise peasant incomes and improve product standards. If peasant farmers could organize cooperatives to sell directly to foreign traders or even directly to foreign consumers, a relatively small

investment in time and money could result in a big increase in farmers' incomes.

At the beginning of the 20th century, the marketing of agricultural produce was an area greatly in need of improvement. Peasant farmers had long marketed a portion of their products to buy consumer goods, but the prices they were paid were unnecessarily low. Peasant farmers received a small fraction of the already low world market price; the bulk of the revenue went to pay for transportation and the numerous middlemen who conveyed the goods to the ultimate consumers. It should be noted that the role of grain merchants -- large and small -- may not have been nearly as parasitical as was assumed at the time. The hefty merchandising commissions, after all, reflected real costs, real risks and real demand. The losses occasionally borne by middlemen tended to be ignored, but their windfall profits were noticed and bitterly resented. As in the rest of the world at this time, middlemen became objects of frustration and hostility in the countryside. But the way to combat the high marketing costs was to further develop the marketing system, rather than contract it by eliminating the middlemen. As with the problem of money-lenders and high rural interest rates, the only thing worse than a middleman was no middleman at all. If cooperatives could push the private merchants out of the market and perform the merchandizing function themselves -- fine, but if they couldn't, then the middlemen were a necessary and legitimate part of the rural economy.

If the commercialization of agriculture and consequently the role of private merchants were seen as a good thing, then the

cooperation of the agricultural marketing network represented an even higher stage in the progress of Russian agriculture.

Unfortunately, this branch of cooperation arose relatively slowly, even more slowly than the cooperation of farm supply.

There were several reasons for such retarded development. For one thing, while both the rural credit markets and the trade in farm equipment were comparatively under-developed in 1906, Russia's trade in agricultural produce had already assumed massive proportions by this time (exports alone averaged 700 million rubles annually in 1900-5).²² Both the local and the national markets, therefore, were already dominated by well-established players and this made it hard for cooperatives to break in. The relative financial weakness of the cooperatives -- even credit cooperatives -- meant that they had trouble rounding up enough trading capital to enter the market on the necessary scale. It also meant that they didn't have the flexibility to hold the produce until market conditions were right or to offer the cash advances that many peasant farmers demanded. Many peasants consequently preferred to sell their harvest to a merchant who would pay them less, but advance them most of the cash right away.²³

Generally, the type of cooperative best suited to marketing the peasants' harvest was the credit cooperative. The commercial surplus that the local peasantry produced was often too small to necessitate the establishment of a special trading cooperative. Many of the peasantry's cash crops, such as grains, flax and garden vegetables, furthermore, were traded only a few months of the year, making it difficult to justify the establishment of a

special marketing cooperative on the basis of 2-3 months' work. The prices for many of these products were also highly unstable, and most cooperatives had neither the capital nor the human resources to play the market astutely. Therefore, only credit cooperatives, which had sufficiently strong finances and undertook marketing operations as subsidiary occupations, could hope to make a lasting impact on the agricultural market.²⁴ The one exception was dairy farming, which produced a marketable product year-round and hence could be organized into special dairy cooperatives (dairy associations).

Cooperatives found it especially difficult to undertake the marketing of grain. The grain trade was a game for very high stakes and no place for amateurs. A bad move on the grain market could destroy an otherwise successful cooperative. That happened to one southern agricultural society which signed a contract to sell 9,000 tons of grain in 1912, only to see world grain prices plummet because of the Moroccan crisis and Italy's invasion of Libya. The society suffered major financial losses and its secretary later committed suicide.²⁵ Such reverses notwithstanding, numerous cooperatives, especially credit cooperatives, felt impelled to enter the grain trade. Their growing role in this field was acknowledged by the State Bank, which gave out an increasing amount of credit to finance credit cooperatives' marketing of grain: from 3 million rubles in 1911 to 31 million rubles three years later.²⁶ By 1913, 1,672 credit cooperatives were engaged in marketing grain. They owned some 500 storage bins and grain elevators with a total capacity of 180,000 tons; Makarov estimated at the time that such cooperative activities saved

member farmers about 6-8 rubles a ton.

Cooperatives also faced problems gaining a foothold in the flax market. The potential benefits of cooperative flax marketing were no less than in the case of grain. Flax was the main cash crop of peasant agriculture in the non-black earth region. Russia was famous for its long-fibre flax and even though there was a considerable domestic demand for linens, over half the annual crop was exported. Nearly 80% of Russia's flax was produced by small peasant farmers, who generally did not benefit from the profitability of their crop. Peasant flax production and marketing were highly fragmented, allowing for the almost complete domination of the Russian flax market by a small group of powerful foreign trading firms. The lack of domestic facilities to process, grade and standardize the flax harvest seriously diminished the product's market value. Because of the primitive quality of the product and because peasant producers were too disorganized to wield any bargaining clout with their buyers, they had to accept an unnecessarily low price for the flax harvest. As a result, many agronomists called for the development of cooperation in the flax trade. Mindful of the experience of Siberian dairy farmers, who at the beginning of the century had been in much the same position as the flax growers, Russian agronomists hoped that cooperatives would edge out domestic middlemen, help improve the quality of the flax, improve farmers' bargaining clout with foreign trading firms and ultimately encourage peasant commercialization.

The Ministry of Agriculture responded in May 1912 by establishing a Flax Committee within the Ministry and charging it

with the responsibility, among other things, of encouraging the development of seed cleaning stations and farm supply depots and the training of special flax instructors. In fact, the process of the cooperation of the flax trade had been proceeding at the grassroots for some time. Beginning in the early years of the Stolypin Reform, agronomists and credit cooperatives succeeded in developing cooperative flax marketing in the provinces of Tver, Moscow, Iaroslavl, Kostroma, Pskov, and Vologda. By 1914, a cooperative newspaper claimed, over 4,000 cooperatives were involved in marketing 335,000 tons of flax (about two thirds of the total harvest).²⁹ But even if these very high figures are accurate, it was probably cooperation on a very superficial and simple level (such as organizing the construction of storage bins, where some of the flax could be kept until local merchants came to pick it up). Hoping for the greater penetration of the cooperatives into the flax trade, the Ministry of Agriculture and numerous cooperatives and agronomists came together to organize the Central Flax Growers Association in September, 1915. The Central Association had only a short time to show what it could do, but it managed to achieve some impressive results. It collected over 15,000 tons of flax in its first full year of operation and nearly 41,000 the year after. In 1916, the Central Association accounted for 65% of Russia's flax exports (which admittedly were greatly constrained by the war) and registered 150,000 flax growers as participants.³⁰

Cooperative Dairy Farming

As we have seen in Chapter 1, dairy farming was probably the single most important factor in transferring to a progressive system of crop rotation and breaking out of the rural poverty cycle. It so happened that dairy farming also lent itself very well to cooperation. Since dairy products (whether milk, cheese, or butter) required an almost daily effort at processing, packaging and transportation to market, it represented a lucrative business to whoever carried out these operations. As a result, dairy farming bred a particularly thick crop of middlemen, who were willing to market the peasants' produce on the urban market; particularly lucrative was butter-making, since butter had the ability to withstand long journeys to distant markets. The organization of dairy cooperatives enabled the peasant to keep much of the hefty marketing commission for himself. Dairy cooperatives, by bringing like-minded producers together to pursue common interests, not only enabled the peasant to achieve economies of scale in processing, storage, transportation and the purchase of farm supplies, but also served as a useful basis for introducing technological and agronomic improvements.

Cooperative marketing of milk grew up around major cities such as Moscow, St. Petersburg and Kiev. In the north-eastern provinces of Iaroslavl, Vologda, Tver and Novgorod, dairy cooperatives tended to concentrate on marketing butter and occasionally cheese. But by far the most successful development

of dairy cooperation took place in Western Siberia. Siberian dairy cooperation was the most successful branch of the whole cooperative movement, since it was probably the only instance in pre-Revolutionary Russia when cooperation came to virtually dominate the entire economy of a wide area.

Western Siberia had several salient characteristics that set it apart from other regions of Russia. Even by Russian standards, its population was very sparse and transportation was poor. The average Siberian peasant was prosperous, farming ten or fifteen desiatins of land and owning five or six cows. Natural conditions militated for the development of butter making. The natural pastures contained a particularly rich mixture of grasses, making for exceptionally good quality milk. Foreign companies, especially Danish firms, had discovered these advantages already in the 1890's, and when commercialized butter-making in this region became viable with the construction of the Trans-Siberian Railroad, they rapidly expanded their hold on the market. It would not be long before the peasants organized themselves into cooperatives to reap the full benefits of their good fortune and hard work.

As so often happens, the successful development of cooperation was dependent on the strong leadership of a single visionary person. For the dairy farmers of Western Siberia this man was A.N. Balakshin. Born into a wealthy Siberian merchant family of liberal views, Balakshin initially made his career in commerce. Like so many others, he was impelled to enter public life by the horror of the famine of 1891 and he was elected president of the Kurgan Agricultural Society in 1896. The most

important question facing the society at the time was dairy farming and the role of private trading firms in the local butter trade. Balakshin later recalled how he became a cooperator:

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One day, I had a guest from St. Petersburg. It was a high official from the Ministry of Agriculture who was sent to Siberia on some important business. I discussed with him the question of the Siberian butter-makers and expressed hope that the government, through some compulsory regulations and a better organization of agronomic aid, would be able to render great help to the peasant population in Western Siberia and to liberate it from the exploitation of private profiteers. My guest laughed at my words, and after a little while answered: "You are quite mistaken if you think the government could render any effective assistance to the Siberian peasants through [agronomists] and regulations. We tried that system somewhere else, and the result was complete failure. You cannot help it with compulsory measures. The peasants must realize the gravity of the situation themselves. They must themselves be able to find an adequate solution to the problem, as was done by the peasants of Denmark and Ireland." And then my visitor in brief outlines sketched me the substance and the principles of cooperative organization. It was quite new to me and struck my imagination. After my guest departed I spent a few days thinking over what he had said to me, and then I became a cooperator.

A few weeks later, in 1900, Balakshin organized a special conference on Siberian butter-making at Kurgan where he advanced the idea of cooperation. In 1902 he traveled to St. Petersburg and obtained credits from the Finance Minister, Serge Witte, and from the Ministry of Agriculture to establish a network of dairy cooperatives in Western Siberia. Despite the opposition of private traders and even agronomists, who tried to spread bad rumours about Balakshin in St. Petersburg, cooperation in Western Siberia spread rapidly and in 1907 the first 65 dairy cooperatives banded together to form the Union of Siberian

Creamery Associations. Incredibly, within a few years, the Union was already reporting millions of rubles of sales and was gaining market share rapidly against private trading firms. The higher price paid by the Union for the farmers' butter -- double the previous price, according to one estimate -- helped drive up butter prices in the Siberian market as a whole.³⁴ Not only did the Union help farmers market their produce, it also maintained 42 agronomists specializing in dairy farming and established a network of "company stores" for the purchase of consumer goods and farm supplies. But the Union's greatest achievement was in the export market. Like the California Fruit Growers across the ocean, the Union of Siberian Creamery Associations played a crucial role in developing the export of Siberian butter in general. The first exports went to Denmark, but Britain and Germany soon became major buyers as well. The Union developed a substantial global presence, with offices in London, Copenhagen, New York, Boston and Harbin; the London branch even traded on the London Stock Exchange. Balakshin and his colleagues had come a long way from the discussions in the Kurgan Agricultural Society. The rapid expansion of their organization's operations and market share can be seen in the table below.³⁵

The Union of Siberian Creamery Associations 1908-17

<u>Year</u>	<u>Member associations</u>	<u>cooperative stores</u>	<u>Annual Turnover (in rubles)</u>	<u>% total Siberian butter handled by Union</u>
1908	65	12	2,880,000	5%
1909	108	20	2,924,000	6%
1910	181	34	4,355,000	8%
1911	218	54	4,255,000	8%
1912	328	133	7,485,000	11%
1913	563	502	14,066,000	14%
1914	804	600	20,208,000	21%
1915	902	681	34,854,000	28%
1916	922	694	73,498,000	93%
1917	1,410	1,167	160,367,000	71%

The advent of the war closed off most of the foreign markets for Siberian butter. This shortfall, potentially ruinous for the Siberian dairy cooperatives, was soon made up by the supply of butter, pork, hay and other products to the army. The value of these supplies, which totaled 220 million rubles over the three years of war, made the Union of Siberian Creamery associations the single most effective organization for supplying the army. But success brought its own problems. One of these was the development of centrifugal tendencies within the Union itself. Previously all the finances of the Union had been highly centralized, with some of the more prosperous regions of Western Siberia effectively subsidizing the weaker cooperatives. Now, with Balakshin an ailing old man without much of his earlier authority, these prosperous regions, namely Altai and Kurgan, broke off and organized their own unions. Balakshin's union met even more powerful competition from the socialist-oriented Union of Siberian Cooperative Unions, or "Zakupsbyt," which was formed in late 1916. Zakupsbyt rapidly grew to be a sort of super-union,

encompassing cooperative activities of all different types.

However, neither Balakshin's union nor Zakupsbyt had much chance to show their mettle, for soon all cooperatives were to be swept up in the holocaust of revolution and civil war from which they were never to recover.

The experience of the Union of Siberian Creamery Associations was seen as the model for all cooperative organizations. From the simple function of marketing local butter, it expanded to include virtually all aspects of economic life in its area. It built its own plants for butter-making, purchased all the necessary machinery and materials for dairy processing, operated an extensive network of consumer stores, opened up trading offices abroad and operated its own transport fleet. By one estimate, the Union in its prime included 650,000 households, representing a population of 3.5 million or 42% of the population in the butter-making regions of Western Siberia.³⁷ This made Western Siberia the heartland of the cooperative movement in Russia. The English journalist and historian B. Pares had an opportunity to appreciate the development of Siberian cooperation³⁸ when he travelled through Western Siberia during the Civil War:

Nothing was more impressive than the part which Cooperation then played in the life of Siberia. They ran about half the newspapers and about three-quarters of the magazines. Many of the theatres and even the circuses were their property. All this machinery they utilised for educational purposes... Whatever little was done at this time in primary education was mostly their work... education [being] a primary task of any organization that aimed at raising the level of public welfare. But on the business side, too, cooperation can have a much wider scope in Russia than with us. In the first place, it is undoubtedly in the genius of the people, and answers to their best instincts:

always with the proviso that co-operation should be based on operation, namely, that it should be the free union of a number of independent individual wills. But what co-operation can do in Russia is limitless. Certainly, the movement was over-inflated at this time; the prevailing chaos had set a premium on it. Individual trading was almost impossible, and a number of persons were co-operators who in ordinary circumstances might not have been so. But I have always anticipated that when we get our first real sight of the new Russia, we shall find that the Co-operative movement is playing an extremely important part in it.

The Cooperation of National Trade and the War

For Russia's farmers, traditional export markets were closed off in 1914, but a new and lucrative market soon opened up: namely, Russia's huge armed forces. Peasant farmers in the Ukraine and on the Black Sea, instead of shipping their goods south, now sent them north and west. Faced with the task of supplying the Army, and increasingly faced with the responsibility of ensuring the supply of the cities as well, the government initially opted to deal with the traditional network of private traders, and refrained from expanding the role of cooperatives. Only in some areas of the Central Agricultural Region and Western Siberia did cooperatives find themselves with a major trading role right from the beginning. ³⁹ By the end of 1914, as it became clear that the war would be a much larger and more prolonged affair than had been expected, the government recognized that existing commercial channels would not be equal to the task of providing a steady supply of goods to the Army and the cities. The government therefore turned to the zemstvos and the cooperatives.

Both the zemstvos and the cooperatives were soon organizing hospitals and convalescent homes for the wounded and helping with the resettlement of refugees. The dry laws gave impetus to the already strong temperance campaign within the cooperative movement and led to a spate of projects for tea rooms, people's palaces, theaters and other substitutes for the local tavern. In the economic realm, cooperatives and zemstvo agronomists took measures to limit the damage caused by the departure of the peasant menfolk to the front. They organized cooperative harvesting for under-staffed households and encouraged the introduction of labor-saving machinery (though the limits of the Russian agricultural machinery industry did not permit the kind of vigorous agricultural mechanization that took place in Britain and especially in the USA during the war). Because of the disruption in the labor supply and the worsening market conditions for agricultural producers, Russian grain shipments in 1915 were only 65% of 1913 levels; but since half the grain shipments before the war had been destined for export markets, which were now largely closed, Russia still produced an ample surplus of grain to feed its own population. Similarly, the Army requisitioned millions of horses from the peasantry, but peasant livestock herds actually increased during the war. Thus, the trials of the war-time economy underlined the strength of the productive side of Russian agriculture; the problem lay not in the lack of production, but in the lack of storage capacity and in a disorganized distribution network.

The cooperatives were asked by the government to help procure grain not only from their own members, but also from

farmers who were not members. By the end of the first year of the war, private merchants were accounting for only half the grain supplied to the Army; a third was sold directly through agronomists and other agents of the Ministry of Agriculture and almost one fifth was collected through cooperatives. The Executive Board of the Special Conference on Supply reported in 1916 that the government had procured its food and fodder supplies (for the armed forces and the cities) from the following agents:

Source of Government's Purchases (by %)

	<u>1914-15</u>	<u>1915-16</u>
Private Traders:	60%	50%
Landowners:	13%	18%
Cooperatives:	12%	17%
Individual Peasants:	15%	15%

In addition to grain, cooperatives supplied the Army with meat, butter, boots and ropes. The Pavlovsk Kustar Association in Nizhni Novgorod supplied the Army with surgical equipment. Agricultural societies in just six provinces -- Voronezh, Poltava, Kharkov, Kostroma, Nizhni-Novgorod and Iaroslavl -- supplied the Army with half of its requirement in canned fruits and vegetables. The Union of Siberian Dairy Associations, meanwhile, supplied the Army with almost all its butter -- 53,000 tons in 1916 -- as well as large quantities of pork, hay and peasant handicrafts, worth 62 million rubles in all in 1916.

Since existing production facilities were incapable of meeting the demand for a society that now had to be self-sufficient, cooperatives began to organize their own food processing and light manufacturing enterprises. The handicrafts

industry experienced a revival at this time and, through cooperatives, supplied the Army with much needed equipment. The Rural Trades Association of Borovichi Valdai in Nizhni Novgorod province, for instance, operated a metal-workshop, an iron foundry, a leather factory and a lumber mill. Incredibly, this one cooperative supplied nearly the entire demand for gloves in the Russian army.⁴⁴ Credit cooperatives and consumer societies all over Russia constructed flour mills, smokehouses for ham and bacon, sausage factories, macaroni factories and canneries.⁴⁵ The Moscow Union of Consumer Societies raised its own production from a value of 75 thousand rubles in 1914, to as much as 40 million rubles by 1917, most of this being in the form of basic consumer necessities such as flour and soap; the total production of the Moscow Union and other unions of consumer societies during the war was valued at 300 million rubles.⁴⁶ Credit cooperatives were recorded as operating 192 different enterprises by 1917, including 58 flour mills, 38 metal workshops, 29 leather and shoe-making plants and 17 enterprises manufacturing agricultural equipment.⁴⁷ In addition to providing vital consumer goods, the cooperatives, along with the zemstvos, were enlisted in the government's battle against war-time inflation; in 1916, the Union of Zemstvos alone was given 187 million rubles in government subsidies to sell consumer goods below market prices.⁴⁸

Much has been written about the inadequacy of supplies for both urban consumers and the Army during the war. Undoubtedly, part of the reason for the goods shortages was the fact that so much of the produce was supplied by peasant farmers and craftsmen

and their cooperatives. But it is not the cooperatives who should be blamed for the disasters that befell Russia after 1914. Rural cooperatives were never intended for a role that in all the other great powers was performed by modern industry. The fact that rural cooperatives rose to the challenge of supplying a war-time economy at all is quite extraordinary and indicative of the strength of the transformation of rural society that had begun in 9 November 1906. The crash of Tsarist Russia was not due to the weakness of the rural economy, but to the shortcomings of urban Russia, with its industries, parliaments and decision-making bodies.

CHAPTER TEN

MEASURING THE IMPACT OF RURAL TRENDS

The degree of social restructuring taking place in the Russian countryside during the Stolypin Reform has been the subject of this thesis. In this chapter, we will examine the effect this restructuring had on economic production. We have mentioned already some of the authoritative comments of analysts and observers during the Stolypin Reform: perhaps they noted that consolidation helped improve crop yields or that railroads helped the process of rural development or that credit cooperation and land reform tended to evolve together, and so on. In this chapter, we will refer to provincial data for 42 provinces of European Russia (the Klebnikov database) to try to quantify the inter-relationship of the various trends in rural society and the rural economy. As we shall see, regression analysis of this data confirms most of the conclusions arrived at in other parts of the thesis.

Problems of Quantification

How can one evaluate an agricultural development program such as the Stolypin Reform? Ideally, one would want to have enough statistical information to be able to measure the agricultural development program in terms of efficiency (the ratio of output to input or benefits to costs) or in terms of effectiveness (the ability of a program to achieve stated goals).

But very often the main achievements of such programs are in the realm of information and culture, in other words, unquantifiable. Our age is not the only historical era which can call itself the "Age of Information". Information was just as crucial for Russian peasant farmers at the beginning of this century, and it was the improvement of the information available to them and the consequent change in their managerial culture which may well have been the most important achievement of the Stolypin Reform. Such an improvement in the knowledge and management abilities of Russian farmers would only begin to show up in agricultural statistics after a time lag of at least several years. Hence, given the short lifespan of the Stolypin Reform and 20th century Tsarist agriculture in general, we will never know the true impact of the Stolypin Reform.

Before focusing once again on economic statistics, let us recall the social impact of the Stolypin Reform -- precisely that unquantifiable change mentioned above. Let's begin with the land reform. As we have seen in Chapter 3, the Stolypin land reform produced some very significant changes in rural society. In a period of some eight years, gentry landownership had declined 21% to 41.7 million desiatins of land, while gentry-managed farms came to account for just 11% of total cultivated land. From the standpoint of the optimal use of the nation's land and labor resources (maximum gross production, minimum unemployment), as well as from the standpoint of political stability, this was a positive development. At the same time, the redistributive peasant commune shrank from 78% of allotment land to about half, while 1.8 million new peasant farmsteads sprang up around the

country. From the point of view of the technological efficiency and managerial initiative for peasant farmers, this too was a positive development. Yet, probably the most important result of the Stolypin land reform, at least in the short term, was the least quantifiable of all: the subversion of tradition in peasant Russia and the introduction of a new mood of uncertainty and experimentation. It's probably true that, more than anything else, it was this subversion of tradition and psychological conservatism that had the greatest impact on rural technological progress.

Social agronomy too brought some of its greatest benefits in an intangible, psychological sense. The mission of social agronomy, if we recall the words of Chayanov, was "not in the creation of new methods of production, but in the acceleration of economic evolution and the introduction of a new economic system sooner than it would have emerged without social agronomic intervention." We can get an idea of the rising influence of agronomists at this time by measuring such seemingly mundane indicators as the number of farmers attending expositions, lectures or courses (see Chapters 5 and 6). The problem is that, aside from certain anecdotal accounts, we have no way to quantify the effect that such projects had on peasant farming -- all we know is that the peasant farmers' interest in agronomic projects was a sign of a new curiosity about the modern world and of a "spirit of improvement". For this reason, if for no other, agronomists were very valuable to Russian peasant agriculture, since they served to increase the flow of commercial and technological information down to the village.

Then we come to the phenomenon of rural cooperation. In a period of ten years almost half the peasant households joined some form of rural cooperative (see Chapter 7). How important a development was this? Joining a cooperative didn't necessarily signify any major transformation in the peasant's farming system -- and that, no doubt, explains why so many peasants did join up -- but it did represent an important socio-psychological change in rural society. The wave of rural cooperation represented the first time that the peasantry voluntarily enrolled in a social organization other than the church and the commune; as such, rural cooperation was symptomatic of an upsurge in creative self-help and local initiative. The adaptability of cooperatives in undertaking any number of economic functions showed their importance mainly as social organizations -- as the peasantry's bridge to the market and the outside world. Russian scientists, for instance, could continue to produce a multitude of technical innovations, but without an open-minded population and a social network to diffuse the new knowledge, Russian science would be like a pair of wheels spinning in the mud. Rural cooperatives, as organizations of independent farmers drawn by self-interest, provided the solid ground for new technologies and commercial strategies to flourish. Chayanov expressed this idea quite elo-
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quently:

Not so long ago, our rural plain was covered with a centuries-old silence. In the capitals, cultural life boiled, far-reaching reform projects rose and fell, a great struggle was being fought by various schools of thought in the name of the broad masses who populated the Russian plain. However, this activity hardly affected the broad peasant masses, and these masses had neither

their own voice, nor a creative will of their own, nor their own acknowledged social idea, since they had been and remained widely scattered. The Russian people constituted only a demos, a dark human mass, when it should have been a democracy, a people conscious of itself... However, observers of Russian life could have noticed in the Russian village molecular processes building up the future democracy and the most important process in this respect was Russian rural cooperative. In the ordinary everyday work of the boards, advisory councils, government assemblies, in the forging of unions, in the endless arguments about building a flourmill or the marketing of flax, are born those new people on whose shoulders will be the burden of building the future of our motherland.

Chayanov was not alone in being struck by the social significance of the changes that were taking place in the Russian countryside during the Stolypin Reform. Even assuming a high margin of error in the statistics on the land reform, social agronomy and cooperation, it is clear that major changes were taking place in rural society. The question of a direct causal link between these changes and a tangible improvement in farming productivity, however, is more difficult to determine. In agriculture, any organizational restructuring or investment in new technology would pay off only after a certain time lag. For example, if the peasant consolidated his land and began to cultivate it more carefully, or if he switched to a multi-field crop rotation or bought a metal plow for deeper plowing, the most significant returns on this investment only started coming in after a couple of years. (The one exception was the application of fertilizer, which raised yields immediately.) Since both consolidation, cooperation and social agronomy only began hitting their stride after 1909 or so, the real returns could have been expected to begin in 1912-15. As we shall see in the following

chapter, this period witnessed a significant improvement in virtually all agricultural indicators. Yet, this could still be attributed to either to accidental coincidence or to the general long-term tendency of Russian agriculture to improve. The problem, therefore, is to prove that these improvements were linked directly with the Stolypin Reform.

To support such a view, many historians refer to the accounts of eyewitness observers and contemporary analysts (Brutskus, Pershin, Makarov, Max Sering, etc.). The accounts of reliable, dispassionate observers are historically important and have been examined in the relevant chapters on the land reform, social agronomy and cooperation. In order to reinforce these conclusions, we need to find some kind of statistical correlation between various social reforms and economic performance. Here, we have usually been treated to two kinds of analyses: one, on the broadest national level, asserting that it was no accident that the social changes of the Stolypin Reform coincided with the upturn of Russian agriculture in 1909-13, and the other, on a micro-economic level, using various local surveys, such as the 1913 Ministry of Agriculture survey which showed the technological superiority of 24,000 consolidated farms to their communal neighbors (see Chapter 4). Both of these approaches have been explored in this thesis and have generally supported the hypothesis that the various elements of the Stolypin Reform spurred agricultural productivity. With the help of the statistics of the period, we can go even further and bridge the gap between the national figures and the purely local surveys.

Analyzing the Data

The Klebnikov database breaks the national-level statistics down into 42 provinces (containing roughly two thirds of the population of the Russian Empire) and then relates these on the basis of how they differed in terms of yields, consolidation, gentry land tenure, cooperation, etc. The relationships that are yielded by regression analysis of this data will not be a revelation to the reader, but it will allow us to quantify and confirm most of the relationships that have been discussed in this thesis.

That said, we must bear in mind the approximate nature of Russian statistics during this period. It has already been mentioned, for instance, that Russia's official grain statistics have been subject to substantial revisions by historians, who have claimed a margin of under-reporting as high as 19%.³ This should not be a very large problem for us, however, since we examine grain statistics only with respect to various provinces' progress over time, and if there was under-reporting, there is no reason to believe that it would have changed much between 1901 and 1913. In seeking an explanation for the differing rates of agricultural progress in different provinces, we have tried to consider all possible factors. Many important factors, such as the degree of commercialization or industrialization within a particular province, can be represented by proxies (the degree of urbanization and railroad density, for example), but it is probable that there are many factors influencing agricultural develop-

ment which we were unable to capture. For this reason and because the provincial data obscures many of the variations within the provincial economy, the following analysis is indicative of causality rather than proof of it.

The key indicator is, of course, improvement in agricultural productivity. For an indicator, I have chosen the growth in (peasant) grain yields between two five-year periods: 1901-5 and 1909-13, working on the assumption that all technological improvements, from better crop rotations to the introduction of modern equipment would eventually be reflected in higher grain yields. Given what we said above with respect to the time lag between technological improvement or social restructuring and improvements in production, it may seem as if the period 1909-13 would hardly reflect the changes wrought by the Stolypin Reform. Yet, if the eyewitnesses are to be believed, the potential impact of changes such as consolidation of strips or implementation of agronomists' advice were so great that we must be able to notice at least a small difference between those regions where the reform made progress and those where it made hardly any.

Unfortunately, it proved impossible to standardize much of the extraneous economic data with reference to a single year. The literacy and population statistics are taken from the census of 1897, while the number of peasant households is taken from the census of 1916. The length of railroads and roadways refers to the year 1912; density is calculated by dividing total length by 100,000 square versts. The use of different years as referents should not prove troublesome, since we are not so much interested in objective numbers as in comparing data between provinces, and

there is little reason to believe that the relative position of different provinces with respect to literacy or urbanization rates would be radically different in 1910 and 1897. With respect to calculating the average number of desiatins per peasant household, however, it was important to reproduce the situation on the eve of the Stolypin land reform (since the latter changed the size and nature of land tenure so substantially) and the figures given are for 1905.

With respect to the land reform, we have taken the registered number of land settlement applications, consolidated farms, households having undergone group land settlement and households having privatized their strips (not including those strips automatically privatized because of membership in a hereditary land commune) in the period 1906-16. These numbers were divided by the number of peasant households registered in the 1916 census to arrive at a percentage. All of the data refers to 42 provinces, except in the case of privatization, where numbers for only 37 provinces were available (the other factors relevant to a regression analysis of privatization were adjusted accordingly -- in other words, five provinces were dropped).

With respect to social agronomy, the indicators are the level of agronomic expenditure in 1913 by the Department of Agriculture on the one hand and the zemstvos on the other. In both cases, the expenditures were labeled as "agronomic expenses" and included the funding of agronomic personnel, agronomic courses, livestock breeding stations, popular agronomic literature, and so on, but not expenditures on land settlement. The total provincial expenditures are divided by the number of

households registered in the 1916 census. Of course the agronomic expenditures of 1913 hardly influenced the size of the harvests in the 1909-13 period, but what they show is the degree of development in the agronomic programs of various provinces. If Kharkov province, for instance, was spending a massive 2.4 million rubles in zemstvo and Department of Agriculture funds on agronomic projects, it is reasonable to assume that the agronomic program there was fairly mature and well-developed.

The development of the cooperative movement is measured in terms of the development of both credit cooperatives and agricultural societies in 1913. The development of credit cooperation is measured by the amount of credit cooperative loans per (1916) peasant household. With respect to agricultural societies, however, we are forced to measure only the number of societies per capita, since more specific ways of measuring the vitality of these societies is not available.

In examining the data, it is important to remember the high degree of multiple collinearity between several of the factors. This is true with respect to the various elements of the land reform (consolidation, land settlement applications, group land settlement and privatization), which tended to move together, and Department of Agriculture agronomic expenditures which tended to move along with them. It is also true with respect to literacy and urbanization, which tended to be closely interrelated. Another point to note is that the following numbers measure only the degree to which two variables moved together -- we cannot say with absolute certainty which variable caused the other to change. The rise in grain yields showed a strong correlation with the

level of Department of Agriculture agronomic expenditure, but we cannot say whether the Department's agronomists spurred the pace of farming improvement or whether the Department's agronomic program was directed precisely to those areas where agriculture was progressing most rapidly. Some factors, such as railroad density, gentry farming, peasant allotment size, literacy rates and urbanization changed relatively slowly or at least according to other dynamics than the tempo of crop yield improvement; in these cases, the causal relationship could have worked only one way: the tempo of crop yield improvement being determined by the other factors. But even the appearance of correlation without a definite determination of causality is significant: even if it was the fast pace of farming improvement that caused the high degree of consolidation rather than vice-versa, for instance, we can at least say that the transfer to consolidated land tenure was a natural result of peasant agriculture having achieved a certain degree of technological sophistication.

In the following tables, we use correlation coefficients (square root of R squared), whose maximum limits are plus or minus 1. The simple correlation calculations as well as the arithmetic were done using the Lotus 123 data processing program. In purely scientific terms, most of the relationships exposed below are not statistically significant. The margin of error would be too great to allow a professional statistician to draw anything more than a tentative set of conclusions. This data is not meant to stand alone, however. It is meant to reinforce and elaborate on certain conclusions that were arrived at in other parts of the dissertation. As such, even the the crude, tentative

relationships that emerge below have a certain statistical significance. It should also be reiterated that the raw figures underlying this analysis (reproduced in the appendix of this dissertation) should not be regarded as adequate figures for illustrating the aggregate results of various social phenomena. Much better aggregate figures are to be found in the relevant parts of this dissertation; the material for this database was chosen on the basis of its reliability and comparability. Thus, we are working with literacy rates circa 1897, for example, even though these numbers, as aggregate figures, do not necessarily reflect the true state of affairs during the Stolypin Reform.

That said, let's look at the factors affecting improvement in grain yields.

Factors Related to Improvement in Grain Yields

(POSITIVE)

Consolidation:	.486
Dept. of Agriculture expenditure:	.442
Privatization (37 provinces):	.418
Railroad density:	.304
Credit cooperatives:	.300
Road density:	.262
Agricultural societies:	.161
Group land settlement:	.161
Zemstvo expenditure:	.151

- (NO RELATION)
- Size of peasant allotment
 - Gentry farming
 - Literacy
 - Urban population

First among the factors linked to grain yields were consolidation and privatization, both exhibiting a strong correlation

with how agriculture fared in any given region. The funds of the Department of Agriculture, which bore most of the burden for financing social agronomy in Russia, were also strongly related to the pace of farming improvement. Surprisingly, zemstvo agronomic expenditures showed a relatively weak positive correlation with grain yield improvement, evidently moved by different dynamics than that which moved the Department of Agriculture's program. Credit cooperatives showed a strong correlation with the pace of farming improvement, both because the latter provided farmers with more money to deposit in the institutions and because credit cooperatives evidently played a role in enabling farmers to take such measures as were necessary to raise their crop yields; agricultural societies, by contrast, showed only a weak positive correlation with crop yields.

Easy access to market was important in spurring a rise in crop yields, judging by the strong correlations exhibited by both road and railroad density (the latter was also a symptom of a certain amount of industrialization). While this may have been true, it was evidently not important for those markets to be within the peasant's own province, judging by the irrelevance of the degree of urbanization to the pace of farming improvements. Similarly, it seems that the local farmers did not need to be literate in order for a province to achieve good crop yields. Despite some theories to the contrary, the most progressive and innovative peasants were not those who were forced to squeeze out a living on the smallest plots; neither was the presence of (supposedly progressive) gentry farms a positive influence on peasant farmers.

Factors Related to Land Settlement Applications

(POSITIVE)

Dept. of Agriculture expenditure:	.543
Literacy:	.475
Urban population:	.465
Railroad density:	.291
Zemstvo expenditure:	.271
Privatization:	.219

(NEGATIVE)

Size of peasant allotment:	-.276
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(NO RELATION)

Gentry farming

Department of Agriculture agronomic expenditure showed the highest correlation with applications for land settlement; zemstvo expenditures also showed a relationship, though the link was much weaker. Significantly, the degree to which the province was economically and socially developed (as indicated by the degree of urbanization, literacy and railroad density) exhibited a very strong influence on the pace of land settlement applications. The size of peasant allotments showed a relatively strong negative correlation coefficient -- in other words, the larger the average size of peasant allotments in a given province, the less likely were the peasants to apply for land settlement; this rings true when one considers land-abundant provinces such as Viatka, Olonets and the Don Territory on the one hand and land-hungry provinces such as Volhynia and Voronezh on the other. The degree to which gentry farming was developed, once again, proved irrelevant to the number of land settlement applications.

Factors Related to Consolidation

(POSITIVE)

Dept. of Agriculture expenditure:	.680
Credit Cooperatives:	.499
Urban population:	.470
Privatization:	.435
Railroad density:	.424
Literacy:	.374
Agricultural societies:	.365
Zemstvo expenditure:	.339
Gentry farming:	.269

(NEGATIVE)

Size of peasant allotment:	-.223
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We see the same strong relationship of Department of Agriculture expenditure and (relatively weak) relationship of zemstvo expenditure with respect to consolidation as with land settlement applications. The degree of socio-economic development (literacy, urbanization, railroad density) similarly exerts a strong positive influence. The interesting development here is the very strong correlation of credit cooperatives and (slightly weaker) of agricultural societies. The prevalence of gentry farming also played a small role in the progress of consolidation. As with land settlement applications, the larger the average peasant allotment, the less likely was there going to be a strong tendency to consolidation.

Factors Related to Privatization

(POSITIVE)

Railroad density:	.455
Consolidation:	.435
Road density:	.331
Dept. of Agriculture expenditure:	.317
Gentry farming:	.284
Credit cooperatives:	.273
Agricultural societies:	.248

(NO RELATION)

Size of peasant allotment
Urban population
Literacy
Zemstvo expenditure

As we have seen in the previous two tables (land settlement applications and consolidation) and as confirmed in this table, the pace of privatization moved closely with the pace of the various forms of land settlement (though it moved much more with consolidation than with land settlement applications, implying that it moved hardly at all with the other major form of land settlement: group land settlement). With respect to privatization, a well-developed transportation network (road and railroad density) proved to be very important, though the level of urbanization and literacy within a province was irrelevant. The presence of gentry farming was also a relatively important factor, but the size of the peasant allotment was irrelevant. Department of Agriculture expenditure was quite important, but zemstvo expenditure was irrelevant. Finally, both credit cooperatives and agricultural societies showed a mildly positive correlation with privatization, suggesting that private farmers

were more likely to join a cooperative and that the commercial benefits of cooperative membership in turn made farmers think about privatizing their land.

Factors Related to Department of Agriculture Expenditure

(POSITIVE)

Urban Population:	.784
Consolidation:	.680
Literacy:	.641
Railroad density:	.455
Credit cooperatives:	.379
Agricultural societies:	.374
Privatization:	.317
Zemstvo expenditures:	.225
Gentry farming:	.154

Department of Agriculture expenditure was very strongly related to the degree of urbanization, literacy and, to a slightly smaller degree, railroad density. It also correlated strongly with the degree of consolidation in the province and, slightly less, with the degree of privatization. The presence of a strong cooperative movement (credit cooperatives and agricultural societies) in the province also showed a strong correlation with Department of Agriculture expenditure. The expenditures of the zemstvos followed the Department's expenditures to a slightly lesser degree. Finally, the Department of Agriculture did not favor gentry agriculture, since the presence of gentry farming showed only a very weak positive correlation with the Department's expenditures.

Factors Related to Zemstvo Expenditure

(POSITIVE)

Credit Cooperatives:	.387
Consolidation:	.339
Railroad density:	.317
Gentry farming	.272
Dept. of Agriculture expenditures:	.225

The strongest correlation with zemstvo agronomic expenditure is to be found in the degree of development of the province's credit cooperatives, confirming our suspicion of a strong link between the two. The zemstvos' link to the degree of consolidation was slightly weaker. The commercialization of the local economy (as indicated by railroad density) and the presence of gentry farming both exerted a modestly positive influence on the degree of zemstvo agronomic expenditure. Finally, zemstvo expenditures correlated positively with Department of Agriculture expenditures, but not very strongly. It must be noted, that due to the generally lukewarm relationship of all these factors to zemstvo agronomic expenditure, we are evidently missing the key factors in determining the latter; such factors could have been political orientation or general levels of prosperity, neither of which are measured in the Klebnikov database.

Factors Related to Credit Cooperation

(POSITIVE)

Gentry farming:	.532
Consolidation:	.499
Zemstvo expenditure:	.387
Department of Agriculture:	.379
Railroad density:	.292
Urban population:	.238

(NO RELATION)

Agricultural societies
Literacy
Size of Peasant allotment

Credit cooperation was the one area in which the zemstvos' agronomic expenditures played a larger role than the Department of Agriculture's. This was probably due to the zemstvos' ideological championing of credit cooperation and to the helpful role of the zemstvo funds of small credit in expanding credit cooperation. But the strongest correlation with credit cooperation appears to be the prevalence of gentry farming and the degree of consolidation. The strong correlation with gentry farming is rather mysterious, since gentry farmers may have helped organize credit cooperatives, but generally did not participate in them. Perhaps the explanation is that this was the one area in which the demonstration effect of gentry farming was very strong: peasant farmers, looking at neighboring gentry enterprises, developed a strong desire to accumulate capital and this led them to the credit cooperatives. The commercialization of the region's economy (as indicated by urbanization and railroad density) exerted a moderately positive influence on the development of credit cooperation. The degree of literacy, the

average size of peasant allotments and the prevalence of agricultural societies were all irrelevant factors.

Factors Related to Agricultural Societies

(POSITIVE)

Literacy:	.526
Urban population:	.418
Dept. of Agriculture expenditure:	.374
Consolidation:	.359
Privatization:	.248

(NO RELATION)

Credit cooperatives
Gentry farming

The prime factors encouraging the establishment of agricultural societies were the degree of literacy and urbanization in the province, which points to the societies' role as primitive types of scientific institutions. Department of Agriculture expenditures, which generally moved together with literacy and urbanization, also showed a strong positive correlation. The land reform (consolidation and privatization) exhibited a moderately strong correlation with the establishment of agricultural societies. The prevalence of gentry farming, on the other hand, was irrelevant (agricultural societies, though proto-scientific institutions, were predominantly peasant in membership). The prevalence of other cooperatives such as credit cooperatives was also irrelevant.

Miscellaneous Relationships

(POSITIVE)

Literacy to Urbanization .854

(NEGATIVE)

Gentry farming to peasant allotment: -.299

We can see from the table above that literacy rates within a given province were very closely related to the the degree of urbanization. This explains why urbanization and literacy tended to move together with respect to their influence on various other phenomena (the only exception being with respect to credit cooperation, where urbanization was important and literacy was not). The other relationship we see is a relatively strong negative correlation between the prevalence of gentry farming and the average size of peasant allotments -- in other words, the more gentry farming a province was likely to have, the smaller the average peasant allotment was likely to be. This agrees with the common observation that in those regions where the soil was most fertile, the gentry held on to as much land as it could, while the peasants were capable of making a living off very small plots. It should be noted, however, that according to the grain yield table above neither the prevalence of gentry farming nor the average size of peasant allotments played any role in determining the tempo at which crop yields improved during the Stolypin Reform.

In sum, when considering the general progress of Russian agriculture during the Stolypin Reform, we find that we are justified in regarding the land reform (especially consolidation) as the main factor in determining the pace of farm improvements,

both through the improvements taking place on the consolidated farms themselves and because of the demonstration effect these farms exhibited on the neighboring peasant communes.

The extent of the Department of Agriculture's agronomic expenditures also played a strong role, both directly (through more agronomic advice) and indirectly (through encouraging land reform, cooperation, etc.).

Zemstvo agronomic expenditures were slightly less influential (except in the case of credit cooperation). It should be remembered, however, that the bulk of the Department of Agriculture's agronomic program was administered by the zemstvos, so these remained extremely important institutions.

The role of agricultural societies was at best mildly positive with respect to many of these developments, though our methods for measuring the development of agricultural societies are probably the crudest in the Klebnikov database (we are measuring simply the number of societies with respect to the number of peasant households, rather than the strength of those societies or their membership).

Credit cooperation (which we measure by loans per household), on the other hand, exhibited a strong link with both the land reform, the agronomic program and the pace of farming improvements, though it may be that credit cooperation was more a result of rising prosperity and rural free enterprise than a cause of these changes.

Predictably, the degree of a province's general socio-economic development (literacy, urbanization, railroad density) was important in determining the pace of the land reform, the

agronomic program, cooperation and ultimately, farming improvements.

Finally, the bogeymen of the 1905 agrarian revolution, gentry farming and peasant land hunger, appear to have been largely irrelevant to most economic phenomena. The only exceptions were the gentry's strong link to peasant credit cooperation and the general tendency of small peasant landholders to undertake land reform.

The analysis of the Klebnikov database generally confirms the statistical surveys and the observations quoted earlier in this dissertation. Having confirmed the inter-relationship between the Stolypin land reform, social agronomy, rural cooperation and agricultural progress, we can now go on to look at the economic progress of rural Russia as measured by national statistics.

CHAPTER ELEVEN

THE STOLYPIN REFORM AND RUSSIA'S ECONOMIC DEVELOPMENT

In a relatively short period, the Stolypin Reform succeeded in changing the face of the Russian countryside. The transformation had not gone far enough for us to speak of an agricultural revolution, but the reform did give a mighty push to the processes of social and economic modernization. The change was only partly reflected in agricultural production figures (though these were quite impressive by themselves). An equally important part of the Stolypin Reform was its effect on the restructuring of the social foundations of agriculture: the continuing erosion of gentry farming, the decline of the peasant land commune, the rise of American-style farmsteads, the rise of agronomic extension service and agricultural cooperation, and so on. The results of the Stolypin Reform appear all the more impressive when one recalls the material and political destructiveness of the 1905 revolution; that Russia was able so quickly to get back on the rails of socio-economic modernization is a tribute to the appropriateness of the development course charted by the Stolypin Reform.

In this chapter, we will look at various indices of agricultural production and economic growth in the period 1905-1917. It should be noted that unfortunately this data is not completely standardized -- by necessity, the tables often relate to different regions (72 provinces or 63 or 50) or to different periods (the crop production averages for 1909-13 or 1911-13, for example), and so on. Nonetheless, the data is sufficiently comparable

and the trends are sufficiently clear for us to draw strong conclusions as to the progress of Russian agriculture during the Stolypin Reform and the direction of the Russian economy as a whole.

The Development of Russia's Agricultural Sector, 1905-17

Before we go on to look at the performance of the rural economy in the years after the 1905 Revolution, it is worth considering the social upheaval taking place in the Russian countryside during this period. However promising such change and dislocation may have been for long-term economic growth, it probably had a severe, constraining effect on production in the short term.

The most disruptive event was the revolution of 1905 itself. This event involved several years of near anarchy and violent confrontation in the countryside; hundreds of millions of rubles worth of property was destroyed, while crops were neglected and farm investment languished.¹ One of the lasting results of the revolution of 1905 was the continued decline of the most modern and commercialized part of the agricultural sector: gentry farming.² By 1916, gentry farmers cultivated only 11% of the land, owned only 6% of the horses, 6% of the cattle and 5% of the pigs of European Russia.³ The transfer of gentry land to the peasantry probably had a negative impact on national crop yields, since gentry farmers (as opposed to landowners renting their land to peasant farmers) tended to produce crop yields that were about

15%-30% higher than those of peasant farmers.⁴ Gross agricultural production, on the other hand, probably benefitted from increased peasant land ownership: while the gentry often left much of their land as forest or pasture, peasant farmers tended to put every scrap of arable land under the plow and also tended to cultivate more intensive crops such as flax, potatoes, vegetables and sunflowers.⁵

No less of a structural transformation was taking place within peasant agriculture itself: as we saw in Chapters 3 and 4, the peasant commune was breaking up. Accounting for 78% of peasant allotment land in 1905, the redistributational commune accounted for little more than half by 1916. In other words, peasant land was being rapidly privatized. The sale of communal allotments was rising and peasant migration to the cities or beyond the Urals reached record levels. 1.8 million new peasant farmsteads mushroomed throughout European Russia. Such social restructuring produced widespread dislocation and uncertainty, leading initially to declines in both crop yields and gross production.⁶ But after about 1909, the new forms of peasant land tenure (private plots and consolidated farms) as well as the expansion of the rural cooperative and agronomic networks began to have a positive impact, contributing to the general upturn in Russia's rural economy. In effect, the socio-economic reform had to allow for a time lag of several years before it could show productive results: as the new social norms became securely established, more time and money could be spent on improving production rather than deciding legal and social issues, and agricultural productivity consequently began to improve. Indeed,

after a rather severe crop failure in 1911, Russia's farmers enjoyed two record-breaking harvests in 1912 and 1913 and three very good years in 1914, 1915 and 1916, despite the ravages of the world war.

The expansion of agricultural production occurred despite the time lag allowing for the Stolypin Reform to take effect. The improvement was no more a product of good fortune or good weather, than the failings of Soviet agriculture are a product of 70 years of bad weather. In order to factor out the influence of climatic variations, we can compare the averages of two five-year periods: 1901-1905 and, eight years later, 1909-1913. While the choice of the 1909-13 period neutralizes the effect of any extraordinary windfalls or crop failures, it may also obscure the heightened productivity of 1912-13. Even allowing for such a short time lag (after all, the Stolypin Reform had hardly had a chance to flourish by 1909), we can see a notable improvement in Russia's agricultural production, as is evident in the table below.

Crop Production in 72 provinces of Russia (millions of quintals)

	<u>Wheat</u>	<u>Rye</u>	<u>Barley</u>	<u>Oats</u>	<u>Maize</u>	<u>Flax</u> <u>Fiber</u>	<u>Potato</u>	<u>Sugar</u> <u>Beet</u>
1901-1905:	161	220	75	128	12	5.1	264	79
1909-1913:	199	232	104	155	24	6.0	348	114
% change	+24%	+5%	+39%	+21%	+100%	+18%	+32%	+44%

We can see a significant expansion all across the the board. The biggest increases came in the more valuable grains (wheat, barley and maize) and the more intensive crops such as potato and sugar beet. The production of the five main grains increased 20%

during these eight years, representing a 2.31% compounded annual growth rate. Much of the growth of agricultural production was due to the expansion of cultivated land. As we saw in Chapter 9, the expansion of cultivation in Western Siberia gave birth to a large dairy industry; the settlement of Central Asia increased cotton production, which doubled between 1900 and 1913 and provided over half of the raw material for Russia's burgeoning cotton textile industry. ⁸ Between the periods 1901-5 and 1911-13, ⁹ cultivated land expanded by an estimated 14% in European Russia. As we have seen, the expansion of cultivation was encouraged by the following policies of the Stolypin government: (1) encouragement of colonization of lands beyond the Urals; (2) encouragement of the purchase of gentry lands by peasant farmers; and (3), encouragement of new crop rotation technologies, allowing for fallow lands to be brought under cultivation without exhausting the soil and diminishing crop yields.

In the short term, the expansion of cultivation could have served to diminish average crop yields in Russia as a whole. If the expansion resulted from increasingly desperate cultivation of marginal lands or lands which needed the replenishment of a fallow cycle, one could expect average yields to drop; on the other hand, if the expansion of cultivation took place through colonization of virgin lands, yields would also suffer, at least initially, as the farmer spent a couple of years clearing and grading his land and generally getting his farming system in order. As it was, however, the average crop yields in Russia did not drop, but improved significantly between 1901-5 and 1909-13, indicating significant technological progress and productivity

growth. According to a 1924 study by Zemplan, the planning arm of the Soviet Ministry of Agriculture, about half of the growth of agricultural production during the Stolypin Reform was due to the expansion of arable land and rural labor; the other half was due to productivity improvements.¹⁰ Improvement in crop yields was especially crucial in the older agricultural regions of the Russian Empire. While farmers migrating to the abundant lands of the East could afford to raise half the yield of their European Russian counterparts, the latter had to improve their land-productivity or face utter impoverishment. Fortunately, crop yields in European Russia did rise significantly during this period,¹¹ as can be seen below.

Crop Yields: 63 provinces of European Russia (quintals per hect.)

<u>Years</u>	<u>Wheat</u>	<u>Rye</u>	<u>Barley</u>	<u>Oats</u>	<u>Flax Fibre</u>	<u>Potato</u>	<u>Sugar Beet</u>
1901-1905:	6.9	7.4	7.6	7.1	3.1	65.9	148
1909-1913:	7.3	7.9	8.9	8.4	4.1	76.5	164
% change	+6%	+7%	+17%	+18%	+32%	+16%	+11%

Once again, significant improvement is evident across the board. Judging by the data from the European part of the Russian Empire, rising crop yields were important especially with respect to flax production, which rose 18% even though the area of cultivation actually shrank. (A similar phenomenon also occurred with rye.) Why were yields rising, in spite of the heavy use of land and the growing tendency to skip the fallow cycle? The reason was almost certainly the employment of new soil-conservation technology in the form of better crop rotations, more manuring and greater use of artificial fertilizers. The

growing employment of manure and sophisticated crop rotations was reflected in the rise in livestock numbers and in the greater diversification of Russia's agricultural production. The cultivation of nitrogen-fixing fodder grasses, for instance, increased by 79% during this period to account for 1.5 million desiatins of cultivated land. (This was especially important in the flax growing regions of non-black earth Russia, allowing for the impressive increase in flax yields shown in the table above.) In addition, the production of row crops (breaking up the soil and varying the crop cycle) rose as well: the cultivation of sunflowers rose by 61%, sugar beet by 44%, potatoes by 32%. It should be noted that though grain farming lost some ground to other crops during this period, it still accounted for the vast bulk of Russia's cultivated land: 89.7% even as late as 1913.¹²

Another symptom of the increasing technological sophistication (and material prosperity) of the Russian farmer was the rapid growth of purchases of manufactured farm equipment and artificial fertilizers. The purchase of farm equipment can be seen in the table below.¹³

Purchase of Agricultural Machinery
(in thousands of rubles)

1900	27,909
1906	39,650
1912	119,186

After rising 42% in the six years between 1900 and 1906, the purchase of agricultural machinery tripled in the next six-year period. Most of the growth in demand was satisfied by the

expansion of domestic production of agricultural equipment. In 1900, 43% of equipment purchases were of Russian manufacture; in 1913, 55%.¹⁴ In some large estates in Southern Russia and Western Siberia on the eve of the war the first gasoline-powered tractors were beginning to appear.¹⁵ The growing purchases of agricultural machinery not only reflected the rise in the commercial prosperity of the farming population, it also boded well for improvements in labor and land productivity. It should also be noted that one of the reasons for the increased adoption of machinery was the rise in agricultural wages after a long period of decline before 1906.¹⁶ (There will be more about this later in the chapter.)

The use of fertilizers, though still miniscule by West European standards, also showed a sharp upturn in this period. Since the great majority of fertilizers used by Russian farmers were imported, the rise in consumption is best judged by considering fertilizer imports, which are shown below.¹⁷

Imports of Artificial Fertilizers
(in millions of puds)

1900	6.0
1905	7.3
1913	34.3

While crop production clearly underwent an impressive expansion, the record for animal husbandry was more ambiguous. Of course animal husbandry can't be judged by livestock numbers alone: important improvements in the livestock feeding (as

witnessed by changed crop rotations and increased cultivation of grass hays, for example) and livestock breeding can take place without ever showing up in the statistics on livestock numbers. That said, let us consider those numbers in the following table:

Livestock Ownership, 1905-1916

	26 black earth provinces			
	<u>1905</u>	<u>1909</u>	<u>1914</u>	<u>1916</u>
Horses:	13,426,100	14,169,693	14,505,670	16,674,998
Cattle:	19,025,388	18,141,522	18,312,949	24,688,022
Pigs:	6,148,262	6,541,493	8,039,324	10,474,345
	22 non-black earth provinces			
	<u>1905</u>	<u>1909</u>	<u>1914</u>	<u>1916</u>
Horses:	7,777,352	6,600,020	6,159,813	6,332,541
Cattle:	13,516,624	11,183,111	10,786,799	12,874,932
Pigs:	3,979,127	3,869,801	4,158,721	5,825,163
	Total for 48 provinces of European Russia			
	<u>1905</u>	<u>1909</u>	<u>1914</u>	<u>1916</u>
Horses:	21,203,452	20,769,713	20,665,483	23,007,539
Cattle:	32,542,012	29,324,633	29,099,748	37,562,954
Pigs:	10,127,389	10,411,294	12,198,045	16,299,508

The table above refers to the older agricultural regions of European Russia; it does not take into account the fertile new lands in Stavropol, Kuban and Western Siberia, where livestock ownership rose rapidly in conjunction with the expansion of cultivation. With respect to the 48 provinces considered above, it is evident that animal husbandry as a whole suffered in the first years of the Stolypin Reform; the situation had stabilized and even improved a little by 1914, and the war years witnessed a sharp jump upward as peasants invested their increased savings in

farm animals. Two positive trends visible in the table above are the growth in working livestock in the black earth provinces and the growth of pig farming throughout European Russia. Working livestock (horses) were the most important farm animals for the black earth provinces, since this was a region of crop production and very little dairy farming; the consistent growth in the number of horses here was therefore a very encouraging sign. Pig farming, meanwhile, was a very economical branch of agriculture, since pigs generally required no grazing land and could be fed byproducts such as potato skins, linseed cake and sugar beet leaves; and that accounts for the consistently rapid growth in the number of pigs throughout the 48 provinces.

By far the most encouraging development in Russian animal husbandry was its increasing commercialization. Because of growing specialization and efficiency improvements in animal husbandry, the marketing of animal products increased dramatically during the Stolypin Reform. It should be noted that animal husbandry should be judged not only by the quantity of livestock, but also by its quality. Here there was a substantial improvement: one official English publication estimated that the value of Russian cattle had risen 25% through better breeding during the Stolypin reform.¹⁹ Another indicator was the increased production derived from Russia's farm animals. As can be seen in the next table, between the periods 1901-5 and 1911-13, shipments of dairy products more than doubled, while the shipments of meat increased more than ten-fold. Exports of both meat and dairy products also doubled. Evidently, Russia's farmers no longer aspired to keep animals just for domestic consumption or social

prestige; they were taking a more modern, commercially-oriented approach to raising farm animals.

Not only animal husbandry, but Russian agriculture as a whole was becoming commercialized. We can get a very good picture of all the agricultural products that were marketed outside purely local markets by looking at how much was transported along the railways and waterways of Russia. According to the Board of Railroad and Water Transportation, total agricultural products marketed in 1900-05 averaged about 2.3 billion rubles; by 1911-13 this figure had risen 39% to 3.2 billion rubles. If we include local markets, the total agricultural marketings on the eve of the war was about 4.5 billion rubles annually. ²⁰ Not only was the gross amount of marketings rising, but the proportion of the total agricultural product that was put on the market was rising as well. According to the railroad statistics, for instance, the proportion of the grain that was produced for the market rose ²¹ from 28% of the total in 1901-5 to 37% in 1911-13.

The value of agricultural exports grew 61%, from 700 million rubles in the 1900-05 period to 1,126 million rubles in 1911-13. (In 1909-13, exports accounted for almost half of all grain marketings.) ²² The increase was partly a result of a quantitative rise in export shipments and partly of a rise in world market prices for most farm products. Another factor was the shift in the make-up of the agricultural exports to higher-value farm products: barley and wheat replaced rye as Russia's primary export; and industrial crops (sugar beet, potatoes, etc.) and ²³ animal products grew at the expense of grain generally. The following table shows the growth of agricultural marketings and

exports in this period.

Russian Agricultural Products Exported and Shipped
by Railroads: % change in 1911-13 over 1901-5

<u>Product</u>	<u>Shipments</u>	<u>Exports</u>
Grain:	+22%	+7%
Flax, hemp:	+31%	+31%
Dairy:	+112%	+104%
Meat:	+1,019%	+127%
Potatoes:	+61%	+265%
Starch:	+67%	+1,427%
Spirits:	+60%	+309%
Sugar beets:	+146%	-2%
Sugar:	+59%	+107%

If we refer back to the first table in this chapter (gross agricultural production) we can see that in all major crops -- from grain and flax to potatoes and sugar beet -- commercial shipments increased faster than gross production. This confirms once again the growing level of commercialization in Russian agriculture. Secondly, domestic consumption (shipments) of grain, meat and dairy products increased faster than exports, indicating increased urban demand and probably improved nutrition -- a point which is reinforced by the production per capita figures mentioned later. Finally, with respect to exports, Russia seemed to be doing more agricultural processing at home: exports of starch and spirits rose much faster than the export of potatoes; similarly, sugar beet exports actually fell, but the export of sugar more than doubled, reflecting the proliferation of sugar processing plants -- "rising like mushrooms" -- on plantations throughout central and southern Russia in 1910-13. This points to one of the ways in which the development of the agricultural

sector helped the national process of industrialization.

The increase in shipments brought in its wake the problem of storage. That meant grain elevators, where Russia's grain could be cleaned, sorted and stored for shipment. In 1910, the State Bank, aiming to raise the quality of Russia's grain exports and capture some of the trading and storage fees appropriated by foreign merchants, decided to finance an intensive campaign of grain elevator construction at Russia's most important ports and railheads. The need for these elevators was acute. In 1910, Russia, which exported about 8 million tons of grain, had only 62 elevators with a capacity of 400,000 tons; by contrast, the United States, which exported about 2 million tons of grain, had 424 elevators with a capacity of 7 million tons (most for internal shipments). When the war interrupted Russia's construction program, it had hardly gotten off the ground; 21 new elevators had been completed, with a combined capacity of 232,000²⁶ tons (increasing the nation's capacity by more than 50%).

Besides grain storage, Russia needed facilities for cold storage to accommodate the burgeoning trade in butter, eggs, fish, beef and bacon. The products were commonly shipped by rail in "ice-cars" -- packed on matting on top of chunks of ice -- to ports and railheads, where they were stored in enormous ice cellars. Because of the evident inefficiency of this system, mechanical refrigerators began to be introduced in Russia, though still on a comparatively small scale.²⁷

Agriculture also spurred the process of industrialization by earning foreign currency. The growth of Russia's agriculture helped consolidate its position as the world's largest

agricultural exporter. Russia's position vis a vis other

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exporters is shown in the following table:

Net Exports of Grain, Potato, Butter and Flax (1909-1913 average)
(by the world's main exporters; in thousands of quintals)

	<u>Wheat</u>	<u>Corn</u>	<u>Barley</u>	<u>Oats</u>	<u>Rye</u>	<u>Potato</u>	<u>Butter</u>	<u>Flax Fiber</u>
Russia	41,174	7,544	36,999	10,683	5,341	1,705	672	2,821
Argent.	24,249	29,401		6,170				
USA	14,271	10,264	1,628	557				
Rumania	13,314	9,837	3,508	1,559	894			
Canada	20,152			1,803				
Hungary		2,240	2,544	1,663	2,752	648		
Germany					4,047			
Italy						912		
Netherlands						3,218	318	
Denmark							859	
<u>Total</u>	<u>144,754</u>	<u>62,877</u>	<u>51,076</u>	<u>22,941</u>	<u>13,877</u>	<u>8,141</u>	<u>2,971</u>	<u>3,855</u>
Russia's share of the total	28%	12%	72%	47%	38%	21%	23%	73%

This table does not include the other major export crop on world market -- cotton -- of which Russia was a net importer and the United States was a major exporter, but even this doesn't significantly alter the picture. The awesome weight of Russia's agricultural produce on world market at this time is clear.

According to the 1924 Zemplan study, between 1900 and 1913, the total market value of Russia's agricultural production rose 89%. This expansion included a 34% rise in volume and a 41% rise in the average prices fetched by Russia's agricultural produce. Unfortunately, the rise in prices is not explained in the Zemplan study and specifically the possibility of inflation

is not explored. One Western economist calculated that the national consumer price index rose 29% between 1900 and 1913.³⁰ This would leave agriculture with 47% real growth. In reality, it was probably greater since we have to account for the sharp turn in the terms of trade towards agriculture and the phenomenon mentioned previously: Russian farmers' switch to higher-value products such as wheat, barley, sugar beet and dairy products. In other words, the pure volume of agricultural production may have risen only 34% according to Zemplan, but the produce was also of better quality and greater value.³¹ Whether or not one could include this 89% increase in the market value of agricultural production in a calculation of GNP growth for instance is debateable, but in any case, for the farmer, it represented a real gain. An 89% improvement over little more than one decade was in fact an unprecedented windfall for Russia's farming population; since peasant farmers accounted for over 78% of the (grain) marketings on the eve of the war, most of this added income must have accrued to them.³² Even though much of the money must have gone to pay the merchants and tax collectors, peasant farmers still ended up with record quantities of cash on their hands. An indication of this was the explosive growth of the type of small savings accounts mostly used by peasants, as well as in State Savings Bank deposits, a large part of which belonged to the peasantry.³³ Witness following table:

Deposits in Millions of Rubles (as of 31 Dec. 1895-1916)

<u>Year</u>	<u>Peasant estate banks</u>	<u>Zemstvo funds of small cred.</u>	<u>Savings & loan assoc.s</u>	<u>Credit assoc.s</u>	<u>State Savings Banks</u>	<u>Total</u>
1895	10.3	0.0	9.3	0.0	367.9	387.5
1899	10.3	0.0	13.7	0.1	608.3	632.4
1905	21.9	0.0	32.2	5.3	831.2	890.6
1910	31.9	9.2	105.5	45.1	1,396.9	1,588.6
1914	59.8	54.6	205.1	199.7	1,835.9	2,355.1
1916	73.8	86.6	262.7	419.6	3,769.0	4,611.7

As we can see, deposits almost tripled in the nine years between 1905 and 1914, and this before the inflationary spiral of wartime. If we exclude the State Savings Banks, deposits at credit cooperatives and other small savings banks increased almost nine-fold in the nine years after 1905; The great majority of the increment came from credit cooperatives, especially credit associations, which came to account for over 400 million rubles of deposits. What proportion of total savings deposits belonged to peasant farmers? Many accounts, after all, belonged to merchants, shop-keepers and townsmen. Unfortunately, no precise figures exist, but we can make a fairly well-educated guess.

We can assume that 100% of the deposits of the peasant estate banks and virtually 100% in the zemstvo funds of small credit belonged to peasants -- in the case of the former, because they were estate institutions and in the case of the latter, because they were especially set up to help peasant agriculture and credit cooperation. With respect to credit cooperatives, we know that town-dwellers made up 16% of the total membership; we can assume conservatively, therefore, that the peasantry accounted for 75% of the total deposits in credit cooperatives. With respect to State Savings Banks, several Western historians

have estimated that the peasantry accounted for at least 25% of
the deposits. ³⁵ Using these proportions, we can estimate that
peasant savings deposits increased from 258 million rubles in
1905 to 877 million rubles in 1914. The total savings deposits of
peasant farmers in 1914 -- 877 million rubles -- represented 25%
of the total cash revenues from peasant agriculture in 1913
(3,510 million rubles). ³⁶ Evidently, when given a chance,
Russia's peasants turned out to be a thrifty bunch. Incidentally,
the level of sobriety among the Russian peasantry seems to risen
as well, and some observers saw this as one of the causes in the
rise in savings. ³⁷

The healthy progress of the agricultural sector at this time
helped to spur the economy as a whole. According to the Zemplan
study, the volume of industrial production expanded by 63%
between 1900 and 1913 (and total market value grew by 83%). ³⁸
Russia's population, meanwhile, was becoming rapidly urbanized;
with respect to 42 provinces of European Russia, for instance,
the urban population rose from 13% of the total in 1897 to as
high as 21% in 1916. ³⁹ In other words, Russia's rural economy was
prospering, while the country as a whole was becoming urbanized
and industrialized.

How did Russia measure up to the other great economic powers
during this time? Was it catching up or falling behind. To answer
this we can try to measure gross national product. Comparing the
gross national product of different countries is a difficult
exercise even in our day, when economic statistics are relatively
precise and the global economy relatively open and integrated.
Comparing GNP's at the turn of the century can't be considered as

anything but skilled guesswork, since economic statistics were often vague, prices of similar goods and services varied widely between different countries and the very concept of a GNP hardly existed for measurement purposes. Nonetheless, several economists have tried to compare GNP growth between nations as far back as two hundred years.⁴⁰ One of the most exhaustive efforts was undertaken by Paul Bairoch.⁴¹ According to Bairoch, whose figures for the year 1900 were used at the beginning of this thesis, the growth of Russia's GNP compared in the following way to the other great powers.⁴²

Comparative GNP in 1900 and 1913
(in millions of 1960 US dollars)

	<u>1900</u>	<u>1913</u>	<u>% growth</u>
United States	77,426	128,615	66%
Russia	32,000	52,420	64%
Germany	35,800	49,760	39%
Great Britain	36,273	44,074	22%
France	23,500	27,401	17%

According to Bairoch's calculations, in the period 1900-13, Russia overtook Great Britain and Germany to become the second largest economy in the industrialized world. In these thirteen years, the Russian economy grew 64%, or at a compounded annual rate of 3.9%; this was almost twice as fast as the 2.1% average growth rate achieved by the rest of Europe and was matched only by the booming United States economy. Russia's growth was only partly due to the expansion of its population, according to Bairoch, since GNP per capita in this period grew at a rate of 2.1% (compounded) per year.⁴³ What enabled Russia to turn in such

an impressive economic performance was the rapid growth of its agricultural sector, for Russia's industrial sector remained far smaller than that of Britain, Germany and the United States.⁴⁴

Of course, all these figures provide a somewhat distorted picture of economic development as it concerned the average inhabitant of these countries. What difference did it make to the average Russian, for instance, that his country was the second largest economy in the world if he himself was still mired in poverty? For this reason, we should look at economic wealth on a per capita basis and measure economic development in terms of productivity growth. In per capita terms, Russia's claim to be a great power was dubious. Russia's strength still lay in the size of its land and population -- in the mass rather than the intensity of its production. Russia's per capita GNP remained half of Germany's, a third of Britain's and a quarter of the United States'.⁴⁵ But even here there was progress, for the period of the Stolypin Reform witnessed a great expansion in productivity.

Let us go back to the Russian peasant farmer. How can we explain the great expansion of agricultural production, marketings and exports that took place during the Stolypin Reform? How can we explain the dramatic increase in peasant cash savings and at the same time the increase in the purchases of agricultural equipment, fertilizers and presumably all sorts of other manufactured consumer goods? The answer is that peasant farmers at this time experienced a significant increase in the profitability of their enterprises. This was partly due to the general rise in agricultural prices with respect to other goods,

but most of the reason lay in productivity improvements. Since breaking down Russia's agricultural sector into a labor force and a non-productive population is virtually impossible (who could say which members of the peasant household were not productive?), we will measure rural productivity as production per capita of the rural population. The rise in rural productivity was due to two trends: first, as we have seen above, the rapid expansion of gross production, and second, a decline in the growth of the rural population.

At the turn of the century, Russia's rural economy had been severely constrained by the problem of rural over-population, which depressed living standards and limited the amount of capital (or profits) that peasant farmers could hope to accumulate. Rural overpopulation and the consequent land hunger of the peasantry led many peasant farmers to try to supplement their earnings with jobs outside their farm. During the 1890's, the number of agricultural wage laborers grew especially quickly, a sign, among other things, that the number of landless or poverty-stricken peasants was on the rise. Beginning in 1903, however, the size of this group began to shrink; and after 1907, agricultural wages began to rise, a sign that rural landlessness was on the decline and that the moment was becoming ripe for mechanization. ⁴⁶ Initially, the mobilization for the Russo-Japanese War played a role, but the longer-term, secular trend towards a decline in the number of agricultural wage workers was a result of both agricultural and industrial growth. During the Stolypin Reform, Russia's surplus rural population began to find a way out of their impoverished environment. According to one

estimate, in the period 1905-10, resettlement to Siberia reduced rural population growth in 10 key central provinces by 44%; in Poltava, one of the provinces most affected by overpopulation, rural population growth in 1910 declined to one quarter of what it had been in 1900.⁴⁷ Emigration abroad, migration to Russia's cities and resettlement beyond the Urals reached record proportions during the Stolypin Reform; during this period, emigration abroad took away over 100,000 annually (though many of these were Jews and other town-dwellers), resettlement beyond the Urals took away another 350,000, and the cities claimed another several hundred thousand.⁴⁸ The surplus population of rural Russia was leaving the countryside on an unprecedented scale. Even more important in raising rural labor productivity, however, was the flourishing state of Russian agriculture. As we have seen, the growing agricultural sector in the older regions of European Russia began to offer more opportunities for profitable independent employment. The intensification of agricultural production raised land- and labor-productivity and obviated much of the peasant's need to seek more land or outside earnings. These trends indicated that the vast problem of rural under-employment and economic under-development was on the way to being solved.

The trends in peasant wage labor, urbanization, resettlement to Western Siberia and emigration are only symptoms of a larger trend: the key indicator is the growth of rural population. Here, unfortunately, the statistics get rather murky. The problem is that Russia never had a chance to produce a good national census after 1897. The 1916 census was incomplete and was distorted by

the influx of war refugees and the absence of millions of men at the front. The Central Statistical Administration (TsSK) published annual statistics charting Russian population growth; comparing the statistics of 42 provinces of European Russia between 1897 and 1913, we get compounded annual growth rates of 2.10% for the rural population, 2.31% for the urban population and 2.13% for the total population.⁴⁹ The problem is that the annual numbers of the TsSK, like all such annual updates between censuses, are based on projections of the 1897 numbers and adjusted slightly based on information received from localities. They do not expose radical changes in population dynamics. For this reason, it is better to take the 1916 census into account, since this was in fact a census (despite its many faults) rather than just an update.

The 1916 census for the 42 provinces of European Russia showed a rural population of 81 million, an urban population of 22.2 million and a total population of 103.3 million.⁵⁰ If we were to compare these figures with those in 1897, we would get a surprisingly small rate of population growth (especially with respect to the countryside) and an extremely fast rate of urbanization. In order to factor out the distortions caused by the war and get an accurate picture of how Russia's population had changed between 1897 and 1916, we must make certain revisions. At every point, we will try to be conservative with respect to the size of the urban population. The figures on rural population show about 10 million more females than males. (It is unclear whether the total population figures include the millions who had left for the front.) It may be that these 10 million

males had left to work in the towns (a relatively common occurrence -- even the 1897 figures for these 42 provinces showed 2.4 million more females than males), but on such a large scale this is an unlikely scenario. Let us assume that most of these absent males had gone to the front and add back 7.5 million males into the rural population.⁵¹ The 22.2 million people registered as urban are not broken down into males and females, so we have very little idea how many urban citizens were drafted into the army. Let us add back a conservative 1 million.

The revised 1916 figures for the 42 provinces yield a rural population of 88.5 million (79%), an urban population of 23.2 million (21%) and a total population of 111.7 million.⁵²

Comparing the 1916 data with the 1897 data with respect to 42 provinces of European Russia, we arrive at a compounded annual growth rate of 1.24% for the rural population, 4.42% for the urban population and 1.76% for the total population. Compared with the annual TsSK revisions of the 1897 census, the revised figures show a lower population growth (especially with respect to rural areas) and a much higher rate of urbanization (the TsSK allowed for virtually no proportional change since 1897). That the revised figures are more accurate is confirmed by the Zemplan study, as well as by the estimates of Western economists such as Bairoch, Goldsmith and Gregory.⁵³ Furthermore, since the 42 provinces of European Russia accounted for about two thirds of the population of the pre-war Russian Empire, and since the urbanization trends for these provinces reflected fairly accurately the trends for the Empire as a whole, we can extend them to the whole country and compare them to national production

figures. What we get is the following:

	<u>Compounded annual growth</u>
Total pop. growth, 42 provinces, 1897-1916 (revised):	1.76%
Rural pop. growth, 1897-1916, 42 provinces (revised):	1.24%
Grain output, 1901-5 to 1909-13 (Empire):	2.31%
Market value of agricultural output, 1900-13 (Empire):	5.02%
Gross National Product, 1900-1913:	3.88%

Clearly, to the extent that the population trends in European Russia and economic trends in the Russian Empire are comparable, rural productivity was rising very rapidly during the period of the Stolypin Reform. The rise in the volume of grain production, extended to 44.1% between 1900 and 1913 and compared with a 17.4% rise in rural population during the same period, represented 23% rise in productivity. As measured by the total market value of agricultural output (much of it a relative increase in prices), rural productivity increased even more: 61%. It was this rise in productivity which explained the ability of Russian farmers to simultaneously increase their marketings, increase their cash savings and spend more money on equipment and other manufactured goods. The rapid development of Russia's agricultural sector set the pace for the economy as a whole. If we take Bairoch's (conservative) estimate of a 64% growth in GNP between 1900 and 1913, Russia's GNP per capita appears to have grown 31%. This compares favorably with the 16% growth rate in Germany and the 10% growth rate in Britain.

Conclusion

Clearly, the Stolypin Reform was a very important event in Russian history. In a brief period, it managed to produce impressive results in terms of spurring economic growth, encouraging the national specialization of labor and the emergence of a rural middle class and in changing century-old attitudes among Russia's peasant farmers. The reform also is an important model for how to accomplish a socio-political renaissance in a country wracked by political and economic troubles. Let us list some of the more important lessons that can be drawn from Russia's experience with agricultural development during the Stolypin Reform.

The Stolypin land reform, consisting of the privatization and consolidation of strips, along with the sale of gentry lands and resettlement, met with a generally favorable response among the Russian peasantry. The reason for this was that the peasants found the reform to be in their interest. The Stolypin Reform shows that the majority of the working population will jump at the chance to own property and gain a degree of managerial independence, even in a country as tradition-bound as Russia was at the turn of the century.

Tsarist Russia's experience with social agronomy shows that a well-organized extension service can do much to spur technological progress and economic growth among the general population. But it should be noted that Russian social agronomy was successful because it managed to keep a fine balance between initiating changes and intervening excessively in the local

economy. The proper role for an extension service is primarily to provide information, not to give commands or become involved in commercial activities.

The cooperative movement was able to flourish in Russia because of the growing commercialization of peasant agriculture and the growing entrepreneurial flair of the peasant farmers. Cooperative membership spread very quickly, because cooperatives were well-suited to peasants' economic needs. Here again, the movement was successful because it did not threaten the independence of peasant family farms: under the right conditions, the cooperative opened new opportunities for the peasant smallholder and allowed him to attain economies of scale in financial management, marketing, farm supply and food processing, but it did not take over functions which the peasant farmer regarded as rightfully his and which he was better able to perform in any case.

In terms of the national economy, the Stolypin Reform spurred the prewar boom in Russia by boosting capital accumulation in peasant agriculture, expanding the domestic market for manufactures and raising export earnings. The new Russian farmer that was emerging under the Stolypin Reform was more efficient than the Russian peasant of old. The combination of private property to provide managerial and labor incentive, social agronomy to provide technological modernization and cooperation to provide economies of scale, resulted in a steep rise in agricultural productivity and gross agricultural production. Far from being squeezed out of the market by large gentry estates, small family farmers increased their dominance in

the rural economy.

Finally, the Stolypin Reform is very interesting as a model of government administration. Russia was in a deeply troubled state when Stolypin became Prime Minister in 1906. Perhaps it was the great danger facing Tsarist Russia at the time which made the government take such bold and innovative actions. It is true that many elements of the Stolypin Reform had been discussed and even enshrined as government policy before Stolypin came to power. But what made Stolypin's government different from previous administrations was the emphasis on action. Considering the difficulty of administering a country the size of Russia and considering the political divisions in society following the Revolution of 1905, it has to be said that the Stolypin Reform was implemented with remarkable vigor, wisdom and skill. Stolypin's government understood that even good laws remain a dead letter, unless social conditions are right for them to have an impact. Consequently, the reform was not only passed into law, but was brought to life with a host of subsidiary actions such as a virtual propaganda campaign throughout peasant Russia, the financing of the agronomic extension service and encouragement of agricultural and credit cooperation. The other reason why Stolypin's reform program took root so effectively is that the central government had the wisdom to rely on local personnel and even local finances to undertake regional agricultural development projects. This was remarkable behavior for a government that was so often criticized for being bureaucratic and autocratic.

For all these reasons, the Stolypin Reform deserves an

important place in the study of Russian history and even in the
history of the world.

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APPENDIX

The Klebnikov Database (42 provinces of European Russia)

The calculations of the database (both the correlation coefficients and simple arithmetic calculations such as agronomic expenditures divided by the number of peasant households) were computed with the Lotus 123 data processing program. Lotus calculates to 6 decimal spaces, but the figures are shown in their rounded form. The sources of the data are the following:

- 1) Grain yields on peasant farms. Taken from Glavnoe Upravlenie Zemleustroistva i Zemledelia, Sbornik Statistiko-Ekonomicheskikh Svedenii po Selskomu Khoziaistvu Rossii i Nekotorykh Inostrannykh Gosudarstv. Vol. 5 (St. Petersburg, 1911) and vol. 10 (Petrograd, 1916). The Ministry of Agriculture published 5-year averages if it had at least 3 reliable annual reports and if the grain in question was important enough (accounting for about 5% of cultivated land or more). I have taken a crude average of grain yields (by adding the yields together and then dividing), which makes for an admittedly crude measurement, though it is still better than focusing on only one type of grain (wheat for instance), which would discriminate against those provinces not suited to it. The weights of the different crops are broadly similar, enabling us to average without too much distortion. Such a methodology, however, does not capture the improvement that resulted from farmers switching to higher value grains. For the consistent margin of error in Russian grain production statistics, see Chapter 10.
- 2) Number of peasant households, 1905. The numbers are reprinted in N. Oganovsky and N. Kondratiev, eds., Selskoe Khoziaistvo Rossii v XX veke (Moscow, 1923). pp. 68-73.
- 3) Number of peasant households, 1916. Figures reprinted in A.V. Chayanov and Ia.S. Artiukhov, eds. Statisticheskii Spravochnik po Agrarnomu Voprosu (Moscow, 1917) pp. 10-11.
- 4) Desiatins of peasant allotment land per peasant household, 1905. Figures reprinted in Oganovsky and Kondratiev, op. cit., pp. 68-79.
- 5) Urban, rural and total population, in absolute numbers and per square verst, 1897 and 1916. The results of the censi are reprinted in Oganovsky and Kondratiev, op. cit., pp. 18-21. The total number of square versts in any given province is calculated by dividing the total rural population 1897 by the rural population per square verst 1897.
- 6) Railroad and roadway length per 1,000 square versts of territory taken from Sbornik Statistiko-Ekonomicheskikh Svedenii..., op. cit., (Petrograd, 1916).
- 7) Literacy of total population in 1897. Figures in Tsentralnyi Statisticheskii Komitet M.V.D., Ezhegodnik Rossii 1908 g. (St. Petersburg, 1909) pp. 80-82.

- 8) Land cultivated by gentry farmers as a percentage of total cultivated land, 1916. Figures reprinted in Chayanov and Artiukhov, op. cit., pp. 10-11.
- 9) Applications for land settlement, 1906-1916. Taken from Ministerstvo Zemledelia (Komitet po Zemleustroitel'nykh Delam), Kratkii Ocherk za Desiatiletie 1906-1916 (Petrograd, 1916), appendix.
- 10) Number of consolidated households 1906-16. Taken from P. Per-shin, "Formy Zemlepolzovania" in O Zemle, vol. 1, (Moscow, 1921), pp. 188-91. Figures do not include consolidated farms established through the Peasant Land Bank.
- 11) Number of households claiming strips in private tenure and number of households undergoing group land settlement, 1906-16. Figures reprinted in Chayanov and Artiukhov, op. cit., pp. 24-27. Privatization figures do not include automatic conversion of hereditary communes or of those communes not having undergone redistribution for over 12 years.
- 12) Department of Agriculture agronomic expenditures, 1913. Taken from Glavnoe Upravlenie Zemleustroistva i Zemledelia, Statistika Raskhodov Departamenta Zemledelia. 1913 god. (Petrograd, 1915) table attached to p. VIII.
- 13) Zemstvo (district and provincial) agronomic expenditures, 1913. Taken from Statistika Raskhodov..., op. cit., pp. LXIV-LXV.
- 14) Number of agricultural societies, as of 31 December 1914. Reprinted in V.V. Morachevskii, Spravochnye Svedeniia o Selskokhoziaistvennykh Obshestvakh po dannym na 1915 god (Petrograd, 1916), p. 6.
- 15) Loans of credit cooperatives as of 1 January 1913. Taken from Tsentralnyi Statisticheskii Komitet M.V.D., Statisticheskii Ezhegodnik Rossii 1915 g. (Petrograd, 1916), section XII.

TABLE 1: YIELDS OF RYE AND WHEAT ON PEASANT LANDS, 1901-15.
(puds per desiatin)

Province	rye 1901-10	rye 1911-15	winter wheat 1901-10	winter wheat 1911-15	spring wheat 1901-10
1. Archangel	46	50			
2. Olonets	45	53			
3. Vologda	50	56			48
4. Kostroma	46	50			36
5. Viatka	44	53			40
6. Perm	61	62			64
7. Ufa	61	56			48
8. Kazan	53	57			38
9. Simbirsk	54	56			37
10. Penza	51	56			39
11. Nizhni Novgorod	49	58			39
12. Vladimir	44	54			47
13. Riazan	52	58			
14. Moscow	44	57			
15. Tver	43	54			
16. Iaroslavl	54	58			48
17. Novgorod	41	54			
18. St. Petersburg	58	70			
19. Pskov	41	56	37	55	38
20. Vitebsk	34	52	33	53	32
21. Smolensk	48	63			46
22. Mogilev	42	56	50	64	45
23. Minsk	42	55	52	60	43
24. Volhynia	57	65	67	68	43
25. Podolia	72	78	73	80	56
26. Kiev	80	89	81	91	53
27. Chernigov	44	53	57	75	49
28. Kursk	59	67	59	75	57
29. Orel	45	50			
30. Kaluga	39	51			
31. Tula	49	54			
32. Tambov	57	61			
33. Voronezh	50	65	46	68	42
34. Kharkov	55	77	57	79	52
35. Poltava	66	81	64	82	57
36. Kherson	48	52	47	53	40
37. Ekaterinoslav	44	58	50	60	48
38. Taurida	41	48	48	64	33
39. Samara	38	49			37
40. Saratov	40	46			34
41. Don Territory	31	42	32	40	37
42. Astrakhan	15	15			18

TABLE 2: YIELDS OF OATS AND BARLEY ON PEASANT LANDS, 1901-15.
(puds per desiatin)

Province	spring	oats		barley	
	wheat 1911-15	1901-10	1911-15	1901-10	1911-15
1. Archangel		51	55	57	59
2. Olonets		46	50	51	51
3. Vologda	49	52	55	55	58
4. Kostroma	41	45	52	43	48
5. Viatka	45	48	46	48	52
6. Perm	60	62	60	63	62
7. Ufa	44	50	51	50	51
8. Kazan	40	45	44	44	43
9. Simbirsk	40	42	40	47	43
10. Penza	42	43	46		
11. Nizhni Novgorod	44	42	48	42	47
12. Vladimir	50	50	50	50	50
13. Riazan		50	55		
14. Moscow		50	56	41	47
15. Tver		49	53	51	55
16. Iaroslavl	56	56	59	58	66
17. Novgorod		47	49	49	53
18. St. Petersburg		57	61	56	58
19. Pskov	62	45	48	44	48
20. Vitebsk	37	38	45	37	43
21. Smolensk	63	53	55	49	50
22. Mogilev	56	47	53	47	53
23. Minsk	52	46	53	48	54
24. Volhynia	49	53	66	57	67
25. Podolia	61	67	73	64	72
26. Kiev	54	74	81	68	79
27. Chernigov	61	44	54	57	65
28. Kursk	64	54	64	57	61
29. Orel		40	50		
30. Kaluga		43	48	42	43
31. Tula		50	56		
32. Tambov		54	57		
33. Voronezh	47	46	58	46	50
34. Kharkov	60	55	69	53	63
35. Poltava	60	63	73	62	70
36. Kherson	31	48	56	51	55
37. Ekaterinoslav	43	56	62	58	57
38. Taurida	42	45	55	46	54
39. Samara	42	33	42	32	48
40. Saratov	35	34	38	32	39
41. Don Territory	38	39	47	44	50
42. Astrakhan	24	24	26		

TABLE 3: AVERAGE GRAIN YIELDS ON PEASANT LANDS, 1901-15.
(puds per desiatin)

Province	Average grain yield 1901-10	Average grain yield 1911-15	1911-15 as % of 1901-10
1. Archangel	51.3	54.7	106.5%
2. Olonets	47.3	51.3	108.5%
3. Vologda	51.3	54.5	106.3%
4. Kostroma	42.5	47.8	112.4%
5. Viatka	45.0	49.0	108.9%
6. Perm	62.5	61.0	97.6%
7. Ufa	52.3	50.5	96.7%
8. Kazan	45.0	46.0	102.2%
9. Simbirsk	45.0	44.8	99.4%
10. Penza	44.3	48.0	108.3%
11. Nizhni Novgorod	43.0	49.3	114.5%
12. Vladimir	47.8	51.0	106.8%
13. Riazan	51.0	56.5	110.8%
14. Moscow	45.0	53.3	118.5%
15. Tver	47.7	54.0	113.3%
16. Iaroslavl	54.0	59.8	110.6%
17. Novgorod	45.7	52.0	113.9%
18. St. Petersburg	57.0	63.0	110.5%
19. Pskov	41.0	53.8	131.2%
20. Vitebsk	34.8	46.0	132.2%
21. Smolensk	49.0	57.8	117.9%
22. Mogilev	46.2	56.4	122.1%
23. Minsk	46.2	54.8	118.6%
24. Volhynia	55.4	63.0	113.7%
25. Podolia	66.4	72.8	109.6%
26. Kiev	71.2	78.8	110.7%
27. Chernigov	50.2	61.6	122.7%
28. Kursk	57.2	66.2	115.7%
29. Orel	42.5	50.0	117.6%
30. Kaluga	41.3	47.3	114.5%
31. Tula	49.5	55.0	111.1%
32. Tambov	55.5	59.0	106.3%
33. Voronezh	46.0	57.6	125.2%
34. Kharkov	54.4	69.6	127.9%
35. Poltava	62.4	73.2	117.3%
36. Kherson	46.8	49.4	105.6%
37. Ekaterinoslav	51.2	56.0	109.4%
38. Taurida	42.6	52.6	123.5%
39. Samara	35.0	45.3	129.3%
40. Saratov	35.0	39.5	112.9%
41. Don Territory	36.6	43.4	118.6%
42. Astrakhan	19.0	21.7	114.0%

TABLE 4: ROAD AND RAILROAD DENSITY IN 1912

Province	Versts per 1000		Total per 1000	
	of railroad (1912)	sq versts area (1912)	Versts of roads (1912)	sq versts area (1912)
1. Archangel	225	0.3	2763	3.7
2. Olonets	184	1.6	10406	90.5
3. Vologda	697	1.9	6020	16.4
4. Kostroma	520	6.9	3628	48.1
5. Viatka	608	4.4	4156	30.1
6. Perm	1897	6.5	5542	19.0
7. Ufa	646	5.9	4346	39.7
8. Kazan	158	2.6	2381	39.2
9. Simbirsk	652	14.5	7312	162.6
10. Penza	732	21.2	2334	67.6
11. Nizhni Novgorod	363	7.2	3586	71.1
12. Vladimir	882	20.3	3135	72.2
13. Riazan	1025	27.1	3753	99.2
14. Moscow	1288	40	3334	103.5
15. Tver	902	15.4	3035	51.8
16. Iaroslavl	437	12.5	1649	47.2
17. Novgorod	1125	10.4	4516	41.7
18. St. Petersburg	1084	24.4	4065	91.5
19. Pskov	829	21.6	28741	748.9
20. Vitebsk	1142	28.8	5027	126.8
21. Smolensk	819	16.6	2987	60.5
22. Mogilev	708	16.5	19739	460.0
23. Minsk	1138	14.7	6050	78.2
24. Volhynia	1120	17.5	5369	83.9
25. Podolia	1137	30.5	2776	74.5
26. Kiev	1049	22.9	7630	166.6
27. Chernigov	1047	22.4	3717	79.5
28. Kursk	1129	27	2132	51.0
29. Orel	1124	26.8	5138	122.5
30. Kaluga	667	23.2	2384	82.9
31. Tula	1001	35.9	17891	641.6
32. Tambov	1283	21.6	3368	56.7
33. Voronezh	1224	21.1	6946	119.7
34. Kharkov	1139	23.2	4259	86.8
35. Poltava	1052	23.8	11559	261.5
36. Kherson	1271	19.8	40977	638.4
37. Ekaterinoslav	2210	36.8	4683	78.0
38. Taurida	750	13.4	11627	207.7
39. Samara	1434	10.7	7799	58.2
40. Saratov	1387	17.8	2076	26.6
41. Don Territory	2010	13.1	89372	582.5
42. Astrakhan	573	2.6	5073	23.0

TABLE 5: POPULATION AND POPULATION DENSITY, 1897

Province	Total square versts in province (000)	Urban popul. 1897 (000)	Rural popul. 1897 (000)	Total popul. 1897 (000)	% urban popul. 1897	Rural popul. per 1 sq. verst 1897
Archangel	788	32	315	347	9.2%	0.4
Olonets	117	26	339	364	7.1%	2.9
Vologda	355	63	1279	1342	4.7%	3.6
Kostroma	74	94	1293	1387	6.8%	17.5
Viatka	135	96	2935	3031	3.2%	21.8
Perm	290	179	2815	2994	6.0%	9.7
Ufa	107	107	2089	2197	4.9%	19.5
Kazan	56	186	1985	2171	8.6%	35.5
Simbirsk	44	108	1420	1528	7.1%	32.6
Penza	34	140	1331	1471	9.5%	39
NizhniNov	45	143	1442	1585	9.0%	32
Vladimir	43	191	1325	1516	12.6%	30.9
Riazan	37	170	1632	1802	9.4%	44.3
Moscow	29	1134	1296	2431	46.6%	44.1
Tver	57	155	1614	1769	8.8%	28.4
Iaroslavl	31	146	925	1071	13.6%	29.6
Novgorod	104	86	1282	1367	6.3%	12.3
St.Peters	39	1422	690	2112	67.3%	17.6
Pskov	38	73	1050	1122	6.5%	27.6
Vitebsk	27	130	857	988	13.2%	32.2
Smolensk	49	121	1404	1525	7.9%	28.5
Mogilev	42	147	1540	1687	8.7%	36.5
Minsk	65	189	1481	1670	11.3%	22.7
Volhynia	28	119	1272	1391	8.6%	45.9
Podolia	37	222	2796	3018	7.4%	75.7
Kiev	45	459	3100	3559	12.9%	69.2
Chernigov	46	209	2088	2298	9.1%	45.3
Kursk	41	222	2149	2371	9.4%	52.7
Orel	41	244	1790	2034	12.0%	43.6
Kaluga	27	95	1038	1133	8.4%	38.2
Tula	27	172	1248	1420	12.1%	45.8
Tambov	59	226	2458	2684	8.4%	42
Voronezh	58	170	2362	2531	6.7%	40.8
Kharkov	48	367	2125	2492	14.7%	44.3
Poltava	44	274	2504	2778	9.9%	57.1
Kherson	62	789	1945	2734	28.9%	31.2
Ekaterin.	56	241	1873	2114	11.4%	33.6
Taurida	53	289	1158	1448	20.0%	21.8
Samara	137	159	2593	2751	5.8%	18.9
Saratov	74	310	2096	2406	12.9%	28.2
Don Terr.	145	319	2246	2564	12.4%	15.5
Astrakhan	189	133	871	1004	13.2%	4.6

TABLE 6: POPULATION AND POPULATION DENSITY, 1916

Province	Total square versts in province (000)	Urban popul. 1916 (000)	Rural popul. 1916 (000)	Total popul. 1916 (000)	% popul. urban 1916	Rural popul. per sq. verst 1916
Archangel	788	148	361	509	29.1%	0.5
Olonets	117	40	362	402	10.0%	3.1
Vologda	355	113	1425	1538	7.3%	4.0
Kostroma	74	265	1476	1741	15.2%	20.0
Viatka	135	247	3241	3488	7.1%	24.1
Perm	290	663	3341	4004	16.6%	11.5
Ufa	107	287	2674	2961	9.7%	25.0
Kazan	56	324	2278	2602	12.5%	40.7
Simbirsk	44	217	1637	1854	11.7%	37.6
Penza	34	261	1597	1858	14.0%	46.8
NizhniNov	45	361	1697	2058	17.5%	37.7
Vladimir	43	531	1571	2102	25.3%	36.6
Riazan	37	266	1941	2207	12.1%	52.7
Moscow	29	2321	1494	3815	60.8%	50.8
Tver	57	273	1712	1985	13.8%	30.1
Iaroslavl	31	324	959	1283	25.3%	30.7
Novgorod	104	129	1349	1478	8.7%	12.9
St.Peters	39	2825	799	3624	78.0%	20.4
Pskov	38	131	1141	1272	10.3%	30.0
Vitebsk	27	208	824	1032	20.2%	31.0
Smolensk	49	250	1570	1820	13.7%	31.9
Mogilev	42	392	1536	1928	20.3%	36.4
Minsk	65	406	1994	2402	16.9%	30.6
Volhynia	28	192	1272	1464	13.1%	45.9
Podolia	37	781	3021	3802	20.5%	81.8
Kiev	45	1340	3229	4569	29.3%	72.1
Chernigov	46	553	2236	2789	19.8%	48.5
Kursk	41	387	2449	2836	13.6%	60.1
Orel	41	592	2022	2614	22.6%	49.3
Kaluga	27	127	1102	1229	10.3%	40.6
Tula	27	277	1410	1687	16.4%	51.7
Tambov	59	296	3029	3325	8.9%	51.8
Voronezh	58	267	2979	3246	8.2%	51.5
Kharkov	48	730	2674	3404	21.4%	55.7
Poltava	44	450	2599	3049	14.8%	59.3
Kherson	62	1251	2221	3472	36.0%	35.6
Ekaterin.	56	1291	2772	4063	31.8%	49.7
Taurida	53	541	1414	1955	27.7%	26.6
Samara	137	483	3054	3537	13.7%	22.3
Saratov	74	691	2502	3193	21.6%	33.7
Don Terr.	145	695	3077	3772	18.4%	21.2
Astrakhan	189	240	1062	1302	18.4%	5.6

TABLE 7: POPULATION DYNAMICS, 1897-1916 (part I)

Province	Total popul. 1897 (000)	Total popul. 1916 (000)	1916 to 1897 (in %)	Urban popul. 1897 (000)	Urban popul. 1916 (000)	1916 to 1897 (in %)
Archangel	347	509	146.7%	32	148	462.5%
Olonets	364	402	110.4%	26	40	153.8%
Vologda	1342	1538	114.6%	63	113	179.4%
Kostroma	1387	1741	125.5%	94	265	281.9%
Viatka	3031	3488	115.1%	96	247	257.3%
Perm	2994	4004	133.7%	179	663	370.4%
Ufa	2197	2961	134.8%	107	287	268.2%
Kazan	2171	2602	119.9%	186	324	174.2%
Simbirsk	1528	1854	121.3%	108	217	200.9%
Penza	1471	1858	126.3%	140	261	186.4%
NizhniNov	1585	2058	129.8%	143	361	252.4%
Vladimir	1516	2102	138.7%	191	531	278.0%
Riazan	1802	2207	122.5%	170	266	156.5%
Moscow	2431	3815	156.9%	1134	2321	204.7%
Tver	1769	1985	112.2%	155	273	176.1%
Iaroslavl	1071	1283	119.8%	146	324	221.9%
Novgorod	1367	1478	108.1%	86	129	150.0%
St.Peters	2112	3624	171.6%	1422	2825	198.7%
Pskov	1122	1272	113.4%	73	131	179.5%
Vitebsk	988	1032	104.5%	130	208	160.0%
Smolensk	1525	1820	119.3%	121	250	206.6%
Mogilev	1687	1928	114.3%	147	392	266.7%
Minsk	1670	2402	143.8%	189	406	214.8%
Volhynia	1391	1464	105.2%	119	192	161.3%
Podolia	3018	3802	126.0%	222	781	351.8%
Kiev	3559	4569	128.4%	459	1340	291.9%
Chernigov	2298	2789	121.4%	209	553	264.6%
Kursk	2371	2836	119.6%	222	387	174.3%
Orel	2034	2614	128.5%	244	592	242.6%
Kaluga	1133	1229	108.5%	95	127	133.7%
Tula	1420	1687	118.8%	172	277	161.0%
Tambov	2684	3325	123.9%	226	296	131.0%
Voronezh	2531	3246	128.2%	170	267	157.1%
Kharkov	2492	3404	136.6%	367	730	198.9%
Poltava	2778	3049	109.8%	274	450	164.2%
Kherson	2734	3472	127.0%	789	1251	158.6%
Ekaterin.	2114	4063	192.2%	241	1291	535.7%
Taurida	1448	1955	135.0%	289	541	187.2%
Samara	2751	3537	128.6%	159	483	303.8%
Saratov	2406	3193	132.7%	310	691	222.9%
Don Terr.	2564	3772	147.1%	319	695	217.9%
Astrakhan	1004	1302	129.7%	133	240	180.5%

TABLE 8: POPULATION DYNAMICS, 1897-1916 (part II)

Province	Rural popul. 1897 (000)	Rural popul. 1916 (000)	1916 to 1897 (in %)
1. Archangel	315	361	114.6%
2. Olonets	339	362	106.8%
3. Vologda	1279	1425	111.4%
4. Kostroma	1293	1476	114.2%
5. Viatka	2935	3241	110.4%
6. Perm	2815	3341	118.7%
7. Ufa	2089	2674	128.0%
8. Kazan	1985	2278	114.8%
9. Simbirsk	1420	1637	115.3%
10. Penza	1331	1597	120.0%
11. Nizhni Novgorod	1442	1697	117.7%
12. Vladimir	1325	1571	118.6%
13. Riazan	1632	1941	118.9%
14. Moscow	1296	1494	115.3%
15. Tver	1614	1712	106.1%
16. Iaroslavl	925	959	103.7%
17. Novgorod	1282	1349	105.2%
18. St. Petersburg	690	799	115.8%
19. Pskov	1050	1141	108.7%
20. Vitebsk	857	824	96.1%
21. Smolensk	1404	1570	111.8%
22. Mogilev	1540	1536	99.7%
23. Minsk	1481	1994	134.6%
24. Volhynia	1272	1272	100.0%
25. Podolia	2796	3021	108.0%
26. Kiev	3100	3229	104.2%
27. Chernigov	2088	2236	107.1%
28. Kursk	2149	2449	114.0%
29. Orel	1790	2022	113.0%
30. Kaluga	1038	1102	106.2%
31. Tula	1248	1410	113.0%
32. Tambov	2458	3029	123.2%
33. Voronezh	2362	2979	126.1%
34. Kharkov	2125	2674	125.8%
35. Poltava	2504	2599	103.8%
36. Kherson	1945	2221	114.2%
37. Ekaterinoslav	1873	2772	148.0%
38. Taurida	1158	1414	122.1%
39. Samara	2593	3054	117.8%
40. Saratov	2096	2502	119.4%
41. Don Territory	2246	3077	137.0%
42. Astrakhan	871	1062	121.9%

TABLE 9: PEASANT HOUSEHOLDS, LAND TENURE AND LITERACY

Province	Number of Peasant Houshlds. (1905)	Number of Peasant Houshlds. (1916)	1916 as % of 1905	Desiatins of land per houshld. 1905	% literates of both sexes (1897)	% Arable land farmed by gentry farmers (1916)
Archangel	55100	69746	127%	6.1	23.3%	0.3%
Olonets	59300	71672	121%	65.1	21.7%	0.3%
Vologda	238100	286812	120%	15.5	19.1%	0.6%
Kostroma	239700	303795	127%	8.9	24.0%	0.9%
Viatka	482500	591020	122%	16	16.0%	0.3%
Perm	520500	674847	130%	15.8	19.2%	0.5%
Ufa	318700	499682	157%	18.8	16.7%	3.6%
Kazan	374600	445011	119%	8.6	17.9%	5.3%
Simbirsk	244800	304558	124%	6.8	15.6%	6.4%
Penza	241000	281549	117%	7.5	14.7%	12.8%
NizhniNov	264700	318805	120%	7.4	22.0%	4.2%
Vladimir	242900	267036	110%	8.9	27.0%	3.0%
Riazan	280900	336920	120%	6.6	20.3%	10.1%
Moscow	210500	281409	134%	7.5	40.2%	6.4%
Tver	302900	338416	112%	8.6	24.5%	4.3%
Iaroslavl	198500	214371	108%	7.1	36.2%	2.1%
Novgorod	214300	260531	122%	13.5	23.0%	3.4%
St.Peters	106500	130327	122%	9.7	55.1%	7.5%
Pskov	158900	203115	128%	9.2	14.6%	3.2%
Vitebsk	138600	189375	137%	11.5	24.6%	8.2%
Smolensk	215900	267193	124%	9	17.3%	7.2%
Mogilev	198300	248603	125%	8.2	16.9%	11.3%
Minsk	213900	312726	146%	9.1	17.8%	10.1%
Volhynia	292400	290648	99%	7.8	17.2%	18.5%
Podolia	458800	573687	125%	3.8	15.5%	32.2%
Kiev	363000	652194	180%	5.5	18.1%	28.4%
Chernigov	367300	391533	107%	6.3	18.4%	6.8%
Kursk	335200	380995	114%	7.3	16.3%	13.8%
Orel	287200	331395	115%	7	17.6%	11.7%
Kaluga	171900	197763	115%	8.1	19.4%	5.9%
Tula	214100	245968	115%	6.3	20.7%	16.8%
Tambov	406000	484121	119%	7	16.6%	15.1%
Voronezh	388600	474950	122%	9.6	16.3%	7.8%
Kharkov	364200	424783	117%	7.3	16.8%	14.5%
Poltava	446800	475619	106%	4.9	16.9%	18.9%
Kherson	294300	417038	142%	7.8	25.9%	20.5%
Ekaterin.	270800	482912	178%	9.3	21.5%	14.3%
Taurida	132900	239784	180%	14.7	27.9%	13.9%
Samara	337100	517186	153%	19.8	22.1%	8.8%
Saratov	351100	433575	123%	9.5	23.8%	7.8%
Don Terr.	130700	445283	341%	75.3	21.4%	6.7%
Astrakhan	67900	198062	292%	28.4	15.5%	3.7%

TABLE 10: THE STOLYPIN LAND REFORM (part I)

Province	Total Number of Households (1916)	Number of Applications for Land Settlement (1906-1915)		Number of Consolidated Households (1906-1915)	
1. Archangel	69746	17758	25.5%	270	0.4%
2. Olonets	71672	24706	34.5%	1051	1.5%
3. Vologda	286812	87713	30.6%	8556	3.0%
4. Kostroma	303795	97793	32.2%	8722	2.9%
5. Viatka	591020	61460	10.4%	4759	0.8%
6. Perm	674847	203636	30.2%	12543	1.9%
7. Ufa	499682	108678	21.7%	18699	3.7%
8. Kazan	445011	256688	57.7%	20478	4.6%
9. Simbirsk	304558	98633	32.4%	21126	6.9%
10. Penza	281549	115733	41.1%	23608	8.4%
11. Nizhni Novgorod	318805	149160	46.8%	20932	6.6%
12. Vladimir	267036	154659	57.9%	13910	5.2%
13. Riazan	336920	114739	34.1%	15477	4.6%
14. Moscow	281409	206247	73.3%	20358	7.2%
15. Tver	338416	152006	44.9%	26977	8.0%
16. Iaroslavl	214371	125666	58.6%	14421	6.7%
17. Novgorod	260531	104057	39.9%	20936	8.0%
18. St. Petersburg	130327	85963	66.0%	33475	25.7%
19. Pskov	203115	67445	33.2%	29843	14.7%
20. Vitebsk	189375	83443	44.1%	44128	23.3%
21. Smolensk	267193	115334	43.2%	39381	14.7%
22. Mogilev	248603	72564	29.2%	30596	12.3%
23. Minsk	312726	80781	25.8%	14460	4.6%
24. Volhynia	290648	185853	63.9%	37858	13.0%
25. Podolia	573687	73060	12.7%	11336	2.0%
26. Kiev	652194	149980	23.0%	37437	5.7%
27. Chernigov	391533	84640	21.6%	14848	3.8%
28. Kursk	380995	123795	32.5%	28279	7.4%
29. Orel	331395	96268	29.0%	17518	5.3%
30. Kaluga	197763	99206	50.2%	10482	5.3%
31. Tula	245968	134485	54.7%	26917	10.9%
32. Tambov	484121	166689	34.4%	27018	5.6%
33. Voronezh	474950	293657	61.8%	36337	7.7%
34. Kharkov	424783	297654	70.1%	87899	20.7%
35. Poltava	475619	161326	33.9%	50149	10.5%
36. Kherson	417038	167132	40.1%	70692	17.0%
37. Ekaterinoslav	482912	197991	41.0%	90488	18.7%
38. Taurida	239784	86089	35.9%	42875	17.9%
39. Samara	517186	169635	32.8%	87448	16.9%
40. Saratov	433575	262755	60.6%	64981	15.0%
41. Don Territory	445283	56962	12.8%	13076	2.9%
42. Astrakhan	198062	77329	39.0%	5824	2.9%

TABLE 11: THE STOLYPIN LAND REFORM (part II)

Province	Number of Households		Number of Privatized Holdings (1906-1915)
	Total Number Houshlds. (1916)	With completed Group Land Settlement (1906-1915)	
1. Archangel	69746	8485	12.2%
2. Olonets	71672	4692	6.5%
3. Vologda	286812	28636	10.0%
4. Kostroma	303795	23148	7.6%
5. Viatka	591020	12434	2.1%
6. Perm	674847	30788	4.6%
7. Ufa	499682	14616	2.9%
8. Kazan	445011	114863	25.8%
9. Simbirsk	304558	29502	9.7%
10. Penza	281549	33942	12.1%
11. Nizhni Novgorod	318805	44277	13.9%
12. Vladimir	267036	51888	19.4%
13. Riazan	336920	31607	9.4%
14. Moscow	281409	82741	29.4%
15. Tver	338416	44531	13.2%
16. Iaroslavl	214371	42520	19.8%
17. Novgorod	260531	16576	6.4%
18. St. Petersburg	130327	14160	10.9%
19. Pskov	203115	5240	2.6%
20. Vitebsk	189375	3194	1.7%
21. Smolensk	267193	5516	2.1%
22. Mogilev	248603	3331	1.3%
23. Minsk	312726	3072	1.0%
24. Volhynia	290648	1684	0.6%
25. Podolia	573687	3134	0.5%
26. Kiev	652194	16339	2.5%
27. Chernigov	391533	11270	2.9%
28. Kursk	380995	19033	5.0%
29. Orel	331395	12410	3.7%
30. Kaluga	197763	31644	16.0%
31. Tula	245968	58184	23.7%
32. Tambov	484121	41788	8.6%
33. Voronezh	474950	68346	14.4%
34. Kharkov	424783	56186	13.2%
35. Poltava	475619	12221	2.6%
36. Kherson	417038	9774	2.3%
37. Ekaterinoslav	482912	12899	2.7%
38. Taurida	239784	8890	3.7%
39. Samara	517186	10563	2.0%
40. Saratov	433575	67316	15.5%
41. Don Territory	445283	14682	3.3%
42. Astrakhan	198062	6869	3.5%

TABLE 12: EXPENDITURES ON SOCIAL AGRONOMY, 1913

Province	Expendit. by Dep't		Expendit. by Dep't	
	Number of Peasant Houshlds. (1916)	of Agri. in '000 rubles (1913)	of Agri. zemstvos in '000 rubles (1913)	of Agri. zemstvos per 1916 houshld. (rubles)
1. Archangel	69746	92		1.32
2. Olonets	71672	67	117	0.93
3. Vologda	286812	171	223	0.60
4. Kostroma	303795	298	408	0.98
5. Viatka	591020	237	780	0.40
6. Perm	674847	221	993	0.33
7. Ufa	499682	257	478	0.51
8. Kazan	445011	326	418	0.73
9. Simbirsk	304558	142	272	0.47
10. Penza	281549	384	179	1.36
11. Nizhni Novgorod	318805	271	461	0.85
12. Vladimir	267036	267	367	1.00
13. Riazan	336920	241	117	0.72
14. Moscow	281409	969	544	3.44
15. Tver	338416	345	287	1.02
16. Iaroslavl	214371	251	222	1.17
17. Novgorod	260531	246	221	0.94
18. St. Petersburg	130327	515	106	3.95
19. Pskov	203115	446	216	2.20
20. Vitebsk	189375	335	162	1.77
21. Smolensk	267193	368	166	1.38
22. Mogilev	248603	396	197	1.59
23. Minsk	312726	262	249	0.84
24. Volhynia	290648	392	391	1.35
25. Podolia	573687	206	528	0.36
26. Kiev	652194	1133	1009	1.74
27. Chernigov	391533	341	624	0.87
28. Kursk	380995	381	518	1.00
29. Orel	331395	416	328	1.26
30. Kaluga	197763	249	156	1.26
31. Tula	245968	460	179	1.87
32. Tambov	484121	346	367	0.71
33. Voronezh	474950	497	662	1.05
34. Kharkov	424783	1206	1148	2.84
35. Poltava	475619	625	1293	1.31
36. Kherson	417038	560	806	1.34
37. Ekaterinoslav	482912	646	1294	1.34
38. Taurida	239784	660	294	2.75
39. Samara	517186	609	754	1.18
40. Saratov	433575	574	658	1.32
41. Don Territory	445283	486		1.09
42. Astrakhan	198062	161		0.81

TABLE 13: COOPERATIVE MEMBERSHIP, 1913-14

Province	Loans by credit		No. of agri. societies (1914)	Loans by credit coop.s: (1913)		No. of agri. societies per household. (1916)
	Number of Peasant Houshlds. (1916)	coop.s (thous. rubles) (1913)		coop.s (1913) rubles per houshld.	No. of agri. societies (1914)	
1. Archangel	69746	273	11	3.91	0.00016	
2. Olonets	71672	148	35	2.06	0.00049	
3. Vologda	286812	984	106	3.43	0.00037	
4. Kostroma	303795	2627	185	8.65	0.00061	
5. Viatka	591020	10637	163	18.00	0.00028	
6. Perm	674847	12139	248	17.99	0.00037	
7. Ufa	499682	7448	60	14.91	0.00012	
8. Kazan	445011	5927	42	13.32	0.00009	
9. Simbirsk	304558	3484	54	11.44	0.00018	
10. Penza	281549	5511	100	19.57	0.00036	
11. Nizhni Novgorod	318805	4505	75	14.13	0.00024	
12. Vladimir	267036	6399	66	23.96	0.00025	
13. Riazan	336920	4732	72	14.04	0.00021	
14. Moscow	281409	3978	81	14.14	0.00029	
15. Tver	338416	1926	33	5.69	0.00010	
16. Iaroslavl	214371	3741	89	17.45	0.00042	
17. Novgorod	260531	1638	168	6.29	0.00064	
18. St. Petersburg	130327	2894	140	22.21	0.00107	
19. Pskov	203115	1376	75	6.77	0.00037	
20. Vitebsk	189375	5142	168	27.15	0.00089	
21. Smolensk	267193	3119	67	11.67	0.00025	
22. Mogilev	248603	6737	23	27.10	0.00009	
23. Minsk	312726	10587	23	33.85	0.00007	
24. Volhynia	290648	12401	19	42.67	0.00007	
25. Podolia	573687	8417	72	14.67	0.00013	
26. Kiev	652194	20627	70	31.63	0.00011	
27. Chernigov	391533	9466	134	24.18	0.00034	
28. Kursk	380995	6718	42	17.63	0.00011	
29. Orel	331395	8369	34	25.25	0.00010	
30. Kaluga	197763	1883	103	9.52	0.00052	
31. Tula	245968	6418	63	26.09	0.00026	
32. Tambov	484121	8265	74	17.07	0.00015	
33. Voronezh	474950	12893	85	27.15	0.00018	
34. Kharkov	424783	21671	104	51.02	0.00024	
35. Poltava	475619	15961	345	33.56	0.00073	
36. Kherson	417038	22139	105	53.09	0.00025	
37. Ekaterinoslav	482912	16123	113	33.39	0.00023	
38. Taurida	239784	17146	58	71.51	0.00024	
39. Samara	517186	9932	90	19.20	0.00017	
40. Saratov	433575	8515	74	19.64	0.00017	
41. Don Territory	445283	15995	76	35.92	0.00017	
42. Astrakhan	198062	2832	32	14.30	0.00016	

CALCULATION 1: RISE IN AVERAGE GRAIN YIELDS

Size of peasant allotment to yield

Regression Output:
Constant 1.133181
Std Err of Y Est 0.085606
R Squared 0.000212
No. of Observations 43
Degrees of Freedom 41

X Coefficient(s) 0.000089
Std Err of Coef. 0.000961

Gentry farming to yield

Regression Output:
Constant 1.126202
Std Err of Y Est 0.085363
R Squared 0.005869
No. of Observations 43
Degrees of Freedom 41

X Coefficient(s) 0.088578
Std Err of Coef. 0.180043

Literacy to Yield

Regression Output:
Constant 1.138433
Std Err of Y Est 0.085403
R Squared 0.000065
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) -0.00903
Std Err of Coef. 0.176798

Urbanization 1897 to yield

Regression Output:
Constant 1.132243
Std Err of Y Est 0.085313
R Squared 0.002178
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) 0.034943
Std Err of Coef. 0.118252

CALCULATION 1: GRAIN YIELDS (cont.)

Railroad/area density to yield

Regression Output:

Constant	1.089049
Std Err of Y Est	0.081575
R Squared	0.092144
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s)	0.002588
Std Err of Coef.	0.001269

Road/area density to yield

Regression Output:

Constant	1.117008
Std Err of Y Est	0.082619
R Squared	0.068756
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s)	0.000121
Std Err of Coef.	0.000069

Land Settlement Applications to Yield

Regression Output:

Constant	1.099732
Std Err of Y Est	0.084445
R Squared	0.027140
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s)	0.088263
Std Err of Coef.	0.082528

Group Land Settlement to Yield

Regression Output:

Constant	1.149349
Std Err of Y Est	0.084500
R Squared	0.025873
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s)	-0.18384
Std Err of Coef.	0.176178

CALCULATION 1: GRAIN YIELDS (cont.)

Privatization to grain yields

Regression Output:

Constant	1.073006
Std Err of Y Est	0.082010
R Squared	0.174457
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	0.312451
Std Err of Coef.	0.114887

Consolidation to Yield

Regression Output:

Constant	1.078732
Std Err of Y Est	0.074825
R Squared	0.236178
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s)	0.644844
Std Err of Coef.	0.181108

Dept of Agri. to yield

Regression Output:

Constant	1.071902
Std Err of Y Est	0.076793
R Squared	0.195463
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s)	0.048667
Std Err of Coef.	0.015420

Zemstvos to yield

Regression Output:

Constant	1.105320
Std Err of Y Est	0.086803
R Squared	0.022883
No. of Observations	40
Degrees of Freedom	38

X Coefficient(s)	0.023583
Std Err of Coef.	0.024999

CALCULATION 1: GRAIN YIELDS (cont.)

Yields to Credit Coop.s

Regression Output:

Constant	-36.3122
Std Err of Y Est	13.81498
R Squared	0.090145
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 50.91496
Std Err of Coef. 25.57575

Agricultural Societies to Yield

Regression Output:

Constant	1.116834
Std Err of Y Est	0.084505
R Squared	0.025766
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s) 61.01159
Std Err of Coef. 58.59059

CALCULATION 2: PRIVATIZATION

Privatization to land set applic.

Regression Output:

Constant	0.353934
Std Err of Y Est	0.146173
R Squared	0.048158
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	0.272495
Std Err of Coef.	0.204772

Privatization to consolidation

Regression Output:

Constant	0.044418
Std Err of Y Est	0.059758
R Squared	0.189406
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	0.239407
Std Err of Coef.	0.083715

Privatization to Credit coop.s

Regression Output:

Constant	14.10456
Std Err of Y Est	14.04000
R Squared	0.074719
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	33.06643
Std Err of Coef.	19.66853

Privatization to Agri. Soc.s

Regression Output:

Constant	0.000408
Std Err of Y Est	0.000223
R Squared	0.061472
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	-0.00047
Std Err of Coef.	0.000312

CALCULATION 2: PRIVATIZATION (cont.)

Privatization to Gentry farms

Regression Output:

Constant	0.052165
Std Err of Y Est	0.063370
R Squared	0.080740

No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	0.155650
Std Err of Coef.	0.088774

Privatization to road density

Regression Output:

Constant	39.77310
Std Err of Y Est	173.7364
R Squared	0.109663

No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	505.3411
Std Err of Coef.	243.3860

Privatization to Railroad density

Regression Output:

Constant	9.971866
Std Err of Y Est	9.161143
R Squared	0.207242

No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	38.82022
Std Err of Coef.	12.83377

Privatization to Dept of Agri exp.

Regression Output:

Constant	0.913227
Std Err of Y Est	0.774822
R Squared	0.100648

No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	2.148231
Std Err of Coef.	1.085442

CALCULATION 2: PRIVATIZATION (cont.)

Privatization to Zemstvo exp.

Regression Output:

Constant	1.195528
Std Err of Y Est	0.615608
R Squared	0.000877
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	0.151241
Std Err of Coef.	0.862401

Privatization to size allotment

Regression Output:

Constant	13.29642
Std Err of Y Est	9.902274
R Squared	0.019765
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	-11.6536
Std Err of Coef.	13.87201

Privatization to Literacy

Regression Output:

Constant	0.222221
Std Err of Y Est	0.079719
R Squared	0.000840
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	-0.01915
Std Err of Coef.	0.111678

Privatization to Urban population

Regression Output:

Constant	0.100599
Std Err of Y Est	0.120616
R Squared	0.014038
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s)	0.119281
Std Err of Coef.	0.168971

CALCULATION 2: PRIVATIZATION (cont.)

Privatization to houshld. grth.

Regression Output:

Constant	1.230475
Std Err of Y Est	0.192193
R Squared	0.018332
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s) 0.217670
Std Err of Coef. 0.269241

Privatization to total pop. grth.

Regression Output:

Constant	1.249308
Std Err of Y Est	0.176761
R Squared	0.005012
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s) 0.103981
Std Err of Coef. 0.247623

Privatization to urban pop. grth.

Regression Output:

Constant	2.452661
Std Err of Y Est	0.867670
R Squared	0.020501
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s) -1.04037
Std Err of Coef. 1.215512

Privatization to rural pop. grth.

Regression Output:

Constant	1.121733
Std Err of Y Est	0.093799
R Squared	0.018942
No. of Observations	37
Degrees of Freedom	35

X Coefficient(s) 0.108022
Std Err of Coef. 0.131402

CALCULATION 3: LAND SETTLEMENT APPLICATIONS

Dept of Agri exp to applications

Regression Output:

Constant	0.255106
Std Err of Y Est	0.133686
R Squared	0.294378
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.109685
Std Err of Coef.	0.026850

Zemstvo exp. to applications

Regression Output:

Constant	0.318291
Std Err of Y Est	0.153196
R Squared	0.073397
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.067445
Std Err of Coef.	0.037890

Land per houshld. to applications

Regression Output:

Constant	0.435620
Std Err of Y Est	0.152949
R Squared	0.076382
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	-0.00313
Std Err of Coef.	0.001721

Gentry farming to applications

Regression Output:

Constant	0.409045
Std Err of Y Est	0.158784
R Squared	0.004567
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	-0.14469
Std Err of Coef.	0.337726

CALCULATION 3: LAND SETTLEMENT APPLICATIONS (cont.)

Urban pop. to applications
Regression Output:
Constant 0.316927
Std Err of Y Est 0.140923
R Squared 0.215915
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) 0.648287
Std Err of Coef. 0.195333

Literacy to applications
Regression Output:
Constant 0.184895
Std Err of Y Est 0.140034
R Squared 0.225778
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) 0.990087
Std Err of Coef. 0.289890

Railroads/area to applications
Regression Output:
Constant 0.316464
Std Err of Y Est 0.152238
R Squared 0.084954
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) 0.004568
Std Err of Coef. 0.002370

CALCULATION 4: CONSOLIDATION

Dept of Agri exp. to consolidation

Regression Output:

Constant	0.014612
Std Err of Y Est	0.047754
R Squared	0.462548
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.056275
Std Err of Coef.	0.009591

Zemstvo exp. to consolidation

Regression Output:

Constant	0.047114
Std Err of Y Est	0.061284
R Squared	0.114845
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.034531
Std Err of Coef.	0.015157

Land per houshld. to consolidation

Regression Output:

Constant	0.100013
Std Err of Y Est	0.063492
R Squared	0.049923
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	-0.00103
Std Err of Coef.	0.000714

Gentry farming to consolidation

Regression Output:

Constant	0.065724
Std Err of Y Est	0.062746
R Squared	0.072125
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.235329
Std Err of Coef.	0.133458

CALCULATION 4: CONSOLIDATION (cont.)

Urban pop. to consolidation

Regression Output:
Constant 0.054148
Std Err of Y Est 0.057487
R Squared 0.221135
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) 0.268532
Std Err of Coef. 0.079683

Literacy to consolidation

Regression Output:
Constant 0.018962
Std Err of Y Est 0.060422
R Squared 0.139592
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) 0.318644
Std Err of Coef. 0.125082

Railroads/area to consolidation

Regression Output:
Constant 0.039546
Std Err of Y Est 0.058995
R Squared 0.179742
No. of Observations 42
Degrees of Freedom 40

X Coefficient(s) 0.002719
Std Err of Coef. 0.000918

Consolidation to houshld. grth.

Regression Output:
Constant 1.415735
Std Err of Y Est 0.450619
R Squared 0.007267
No. of Observations 43
Degrees of Freedom 41

X Coefficient(s) -0.59752
Std Err of Coef. 1.090688

CALCULATION 4: CONSOLIDATION (cont.)

Consolidation to total pop. grth.

Regression Output:

Constant	1.224826
Std Err of Y Est	0.170385
R Squared	0.044523
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	0.564641
Std Err of Coef.	0.413578

Consolidation to urban pop. grth.

Regression Output:

Constant	2.371308
Std Err of Y Est	0.848300
R Squared	0.011806
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	-1.42345
Std Err of Coef.	2.059088

Consolidation to rural pop. grth.

Regression Output:

Constant	1.149636
Std Err of Y Est	0.104251
R Squared	0.000019
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	0.007103
Std Err of Coef.	0.253051

Consolidation to Credit Coop.s

Regression Output:

Constant	11.90247
Std Err of Y Est	12.54773
R Squared	0.249412
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	111.0397
Std Err of Coef.	30.45725

Consolidation to Agri. societies

Regression Output:

Constant	0.000176
Std Err of Y Est	0.000209
R Squared	0.133313
No. of Observations	43
Degrees of Freedom	41
X Coefficient(s)	0.001274
Std Err of Coef.	0.000507

CALCULATION 5: DEPARTMENT OF AGRICULTURE EXPENDITURE

Gentry farming to Dept of Agri

Regression Output:

Constant	1.137879
Std Err of Y Est	0.777844
R Squared	0.023718
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	1.630943
Std Err of Coef.	1.654437

Zemstvo exp. to Dept of Agri.

Regression Output:

Constant	0.965023
Std Err of Y Est	0.767003
R Squared	0.050740
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.277391
Std Err of Coef.	0.189704

Dept. of Agri. to Credit Coop.s

Regression Output:

Constant	12.58448
Std Err of Y Est	13.40003
R Squared	0.143981
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	6.980930
Std Err of Coef.	2.691354

Agri societies to Dept of Agri.

Regression Output:

Constant	0.904523
Std Err of Y Est	0.730236
R Squared	0.139566
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	1304.481
Std Err of Coef.	512.1252

CALCULATION 5: DEPARTMENT OF AGRICULTURE EXPENDITURE (cont.)

Railroads/area to Dept of Agri.

Regression Output:

Constant	0.670785
Std Err of Y Est	0.701144
R Squared	0.206758
	42
Degrees of Freedom	40

X Coefficient(s)	0.035253
Std Err of Coef.	0.010918

Literacy to Dept of Agri.

Regression Output:

Constant	-0.12441
Std Err of Y Est	0.604150
R Squared	0.411048
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	6.608177
Std Err of Coef.	1.250676

Urban pop. to Dept of Agri.

Regression Output:

Constant	0.624241
Std Err of Y Est	0.488262
R Squared	0.615323
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	5.413523
Std Err of Coef.	0.676778

CALCULATION 6: ZEMSTVO AGRICULTURAL EXPENDITURE

Gentry farming to zemstvo exp.

Regression Output:

Constant	0.942090
Std Err of Y Est	0.615224
R Squared	0.073835
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	2.336741
Std Err of Coef.	1.308553

Literacy to zemstvo exp.

Regression Output:

Constant	1.074743
Std Err of Y Est	0.638671
R Squared	0.001895
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	0.364427
Std Err of Coef.	1.322141

Urban pop. to zemstvo exp.

Regression Output:

Constant	1.081422
Std Err of Y Est	0.635819
R Squared	0.010792
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	0.582204
Std Err of Coef.	0.881306

Zemstvo Expenditure to Credit Coop.s

Regression Output:

Constant	11.44990
Std Err of Y Est	13.35498
R Squared	0.149728
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	8.766521
Std Err of Coef.	3.303113

Agri societies to zemstvo exp.

Regression Output:

Constant	1.058327
Std Err of Y Est	0.635117
R Squared	0.012973
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	322.9641
Std Err of Coef.	445.4169

CALCULATION 6: ZEMSTVO AGRICULTURAL EXPENDITURE (cont.)

Railroads/area to zemstvo exp.

Regression Output:

Constant	0.805090
Std Err of Y Est	0.606345
R Squared	0.100377
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.019946
Std Err of Coef.	0.009441

Dept of Agri. to zemstvo exp.

Regression Output:

Constant	0.917454
Std Err of Y Est	0.622848
R Squared	0.050740
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	0.182920
Std Err of Coef.	0.125097

Applications to zemstvo exp.

Regression Output:

Constant	0.721484
Std Err of Y Est	0.615370
R Squared	0.073397
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	1.088250
Std Err of Coef.	0.611370

Consolidation to zemstvo exp.

Regression Output:

Constant	0.863404
Std Err of Y Est	0.601449
R Squared	0.114845
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	3.325848
Std Err of Coef.	1.459905

CALCULATION 7: CREDIT COOPERATION

Agri. Soc.s to Credit Coop.s

Regression Output:

Constant	23.72225
Std Err of Y Est	14.38564
R Squared	0.013425
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) -7443.48
Std Err of Coef. 10088.85

Gentry Farming to Credit Coop.s

Regression Output:

Constant	12.22404
Std Err of Y Est	12.26459
R Squared	0.282903
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 103.6266
Std Err of Coef. 26.08621

Consolidation to Credit Coop.s

Regression Output:

Constant	11.90247
Std Err of Y Est	12.54773
R Squared	0.249412
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 111.0397
Std Err of Coef. 30.45725

Railroad density to Credit Coop.s

Regression Output:

Constant	14.30879
Std Err of Y Est	13.85358
R Squared	0.085054
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 0.415987
Std Err of Coef. 0.215724

CALCULATION 7: CREDIT COOPERATION (cont.)

Dept. of Agri. to Credit Coop.s

Regression Output:

Constant	12.58448
Std Err of Y Est	13.40003
R Squared	0.143981
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	6.980930
Std Err of Coef.	2.691354

Zemstvo Expenditure to Credit Coop.s

Regression Output:

Constant	11.44990
Std Err of Y Est	13.35498
R Squared	0.149728
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	8.766521
Std Err of Coef.	3.303113

Size allotment to Credit Coop.s

Regression Output:

Constant	22.08970
Std Err of Y Est	14.47092
R Squared	0.001694
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	-0.04245
Std Err of Coef.	0.162909

Literacy to Credit Coop.s

Regression Output:

Constant	19.46565
Std Err of Y Est	14.46389
R Squared	0.002664
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	9.788379
Std Err of Coef.	29.94231

Urban Population to Credit Coop.s

Regression Output:

Constant	17.87240
Std Err of Y Est	14.06843
R Squared	0.056455
No. of Observations	42
Degrees of Freedom	40
X Coefficient(s)	30.16750
Std Err of Coef.	19.50020

CALCULATION 8: AGRICULTURAL SOCIETIES

Agri. Soc.s to Credit Coop.s

Regression Output:

Constant	23.72225
Std Err of Y Est	14.38564
R Squared	0.013425
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) -7443.48
Std Err of Coef. 10088.85

Gentry farming to agri societies

Regression Output:

Constant	0.000352
Std Err of Y Est	0.000219
R Squared	0.049197
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) -0.00067
Std Err of Coef. 0.000467

Dept of Agri exp. to agri societies

Regression Output:

Constant	0.000153
Std Err of Y Est	0.000209
R Squared	0.139566
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 0.000106
Std Err of Coef. 0.000042

Zemstvo exp. to agri societies

Regression Output:

Constant	0.000245
Std Err of Y Est	0.000223
R Squared	0.012973
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 0.000040
Std Err of Coef. 0.000055

CALCULATION 8: AGRICULTURAL SOCIETIES (cont.)

Consolidation to to agri societies

Regression Output:

Constant	0.000183
Std Err of Y Est	0.000210
R Squared	0.128799
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 0.001242
Std Err of Coef. 0.000510

Railroads/area to agri societies

Regression Output:

Constant	0.000259
Std Err of Y Est	0.000224
R Squared	0.007005
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 0.000001
Std Err of Coef. 0.000003

Literacy to agri societies

Regression Output:

Constant	-0.00003
Std Err of Y Est	0.000191
R Squared	0.276403
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 0.001551
Std Err of Coef. 0.000397

Urban pop. to agri societies

Regression Output:

Constant	0.000190
Std Err of Y Est	0.000204
R Squared	0.175012
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s) 0.000826
Std Err of Coef. 0.000283

CALCULATION 9: MISCELLANEOUS RELATIONSHIPS

Gentry farming to peasant allotment

Regression Output:

Constant	17.63695
Std Err of Y Est	13.26910
R Squared	0.089366
No. of Observations	43
Degrees of Freedom	41

X Coefficient(s)	-56.1375
Std Err of Coef.	27.98624

Literacy to Urbanization, 1897

Regression Output:

Constant	-0.15000
Std Err of Y Est	0.059330
R Squared	0.729479
No. of Observations	42
Degrees of Freedom	40

X Coefficient(s)	1.275596
Std Err of Coef.	0.122822

NOTES

In the interest of brevity and consistency, I have chosen to employ abbreviated citations in the notes. The full citation for each work can be found in the Bibliography in the back. In addition, I have found it convenient to substitute initials for some of the longer names of government organizations. They are as follows:

GUZZ: Glavnoe Upravlenie Zemleustroistva i Zemledelia

GUZZ (DZ): Glavnoe Upravlenie Zemleustroistva i Zemledelia
(Departament Zemledelia)

NKZ: Narodnyi Kommissariat Zemledelia

MZ: Ministerstvo Zemledelia

TsSK: Tsentralnyi Statisticheskii Komitet

TsSU: Tsentralnoe Statisticheskoe Upravlenie

TsUNKhU: Tsentralnoe Upravlenie Narodnokhoziaistvenogo Ucheta

TsSKhB: Tsentralnyi Selskokhoziaistvennyi Bank

IIA: Institut Internationale d'Agriculture

Introduction

- (1) Hostetler, Amish Society, pp. 121-36; Lancaster New Era, Lancaster County, p. 5.
- (2) Yaney, The Urge to Mobilize.
- (3) Pallot, "Agrarian Modernization on Peasant Farms" and "The Geography of Enclosure"; Atkinson, "Statistics on the Russian Land Commune" and The End of the Russian Land Commune.
- (4) Robinson, Rural Russia under the Old Regime.
- (5) Mosse, "Stolypin's Villages".
- (6) Dubrovsky, Stolypinskaia Zemelnaia Reforma and Selskoe Khoziaistvo i Krestianstvo Rossii; Pavlovsky, Agricultural Russia; Volin, A Century of Russian Agriculture.
- (7) Gershenkron, Economic Backwardness in Historical Perspective and "Agrarian Policies and Industrialization".
- (8) Kahan, Russian Economic History; Crisp, Studies in the Russian Economy; Gatrell, The Tsarist Economy.
- (9) Goldsmith, "The Economic Growth of Tsarist Russia"; Black, The Modernization of Japan and Russia; Falkus, The Industrialization of Russia; Blackwell, Russian Economic Development; Gregory, Russian National Income.
- (10) Macey, Government and Peasant in Russia; Yaney, The Urge to Mobilize; Hennessy, The Agrarian Question in Russia; Weissman, Reform in Tsarist Russia; Sternheimer, "Administration and Development".
- (11) Yaney, "Some Aspects of the Imperial Russian Government"; Krivoshein, A.V. Krivoshein.
- (12) Avrekh, Stolypin i Tretia Duma and Tsarism i Treteiunskaiia Sistema; Startsev, Ruskaia Burzhuazia i Samoderzhavie; Diakin, Samoderzhavie, Burzhuazia i Dvorianstvo and Ruskaia Burzhuazia i Tsarism.
- (13) Tokmakoff, P.A. Stolypin and the Third Duma; Conroy, Peter Akad'evich Stolypin; Hosking, The Russian Constitutional Experiment; Levin, "Peter Arkadievich Stolypin"; Zenkovsky, Stolypin.
- (14) Robinson, Rural Russia under the Old Regime; Maynard, The Russian Peasant; Bideleux, Communism and Development; Shanin

Russia as a "Developing Society" and The Awkward Class.

(15) Anfimov, Ekonomicheskoe Polozhenie i Klassovaia Borba and Krestianskoe Khoziaistvo; Dubrovsky, Selskoe Khoziaistvo i Krestianstvo Rossii; Shapkarin, Krestianskoe Dvizhenie.

(16) Bushnell, Mutiny and Repression; Gill, Peasant and Revolution; Maltseva, "O Kolichestve Krestianskikh Vystuplenii"; Owen, The Russian Peasant Movement; Shanin, Peasants and Peasant Societies.

(17) Jasny, Soviet Economists of the Twenties; Durrenberger, "A Reassessment of Chayanov and his Recent Critics"; Millar, "A Reformulation of A.V. Chayanov's Theory of Peasant Economy"; Solomon, The Soviet Agrarian Debate; Figurowskaia, Agrarnye Problemy; Harrison, "Theories of Peasant Economy".

(18) Treadgold, The Great Siberian Migration; Tiukavkin, Sibirskaia Derevnia; Skliarov, Pereselenie i Zemleustroistvo; Edelman, Proletarian Peasants; Koch, The Volga Germans; McNeal, Tsar and Cossack.

(19) Anfimov, Krupnoe Pomeschchichie Khoziaistvo; Kovalchenko, Sotsialno-ekonomicheskii Stroi Pomeschchichiego Khoziaistva; Chermenskii, IV Gosudarstvenaia Duma; Manning, The Crisis of the Old Order; Emmons, The Zemstvo in Russia; Haimson, The Politics of Rural Russia; Fallows, "The Zemstvo and the Bureaucracy" and "Politics and the War Effort"; Katkov, Russia 1917.

(20) Baker, "Development of Cooperative Credit"; Salzman, "Consumer Societies"; Kabanov, Oktiabraskaia Revoliutsia i Kooperatsia.

(21) Kompaneets, Uchennye Agronomy Rossii.

(22) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii; Totomiantz, Kooperatsia v Rossii; Makarov, Krestianskoe Khoziaistvo.

(23) Ashin, Obshestvenno-Agronomicheskie Etudy, p. 100.

(24) For the problems involved with the 1916 census, for example, see Sirinov, Ocherki po Agrarnoi Statistike, pp. 337-41. For Western evaluations of the accuracy of Tsarist statistics, see Wheatcroft, "The Reliability of Russian Prewar Grain Output Statistics"; and Kahan, Russian Economic History, pp. 203-7.

(25) See for example CIMMYT, "The Farming Systems Perspective"; Harrison, "The Peasant Mode of Production"; Norman, "Farming Systems Research".

(26) See for example Anfimov, Krupnoe Pomeschchichie Khoziaistvo, Krestianskoe Khoziaistvo and Ekonomicheskoe Polozhenie i Klassovaia Borba; Kovalchenko, Sotsialno-ekonomicheskii Stroi Pomeschchichiego Khoziaistva; Manning, The Crisis of the Old

Order; Shanin, The Awkward Class; Tiukavkin, Sibirskaiia Derevnia;
Skliarov, Pereselenie i Zemleustroistvo; and Gershenkron,
"Agrarian Policies and Industrialization".

Chapter One: The Imperative of Agricultural Development

(1) The GNP figures for the European countries and Russia are from Bairoch, "Europe's Gross National Product: 1800-1975", pp. 281, 286. Unfortunately, Bairoch doesn't include his estimates of the U.S. GNP, but I have felt it necessary to give an estimate here, since we must include the U.S. in order to give a proper perspective to what was happening in Europe.

Bairoch mentions that in 1913, per capita U.S. GNP was 40% higher than Britain's (see *Ibid.*, p. 285), in other words \$1,351. We have to multiply this figure by the 1913 U.S. population, which I have estimated to be roughly 95,200,000 based on the official figure of 91,972,000 given for 1910 and adding 30% of the increment for the decade 1910-20 (see Bureau of the Census, Statistical Abstract of the United States 1990, p. 17). The total U.S. GNP for 1913, then, comes out to \$128,615 million (still in 1960 US\$). If we take the estimate of another economic historian, Maddison, that U.S. GNP in 1900 was 60.2% of its GNP in 1913 (see Maddison, "Growth and Fluctuation of the World Economy", p. 193), we can estimate U.S. GNP in 1900 to have been \$77,426 million. Dividing this figure by the population in 1900 (see Bureau of the Census, Statistical Abstract of the United States 1990, p. 17), we get a per capita GNP figure of \$1,019.

The urbanization figures are circa 1900 as reproduced in Kennard, The Russian Year-Book for 1911, p. 38.

(2) Witte, "An Economic Policy for the Empire", pp. 417-29.

(3) Quoted in Kaufman, Agrarnyi Vopros, Vol. 2, p. 89.

(4) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 39.

(5) Peshekhonov, Agrarnaia Problema, p. 49.

(6) Finance Minister Witte argued that since Russian manufactures were uncompetitive in Europe, Russia had to develop the Chinese and Persian markets (see Witte, "An Economic Policy for the Empire", pp. 419-20).

(7) TsUNKhU, Sotsialisticheskoe Stroitelstvo SSSR: Statisticheskii Ezhegodnik, pp. 378-79.

(8) For crop yields 1860-1900, see the data reproduced in Gattrell, The Tsarist Economy 1850-1917, p. 101.

(9) The conventional view that Russian agriculture was in crisis is reflected in works such as Robinson, Rural Russia Under the Old Regime; Volin, A Century of Russian Agriculture; and Simms, "The Crisis in Russian Agriculture". This view has been challenged recently in works such as Crisp, Studies in the Russian Economy; Bideleux, Communism and Development; Kahan,

Russian Economic History; Gregory, "Grain Marketings and Peasant Consumption"; and Wilbur, "Was Russian Peasant Agriculture Really That Impoverished?".

(10) IIA, Annuaire Internationale de Statistique Agricole, 1910, pp. 120-121, 64-65, 42-43, 104-5, 84-85, 168-69, 152-53, 72-73, 50-51, 110-11, 92-93, 170-71, 158-59. The crop yields for maize are calculated from Ibid., pp. 114-15, 120-21. The gross production for Russia includes the 9 Asian provinces, but the crop yields refer just to European Russia.

(11) The subject was the focus of the Special Commission on the Needs of Agriculture. Among the scholarly works published at the time were Chuprov, Vlianie Urozhayev i Khlebnykh Tsen and Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy; Dolgorukov, Agrarnyi Vopros; Ermolov, Nash Zemelnyi Vopros; Kaufman, Agrarnyi Vopros v Rossii; Lenin, The Agrarian Question in Russia; Maslov, Agrarnyi Vopros v Rossii; Oganovsky, Individualizatsia Zemlevladieniia; Peshekhonov, Agrarnaia Problema; Prokopovich, Agrarnyi Krizis; Rittikh, Krestianskoe Zemlepolzovanie; Sharapov, Zemlia i Volia; Shcherbatov, Gosudarstvo i Zemlia; Snezhkov, Blizhaishia Zadacha Pravitelstva.

(12) GUZZ, Statisticheskie Svedeniia po Zemelnomu Voprosu, p. 23; Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 9. The GUZZ statistics refer to landownership per male peasant, which declined from 5.1 desiatins to 2.6 desiatins; I have cut these figures in half to get a per capita figure.

(13) Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, pp. 12-13.

(14) Chayanov, Chto Takoe Agrarnyi Vopros?, p. 33; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 101-8; Peshekhonov, Agrarnaia Problema, p. 72; Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, pp. 12-18.

(15) Kaufman, Zemlia i Kultura, pp. 10-11.

(16) Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, p. 11.

(17) Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 21.

(18) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 28-29; Gerlakh, "Znachenie Molochnogo Dela dlia SSSR", pp. 125; Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 150.

(19) Gerlakh, "Znachenie Molochnogo Dela dlia SSSR", p. 126.

(20) As Ashin pointed out, the level of animal husbandry was the product of several factors: the size of farm capital, the state of livestock breeding, the production of fodder crops and the level of grain production (see Ashin, Obshestvenno-Agronomicheskie Etudy, p. 105).

(21) Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, p. 11. The problem is that livestock figures for this period are unreliable even by 19th century Russian standards. Between 1895 and 1896, for instance, the number of cows jumped by 20%, sheep by 22%, pigs by 45% and horses 11% -- almost certainly because of a different method of accounting (see Goldsmith, "The Economic Growth of Tsarist Russia", p. 452; and Mitchell, European Historical Statistics, p. 303). If one adds back this increment, as Goldsmith suggests, the number of cows declined from 32.3 million heads in 1877 to 31.2 million heads in 1905, while the number of horses rose from 19.4 million heads to 20.8 million heads (see Mitchell, European Historical Statistics, p. 303).

The decline in the number of cows was a bad sign for both dairy production and for manure production, while the rise in horse numbers was no consolation, since horse manure was more difficult to collect than cow manure (horses spent less time in stalls) and according to some estimates, Russia already had too many horses, with the existing animals being grossly underutilized (see NKZ (Zemplan), "Osnovy Perspektivnogo Plana Razvitia", p. 17; Makarov, "Kapital i Kapitalonakoplenie", pp. 42-43; Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 20).

(22) The vital significance of livestock in the agriculture of the time is discussed in virtually all the agronomic literature. See for example, Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 131-32; Gerlakh, "Znachenie Molochnogo Dela dlia SSSR", pp. 100, 118; Brunst, "Zemskaia Agronomia".

(23) Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, p. 10.

(24) Lubny-Gertsyk, "Ob Agrarnom Perenaselenii Rossii", pp. 10-11.

(25) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 188.

(26) This is the argument in both Maslov, Agrarnyi Vopros v Rossii and Lenin, The Development of Capitalism in Russia.

(27) Oganovsky, Individualizatsia Zemlevladienia, p. 21.

(28) Ibid., pp. 18-25, 93-94; Makarov, "Kapital i Kapitalonakoplenie", pp. 29-33.

(29) Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy; Kaufman, Agrarnyi Vopros v Rossii and Zemlia i Kultura; Chayanov, Optimalnye Razmery Selskokhoziaistvennykh Predpriatii and "On the Theory of Non-Capitalist Economic Systems"; and Makarov Krestianskoe Khoziaistvo.

(30) This is most emphatically argued in Kaufman, Agrarnyi Vopros v Rossii and Zemlia i Kultura.

(31) See for example Oganovsky, Individualizatsia Zemlevladienia, pp. 22-23; Makarov, Krestianskoe Khoziaistvo, pp. 40-66.

- (32) Makarov, Krestianskoe Khoziaistvo, p. 48.
- (33) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. xiv-xv.
- (34) Ibid., pp. xvii, 202; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 78.
- (35) Oganovsky, Individualizatsia Zemlevladienia, pp. 22-23.
- (36) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. xx-xxi.
- (37) Ibid., pp. xi-xiii.
- (38) Ibid., p. xiii.
- (39) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 101.
- (40) Chayanov, Optimalnye Razmery Selskokhoziaistvennykh Predpriatii, pp. 3-4.
- (41) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 46.
- (42) This is the underlying theme in Chelintsev, Russkoe Selkoe Khoziaistvo Pered Revoliutsii.
- (43) Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, p. 34.
- (44) Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 22.
- (45) Nitrogen for crops is like a growth hormone. One can often tell nitrogen deficiency just by looking at the crops; plants on nitrogen-deficient soil look wan and yellowish in color, while on fields with plenty of nitrogen, they have a deep green color.
- (46) Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, pp. 3-8.
- (47) Fabrikant observes that Russian stud farms and breeding stations at the beginning of the century were plagued by unsystematic record-keeping and confused aims. Often they had not even decided whether they were trying to breed cattle for meat or milk production, and they contained so many different breeds that they "resembled a zoological garden". If the farmer was to raise the pedigree of his livestock, he had to carefully control breeding for at least two generations. Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 135-38.
- (48) This was the view of the majority of agronomists at the time, including Ashin and Brunst (see Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 93-94; Brunst, "Zemskaia Agronomia", p. 338).
- (49) TsSKhB, Ocherki Tovarnykh Otrasley Selskogo Khoziaistva, p. 20.

- (50) Pares, Russia, p. 13.
- (51) Shestakov, Kapitalizatsia Selskogo Khoziaistva, p. 77; Prianishnikov, Chastnoe Zemledelie, p. 487; The Russian Cooperator (November, 1919), p. 165.
- (52) Vygodskii, Selskokhoziaistvennyi Kredit, p. 164.
- (53) Lyashchenko, History of the National Economy, p. 737.
- (54) Gerlakh, "Znachenie Molochnogo Khoziaistva v Selskom Khoziaistve", pp. 103, 106.
- (55) Brunst, "Zemskaia Agronomia", pp. 338-41; Gerlakh, "Znachenie Molochnogo Dela dlia SSSR", pp. 126-27; Gerlakh, "Perspektivy Razvitia Molochnogo Dela" (May, 1925), pp. 60-61; Shestakov, Kapitalizatsia Selskogo Khoziaistva, p. 67; Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 28-29; Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, pp. 3-8; Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 93-95.
- (56) This is the view of Makarov and Brunst (see Makarov, "Kapital i Kapitalonakoplenie", p. 48; Brunst, "Zemskaia Agronomia", pp. 339-41). Ashin disagreed, arguing that it was a waste to use so much excellent land for fodder crops, when these could be bought on the market (see Ashin, Obshestvenno-Agronomicheskie Etudy, p. xxiii).
- (57) Shestakov, Kapitalizatsia Selskogo Khoziaistva, pp. 78-79.
- (58) Rasmussen, "The Mechanization of Agriculture".
- (59) Seleznev, "Mashina v Russkom Selskom Khoziaistve", p. 215.
- (60) Makarov, Organizatsia Selskogo Khoziaistva, p. 238.
- (61) Seleznev, "Mashina v Russkom Selskom Khoziaistve", p. 215.
- (62) Makarov, Organizatsia Selskogo Khoziaistva, pp. 510-15, 529; Lenin, The Development of Capitalism in Russia, pp. 272-74; Rasmussen, "The Mechanization of Agriculture".
- (63) GUZZ, Zemleustroennye Khoziaistva, diagrams xvii, xviii.
- (64) Lubny-Gertsyk, "Ob Agrarnom Perenaselenii Rossii", p. 13.
- (65) Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, p. 23.
- (66) Oganovsky, Individualizatsia Zemlevladenia, p. 30.
- (67) Polferov, Selskokhoziaistvennye Rabochie, pp. 25-46; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 128-29.
- (68) Oganovsky, Individualizatsia Zemlevladenia, p. 25.

(69) The degree to which these indirect taxes were a burden on the peasantry has been a subject of debate among Western historians. The argument that the tax burden was insupportably heavy and seriously harmed capital accumulation in the countryside is presented in works such as Thalheim, "Russia's Economic Development", p. 108; Von Laue, Sergei Witte and the Industrialization of Russia, p. 102; and Falkus, The Industrialization of Russia, p. 76. It has been challenged in works such as Crisp, Studies in the Russian Economy, pp. 27-28; and Bideleux, Communism and Development, pp. 14-15.

(70) See the section on credit in agriculture in Chapter 8 of this dissertation.

(71) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 86; Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 18.

(72) Chayanov, Statisticheskii Spravochnik, p. 20.

(73) Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, pp. 12-13; Oganovsky, Individualizatsia Zemlevladienia, pp. 82-83.

(74) Chayanov, Statisticheskii Spravochnik, pp. 28-29; NKZ (Zemplan), "Perspektivy Osnovnogo Plana Razvitiia", p. 9; Lyashchenko, Sotsialnaia Ekonomia Selskogo Khoziaistva, p. 219.

(75) The number for the 50 provinces of European Russia in 1901 produced by the Commission for the Study of the Impoverishment of the Center was 19.5 desiatins, though some analysts argued that land rentals were actually 5-10 million desiatins higher than that. See Chernyshev, Agrarnyi Vopros v Rossii, pp. 79-82; Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 13; Lyashchenko, Sotsialnaia Ekonomia Selskogo Khoziaistva, p. 217; Chayanov, Chto Takoe Agrarnyi Vopros?, p. 33.

(76) Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 16.

(77) Oganovsky, Individualizatsia Zemlevladienia, p. 25.

(78) Makarov, Organizatsia Selskogo Khoziaistva, pp. 70-74.

(79) Ibid., p. 62.

(80) GUZZ, Sbornik Statistiko-Ekonomicheskikh Svedenii, p. 622-23; IIA, Annuaire Internationale de Statistique Agricole, 1910, pp. 3-4.

Chapter Two: Rural Life at the Turn of the Century

- (1) Makarov, Organizatsiia Selskogo Khoziaistva, pp. 476-82.
- (2) Ibid., pp. 476-82.
- (3) GUZZ, Statisticheskie Svedeniia po Zemelnomu Voprosu, p. 8; Kennard, The Russian Year-Book for 1911, p. 9.
- (4) See for example Wallace, Russia on the Eve of War and Revolution; Pares, My Russian Memoirs and Russia and Reform; Meakin, Russia: Travels and Studies; Baring, A Year in Russia; Kennard, The Russian Peasant; Michael, My Russian Experience; Polejaieff, Six Annees: La Russie 1906-12.
- (5) Valentinov, "Zemskii Otdel", p. 1739.
- (6) TsSK, Statistika Zemlevladieniia, 1905 g, pp. 174-75 records 12,019,255 peasant households in the 50 European provinces in 1905, with total communal (both repartitional and hereditary) land ownership of 124,078,089 desiatins. That works out to 10.3 desiatins per household. The 1897 census recorded 79 million peasants in the 50 provinces of European Russia (see GUZZ, Statisticheskie Svedeniia po Zemelnomu Voprosu, p. 8); assuming a compounded annual rural population growth of 1.24% in 1897-1916 (see Chapter 11 of this dissertation), the number of peasants in 1905 would have reached 88 million in European Russia. That works out to an average of 7.3 members to each of the 12 million households.
- (7) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 16, values the "capital" of the average peasant household (buildings, equipment, livestock) at 900 rubles in 1913, but this was after a decade of considerable economic growth. In 1905, European Russia as a whole had 21.2 million horses and 32.5 million heads of cattle -- hence 1-2 horses and 2-3 heads of cattle for each of the 12 million households (see GUZZ, Statisticheskie Svedeniia Rossii i Nekotorykh).
- (8) See the summary of peasant budget studies in Mesiatshev, Zemelnaia i Selsko-khoziaistvennaia Politika, p. 26. Also see Prokopovich, Krestianskoe Khoziaistvo, pp. 118-43, 206; Russkii Kooperativnyi Selskokhoziaistvennyi Institut, pp. 67-69; Makarov, Organizatsiia Selskogo Khoziaistva, pp. 486-516.
- (9) Makarov, Organizatsiia Selskogo Khoziaistva, p. 509; Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 74; Danilov, Sozдание Materialno-Tekhnicheskikh Predposylok, p. 24.
- (10) TsSU, "Recueil Statistique, 1913-17", pp. 244-45.

- (11) Kacharovsky, Russkaia Obshchina, p. 33.
- (12) Peshekhonov, "Zemelnye Nuzhdy Derevni", p. 41.
- (13) Kacharovsky, Russkaia Obshchina, p. 24.
- (14) Ibid., p. 23.
- (15) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 71-76.
- (16) Lenin, Development of Capitalism, p. 245.
- (17) See the end of Chapter 4 in Ibid.
- (18) Lenin, The Agrarian Question in Russia; For a good encapsulation of the standard Leninist view of the commune see Mesiatsev, Zemelnaia i Selsko-Khoziaistvennaia Politika, pp. 14-19.
- (19) See for example Kacharovsky, Russkaia Obshchina, pp. 324-25.
- (20) TsSK, Statistika Zemlevladenia, 1905 g., pp. 174-75.
- (21) Lyashchenko, Sotsialnaia Ekonomiiia Selskogo Khoziaistva, pp. 199-200.
- (22) Ibid.
- (23) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 41-42.
- (24) Makarov, Organizatsiia Selskogo Khoziaistva, p. 109.
- (25) Semenov, Nuzhdy i Nedostatki Krestianskikh Obshestv, p. 10.
- (26) See Lyashchenko, Sotsialnaia Ekonomiiia Selskogo Khoziaistva, p. 200; Kennard, The Russian Year-Book for 1916, p. 158; excerpts from Pares, Russia and Reform.
- (27) See for example McNeal, Tsar and Cossack, p. 191; Meakin, Russia: Travels and Studies, p. 29.
- (28) Meakin, Russia: Travels and Studies, p. 29.
- (29) Lyashchenko, Sotsialnaia Ekonomiiia Selskogo Khoziaistva, p. 199.
- (30) Semenov, Nuzhdy i Nedostatki Krestianskikh Obshestv, p. 7.
- (31) Chayanov, Ocherki po Teorii Trudovogo Khoziaistva and "On the Theory of Non-Capitalist Economic Systems"; Chelintsev, Teoreticheskie Obosnovania; and Chuprov, Vlianie Urozhaev.
- (32) Chayanov, "On the Theory of Non-Capitalist Economic Systems".

(33) Ashin, Obshestvenno-Agronomicheskie Etudy, p. 196; Khoziaistvo (1910), p. 1750.

(34) As quoted in Kaufman, Agrarnyi Vopros Vol. 2, pp. 15-16.

(35) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 44-45.

(36) Kaufman, Agrarnyi Vopros, Vol. 2, pp. 16-17.

(37) Michael, My Russian Experience, p. 20.

(38) Semenov, Nuzhdy i Nedostatki Krestianskikh Obshestv pp. 3-6.

(39) Makarov, Organizatsia Selskogo Khoziaistva, pp. 537-38.

(40) Pares, Russian and Reform, p. 424.

(41) See the data presented in Kahan, Russian Economic History, p. 171.

(42) Pares, Russia and Reform, pp. 431-432.

(43) Zavadskii, "Selskie Uchrezhdenia Melkogo Kredita", p. 46.

(44) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 97.

(45) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 198-99; Lenin argued that most arable gentry lands were rented out to peasant farmers and that yields on these lands were the lowest of all (See Lenin, The Agrarian Question in Russia).

(46) Lyashchenko, Russkoe Zernovoe Khoziaistvo, p. 282. Lenin in The Agrarian Question, argues that tenant farmers produced the lowest crop yields of any type of farmer. But it should be noted that a system of gentry landholding with tenant farmers is not inherently inimical to agricultural progress. Witness English and Prussian agriculture in the 19th century. If landowners were enterprising enough and if market conditions were right, the gentry could act to encourage and finance technological investments to increase the farmer's productivity (and their own rent).

(47) Lyashchenko, Russkoe Zernovoe Khoziaistvo, p. 283.

(48) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 108-9.

(49) Chayanov, Statisticheskii Spravochnik, pp. 10-11; the basis of for the 21% decline in total gentry landownership in European Russia can be found in note 11 of Chapter 3 of this dissertation.

(50) Lyashchenko, Sotsialnaia Ekonomiiia Selskogo Khoziaistva, pp. 212-16.

(51) See crop yield data for the period 1901-15 in GUZZ, Sbornik

Statistiko-Ekonomicheskikh Svedenii, (1916) pp. 66-75.

(52) Shestakov, Kapitalizatsia Selskogo Khoziaistva, p. 67.

(53) Chayanov, Chto Takoe Agrarnyi Vopros?, p. 57; Makarov, Krestianskoe Khoziaistvo, pp. 86-87.

(54) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", pp. 9-11. I've corrected an obvious misprint: total grain marketings should read 1,180 million puds instead of 2,180 as written; given the fact that the data which precedes this misprint states that the gentry accounted for 615 million rubles worth of agricultural production and that total agricultural marketings were 3,220 million rubles, it is evident that the correct total marketed tonnage figure is 1,180 million puds.

(55) Pavlovskii, Vseobshii Illiustrirovannyi Putevoditel, p. 4. For total church lands, see Chayanov, Statisticheskii Spravochnik, pp. 12-13.

(56) Ibid.

(57) Gerlakh, "Perspektivy Razvitia Molochnogo Dela" (May, 1925), p. 87.

(58) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 124; Prokopovich, Kooperativnoe Dvizhenie v Rossii, pp. 424-25.

(59) Kheisin, Istoricheskii Ocherk Kooperatsii, pp. 55-56.

(60) Ibid., p. 153.

(61) Morachevskii, Spravochnye Svedenia o Selskokhoziaistvennykh Obshestvakh, pp. 197-98, 207-8.

(62) GUZZ (DZ), Statistika Raskhodov, p. vii.

(63) Brunst, "Delo Rasprostraneniia Selskolhoziaistvennykh Znanii", p. 15.

(64) Kennard, The Russian Year-Book for 1911, p. 9.

(65) Ibid., p. 8.

(66) For one land captain's experience, see Maiborodov, Moia Sluzhba pri Starom Rezhime.

(67) This was confirmed by surveys carried out by the Ministry of Internal Affairs' Land Section in 1913 and 1916. See Yaney, The Urge to Mobilize, p. 100.

(68) Most of the land captains mentioned in Maiborodov, Moia Sluzhba pri Starom Rezhime had a military background. This fact is also confirmed by surveys mentioned by Sternheimer, "Administering Development", p. 297.

- (69) Surveys mentioned in Weissman, Reform in Tsarist Russia, p. 28.
- (70) Maiborodov, Moia Sluzhba pri Starom Rezhime, p. 45.
- (71) Kaufman, "Agronomicheskaiia Pomoshch v Rossii", p. 254.
- (72) Ashin, Obshestvenno-Agronomicheskie Etudy, p. 114.
- (73) Kaufman, Agrarnyi Vopros, vol. 2, p. 30.
- (74) Kaufman, "Agronomicheskaiia Pomoshch v Rossii", p. 259
- (75) Valentinov, "Zemskii Otdel", p. 1744.
- (76) On the multitude of shortcomings in the early administration of social agronomy, see Teitel, p. 55.
- (77) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, pp. 328-30.
- (78) Onufriev, "Uslovia Tormoziashie Normalnoe Razvitie", p. 7.
- (79) Bekhteev, Mertvaia Zyb, pp. 22-23.
- (80) Kaufman, "Agronomicheskaiia Pomoshch v Rossii", p. 258.
- (81) Ibid., p. 253.
- (82) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 204-7.
- (83) Kaufman, Zemlia i Kultura, pp. 75-88.
- (84) Brunst, "Zemskaia Agronomia", p. 324.
- (85) Brunst, "Delo Rasprostranenia Selsko-Koziaistvennykh Znanii", p. 3.
- (86) Maslov, Agrarnyi Vopros v Rossii; Gorky, "On the Russian Peasantry".
- (87) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 2-3.
- (88) Valentinov, "Zemskii Otdel", p. 1741
- (89) Savchenko, "Kakoi nam Nuzhen Uchastokovoi Agronom?", p. 10.
- (90) Maiborodov, Moia Sluzhba pri Starom Rezhime, pp. 143-44.
- (91) Valentinov, "Zemskii Otdel", p. 1740.
- (92) Schlippe, Memoirs, p. 93.

Chapter Three: The Stolypin Land Reform

- (1) Chayanov, Osnovnye Idei... Obshestvennoi Agronomii, p. 13.
- (2) Lenin, "The Agrarian Program of the Social Democratic Party" (1908) as reproduced in Karpov, Agrarnaia Politika Stolypina, p. 148.
- (3) As can be seen in Chapters 4, 5 and 6, most agronomists, though populist in outlook, came to acknowledge the agronomically progressive significance of the Stolypin land reform.
- (4) Bratskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 71-76.
- (5) Lenin, "Sushnost Agrarnogo Voprosa v Rossii" (1912) reproduced in Karpov, Agrarnaia Politika Stolypina, p. 149.
- (6) Kennard, The Russian Year-Book for 1914, pp. 490-93.
- (7) Stolypin's appeal to the zemstvos in Vestnik Evropy (43) no. 12 (December, 1909) p. 777. See also his comment to Bernard Pares (in Pares, My Russian Memoirs, p. 215). Also, Zenkovsky, Stolypin, pp. 84-96, and Krivoshein, A.V. Krivoshein. The proof that both men truly wanted a larger role for the zemstvos lies in the course that their government took: massively expanding zemstvo finances and responsibilities.
- (8) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, pp. 166-67; Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 209-11.
- (9) Bratskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 80-81; Kennard, The Russian Year-Book for 1911, p. 60.
- (10) Chayanov, Statisticheskii Spravochnik, p. 20.
- (11) Communal and hereditary lands belonging to the peasantry, Peasant Land Bank lands and cossack lands in 1905 can be found in TsSK, Statistika Zemlevladienia, 1905 g., pp. 130, 132, 174-75. Lands belonging to the gentry, to the Church and monasteries, to miscellaneous non-gentry private land owners and arable lands belonging to the State and Udels in 1905 can be found in Chayanov, Statisticheskii Spravochnik, pp. 12-13. Private peasant lands belonging to communes, associations and individuals in 1905 is from Chayanov, Statisticheskii Spravochnik, pp. 22-23.
The increase in private peasant lands belonging to communes, associations and individuals is based on land sale statistics in Chayanov, Statisticheskii Spravochnik, p. 20. The increase in peasant hereditary or privatized strips is based on Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 35. The consolidated (allotment) lands include just consolidations on peasant allotment lands (consolidations on Peasant Land Bank and State lands

would be included under the category Private lands -- individual or consolidated) and cover the period 1907-1915 for 47 provinces as reproduced in Pershin, O Zemle, vol. 1, pp. 186-87. The change in communal landholding is estimated by taking the communal landholding of 1905 and subtracting the net gains of hereditary, privatized and consolidated (allotment) lands for the period 1905-16. No information is available on the change in cossack landholding or in monastery and church lands, so they are assumed to have remained the same. The reserve in the Peasant Land Bank in 1916 can be found in Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 54. The change in non-gentry and non-peasant private landholding unfortunately can only be calculated in the period 1906-10, when this group recorded a net gain of 1,037,900 desiatines (see Chayanov, Statisticheskii Spravochnik, pp. 22-23).

The change in gentry landholding is calculated by adding the 9,461,003 desiatines of Peasant Land Bank sales from 1906-15 (see Chayanov, Statisticheskii Spravochnik, p. 20), the net gain of 2,346,000 desiatines in the Peasant Land Bank reserves, and the net gain of 1,037,900 desiatines in non-gentry and non-peasant landholding in 1906-10, and then subtracting the 1,649,000 desiatines of sold land estimated to have come from State and Udel lands (see Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, pp. 12-13).

(12) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 82-83.

(13) Ibid., p. 83.

(14) Kennard, The Russian Year-Book for 1916, p. 75.

(15) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 84.

(16) Schlippe, Memoirs, p. 102.

(17) The executive members of the Land Settlement Commissions were generally in place by 1909, when they existed in 38 provinces and 420 districts; by 1913, they were in place in 47 provinces and 463 districts. (See Kennard, The Russian Year-Book for 1916, p. 180.)

(18) GUZZ, La Reforme Agraire, p. 19.

(19) Maiborodov, Moia Sluzhba pri Starom Rezhime, p. 148.

(20) Ministry of Agriculture records reproduced in Dubrovsky, Stolypinskaia Zemelnaia Reforma, pp. 578-81.

(21) GUZZ, La Reforme Agraire, p. 17.

(22) Ibid., p. 18.

(23) GUZZ, Zemleustroennye Khoziaistva, p. 2.

(24) For land captains, see Kennard, The Russian Year-Book for 1911, p. 9; for land settlement executive members, see Kennard,

The Russian Year-Book for 1916, p. 180; for surveyors see MZ, Desiatiletie Zavedyvania Mezhevym Upravleniem, p. 69; for agronomists in 1905, see Brunst "Zemskaia Agronomiia", p. 327; for agronomists in 1914, see GUZZ, Obzor Deiatelnosti za 1914, p. 39.

(25) See Maiborodov, Moia Sluzhba pri Starom Rezhime, p. 113; also Sternheimer, "Administering Development", p. 286.

(26) Sternheimer, "Administering Development", p. 283.

(27) Maiborodov, Moia Sluzhba pri Starom Rezhime, p. 134.

(28) Karpov, Agrarnaia Politika Stolypina, pp.177-80.

(29) Ibid., p. 187.

(30) The number of petitions for land settlement is an estimate based on GUZZ, Obzor Deiatelnosti za 1914, appendix 1, pp. 6-7, which mentions that through 1914, there were 5,793,540 petitions for land settlement, including 2,816,483 for consolidation and 2,977,057 for group land settlement. Taking into account the additional petitions submitted in 1915, both Brutskus (Agrarnyi Vopros i Agrarnaia Politika, pp. 168-69) and Chernyshev (Agrarnyi Vopros v Rossii, p. 197) estimate the total number of petitions to have reached 6.2 million through 1915 (they do not distinguish between individual and group land settlement petitions). Since the total number of completed consolidations on allotment land through 1916 was 1,536,582 (see below), I have taken the proportion of completions to petitions as noted by the Ministry of Agriculture for 1907-14, 44%, and applied it to 1,536,582 to arrive at 3,492,232.

The number of consolidated farms refers to completed projects, with farmers already having settled on the new plots, but not necessarily having received the approval of the land settlement commissions. The figures for consolidations on allotment land in 1907-14 (1,252,020 households) can be found in GUZZ, Obzor Deiatelnosti za 1914, appendix 1, pp. 6-7; the figures for consolidations in 1915 (184,562 households) can be found in MZ, Desiatiletie Zavedyvania Mezhevym Upravleniem, appendix, table no. 6; the figures for consolidations in 1916 (100,000 households) are estimates by Pershin, Uchastokovoe Zemlepolzovanie, p. 7; the figures for the number of consolidations on state and Peasant Land Bank lands (293,500) can be found in Ibid., pp. 46-47. The number of consolidated farms which reverted back to strip farming is assumed to be cancelled out by the number which subdivided into two or more consolidated farms.

(31) Ashin, Obshestvenno-Agronomicheskie Etudy, p. 186.

(32) Zavadskii, "Selskie Uchrezhdenia Melkago Kredita", p. 47.

(33) Ibid., p. 49.

(34) Pares, My Russian Memoirs, pp. 218-19.

- (35) Kofod, Russkoe Zemleustroistvo, p. 128.
- (36) Karpov, Agrarnaia Politika Stolypina, pp. 186-87.
- (37) Schlippe, Memoirs, pp. 100-4.
- (38) Karpov, Agrarnaia Politika Stolypina, pp. 186-87.
- (39) Schlippe, Memoirs, pp. 103-04.
- (40) Karpov, Agrarnaia Politika Stolypina, p. 186; Kofod, Russkoe Zemleustroistvo; Maiborodov, Moia Sluzhba pri Starom Rezhime, pp. 138-39; Pares, My Russian Memoirs, pp. 216-17.
- (41) GUZZ, Zemleustroennye Khoziaistva, tables xi, xii.
- (42) Ibid.
- (43) Kofod, Russkoe Zemleustroistvo, pp. 130-31.
- (44) Ibid., p. 127.
- (45) GUZZ, La Reforme Agraire, p. 30.
- (46) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 118.
- (47) Karpov, Agrarnaia Politika Stolypina, pp. 95-106.
- (48) Ibid., pp. 181-84.
- (49) Ibid., p. 183.
- (50) Bekhteev, Mertvaia Zyb, p. 62.
- (51) Kofod, Russkoe Zemleustroistvo, p. 155.
- (52) Bilimovich, "The Land Settlement", p. 346.
- (53) Ibid., p. 350.
- (54) Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 35. Mozhukhin omits the 1.8 million consolidated farms, which would bring his total up to 9.1 million. Brutskus (Agrarnyi Vopros i Agrarnaia Politika, pp. 91-92) estimated that by 1917, 2,008,400 communal households had transferred to private tenure under the law of 9 November 1906, 747,200 were still awaiting confirmation of their petitions and about 3,500,000 households had not undergone communal redistribution and were therefore liable to privatization under the law of 14 June 1910 (including 469,800 who had already received title); the total is 6,255,600 (Brutskus seems to omit both households in hereditary communes -- 2.8 million -- and consolidated farms -- 1.8 million.) Makarov (Krestianskoe Khoziaistvo, p. 30) notes that out of 15 million peasant households in 1917, 5.5 million had left the commune (it is unclear to what extent this figure includes hereditary plots, conversions

and non-repartitional communes) and 1.2 million were in khutors or otrubs; the total is 6.7 million. Geroid Robinson (Rural Russia, pp. 226-27) comes up with yet another total: 5 million households under communal tenure, 1.3 million due to be privatized because of the lack of repartitions, another 1.7 million in the process of confirmation, 4.3 million with private ownership of their strips and 1.3 million consolidated farms; the total is 13.6 million households, out of whom 7.3 million are either private landowners or awaiting confirmation and 1.3 million are consolidated farms.

(55) Oganovsky, Individualizatsiia Zemlevladienia, p. 4.

(56) Atkinson, "Statistics on the Russian land commune" and Atkinson, The End of the Russian Land Commune.

(57) The number of households is taken from Chayanov, Statisticheskii Spravochnik, pp. 10-11; the numbers for Estland and Lifland are subtracted from the total and the numbers for Kovno and Grodno are added in; since no 1916 figures exist for Kovno and Grodno, I am using the number of households as reported in the 1912 military horse census (reprinted in A. Veinshtein, "Chislennost i Dinamika Nalichnykh Krestianskikh Dvorov", p. 14).

With respect to the figures for the number of petitions for land settlement, GUZZ, Obzor Deiatelnosti za 1914, appendix 1, pp. 6-7, mentions that through 1914, there were 5,793,540 petitions for land settlement, including 2,816,483 for consolidation and 2,977,057 for group land settlement. Taking into account the additional petitions submitted in 1915, both Brutskus (Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 168-69) and Chernyshev (Chernyshev, Agrarnyi Vopros v Rossii, p. 197) estimate the total number of petitions to have reached 6.2 million through 1915 (they do not distinguish between individual and group land settlement petitions). Since the total number of completed consolidations on allotment land through 1916 was 1,536,582 (see below), I have taken the proportion of completions to petitions as noted by the Ministry of Agriculture for 1907-14, 44%, and applied it to 1,536,582 to arrive at 3,492,232.

The number of consolidated farms refers to completed projects, with farmers already having settled on the new plots, but not necessarily having received the approval of the land settlement commissions. The reason for using these figures as opposed to those of projects approved by the land settlement commissions is outlined in the text. The figures for consolidations on allotment land in 1907-14 (1,252,020 households) can be found in GUZZ, Obzor Deiatelnosti za 1914, appendix 1, pp. 6-7; the figures for consolidations in 1915 (184,562 households) can be found in MZ, Desiatiletie Zavedyvania Mezhevym Upravleniem, appendix, table no. 6; the figures for consolidations in 1916 (100,000 households) are estimates by Pershin, Uchastokovoe Zemlepolzovanie, p. 7; the figures for the number of consolidations on state and Peasant Land Bank lands (293,500) can be found in Ibid., pp. 46-47. The number of consolidated farms which reverted back to strip farming is assumed to be cancelled out by the number which subdivided into two or more consolidated

farms.

The number of applications for group land settlement is based on the proportion of group land settlement applications to individual land settlement applications in 1907-14 (51:49) as reported in GUZZ, Obzor Deiatelnosti za 1914, appendix 1, pp. 6-7. If total individual land settlement applications for the period 1907-16, were 3,492,232, group land settlement applications in the same period can be estimated to have been 3,634,772. Using the average completion rate for 1907-14, 43%, (Ibid.) we can reasonably estimate that the total number of completed projects through 1916 was 1,562,952. For what it's worth, the Ministry of Agriculture reported 2,977,057 applications and 1,284,306 completions through 1914 (Ibid.).

(58) GUZZ, Obzor Deiatelnosti za 1914, p. 5; the time lag between the completion of projects and final land settlement commission approval is an estimate based on the figures in Ibid., appendix 1, p. 4, and MZ, Desiatiletie Zavedyvania Mezhevym Upravleniem, appendix, table no. 6.

(59) MZ, Desiatiletie Zavedyvania Mezhevym Upravleniem, Appendix, Tables no. 5, 6.

(60) GUZZ, Obzor Deiatelnosti za 1914, Appendix 2, pp. 14-17; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 180.

(61) Kofod, Russkoe Zemleustroistvo, p. 66.

(62) Ibid., p. 67; also Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 175-76.

(63) GUZZ, Obzor Deiatelnosti za 1914, p. 2; Ibid., Appendix 1, pp. 6-7.

(64) The figures for land settlement applications (both group and individual) can be found in Ibid., Appendix 1, p. 3; for ratified group land settlement, see Ibid., p. 4; for completed consolidations, see MZ, Desiatiletie Zavedyvania Mezhevym Upravleniem, Appendix, Table no. 6; the figures for privatization can be found in TsSK, Statisticheskii Ezhegodnik Rossii 1915, otdel vi, pp. 6-11.

(65) Kofod, Russkoe Zemeleustroistvo, p. 133; Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 44.

(66) Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 44; Kofod, Russkoe Zemleustroistvo, p. 135.

Chapter Four: The Stolypin Land Reform and the Peasant Farmer

- (1) Fussell, "Agriculture: Techniques of Farming", p. 17.
- (2) Chuprov, Melkoe Zemledelie i ego Osnovnye Nuzhdy, pp. 3-8.
- (3) Oganovsky, Individualizatsia Zemlevladienia, pp.12-13
- (4) Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, pp. 37-38; Figures for the period 1897-1907 show that the largest number of settlers came not from the provinces with the largest populations, but from provinces with the greatest rural population density: mostly in the Ukraine and the central agricultural region (see Kennard, The Russian Year-Book for 1911, pp. 29-31, 39).
- (5) Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 19.
- (6) NKZ (Zemplan), "Osnovy Perspektivnogo Plana Razvitia", p. 17.
- (7) Makarov, "Kapital i Kapitalonakoplenie", pp. 42-43; see also Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 20.
- (8) Makarov, Organizatsiia Selskogo Khoziaistva, pp. 564-65.
- (9) See, for example, Selivanov, "Organizatsiia Zemledelcheskoi Ploshchadi".
- (10) Oganovsky, Individualizatsiia Zemlevladienia, pp. 18-25.
- (11) Brutkus, Agrarnyi Vopros i Agrarnaia Politika, p. 192; Oganovsky, Individualizatsiia Zemlevladienia, pp. 13-14; Kofod, Russkoe Zemleustroistvo, p. 171.
- (12) GUZZ, Zemleustroennye Khoziaistva, diagram xii.
- (13) Ibid., diagram xiv.
- (14) Oganovsky, Individualizatsiia Zemlevladienia, pp. 25, 91-96.
- (15) Kofod, Russkoe Zemleustroistvo, pp. 167-69.
- (16) Mozhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 36.
- (17) Brutkus, Agrarnyi Vopros i Agrarnaia Politika, p. 93.
- (18) Kofod, Russkoe Zemleustroistvo, p. 166.
- (19) Makarov, Krestianskoe Khoziaistvo, p. 99; Brutkus, Agrarnyi Vopros i Agrarnaia Politika, pp. 153, 164.

- (20) Karpov, Agrarnaia Politika Stolypina, pp. 181-84.
- (21) Kofod, Russkoe Zemleustroistvo, pp. 156-57.
- (22) Ibid., pp. 156-57, 159-61.
- (23) Ibid.
- (24) Semenov, Nuzhdy i Nedostatki Krestianskikh Obshestv, p. 9.
- (25) Kofod, Russkoe Zemleustroistvo, p. 64.
- (26) Makarov, Organizatsiia Selskogo Khoziaistva, p. 109.
- (27) Ibid., p. 110.
- (28) Ibid., pp. 116-17.
- (29) Ibid., pp. 115-17.
- (30) Shestakov, Kapitalizatsiia Selskogo Khoziaistva, p. 68.
- (31) GUZZ, Zemleustroennye Khoziaistva, diagram ix.
- (32) A survey of Simbirsk province showed that consolidated farms had larger budgets and received a smaller proportion of their revenue from non-agricultural labor than did their communal neighbors (see Dubrovskii, Stolypinskaia Zemelnaia Reforma, pp. 300-3); this was also noticed by Schlippe in Moscow province (see Schlippe, Memoirs, pp. 100-01).
- (33) GUZZ, Zemleustroennye Khoziaistva, diagram vii; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 192; Kofod, Russkoe Zemleustroistvo, p. 171.
- (34) GUZZ, Zemleustroennye Khoziaistva, diagram ix.
- (35) Ibid.
- (36) Kofod, Russkoe Zemleustroistvo, pp. 169-70.
- (37) GUZZ, Zemleustroennye Khoziaistva, diagram viii.
- (38) See Ashin, Obshestvenno-Agronomicheskie Etudy; Kofod, Russkoe Zemleustroistvo; Brutskus, Agrarnyi Vopros i Agrarnaia Politika; Makarov, Organizatsiia Selskogo Khoziaistva; Pershin, Uchastokovoe Zemlepolzovanie, etc.
- (39) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 68.
- (40) Pershin, Uchastokovoe Zemlepolzovanie, pp. 30-34; Kofod, Russkoe Zemleustroistvo, p. 171.
- (41) Chernyshev, Obschchina posle 9 Noiabria, pp. xviii-xix.

- (42) GUZZ, Zemleustroennye Khoziaistva, table xxi; The yield for wheat on gentry lands is shown as 47 -- below the yields on peasant communal land. Since in the nation as a whole, gentry wheat yields were far above communal wheat yields, I have assumed that this is a misprint and that the correct number is 57.
- (43) Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, pp. 44-45.
- (44) Ibid., pp. 46-47.
- (45) GUZZ, Zemleustroennye Khoziaistva, diagram xxi.
- (46) Ibid., diagrams xvii-xviii.
- (47) Ibid.
- (48) This is true when one remembers that these figures refer to change over just 2-4 years. For figures on the general purchase of machinery (as opposed to use), see Shestakov, Kapitalizatsiia Selskogo Khoziaistva, p. 46, and Seleznev, "Mashina v Russkom Selskom Khoziaistve", p. 222.
- (49) GUZZ, Zemleustroennye Khoziaistva, diagrams xvii, xviii.
- (50) Ibid., p. 30.
- (51) Ibid., diagram xx.
- (52) Ibid., diagram xxi.
- (53) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, p. 138.
- (54) GUZZ, Zemleustroennye Khoziaistva, diagram xxi.
- (55) Ibid., diagram vii; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 192; Kofod, Russkoe Zemleustroistvo, p. 171.
- (56) Selivanov, "Organizatsiia Zemledelcheskoi Ploshchadi".
- (57) It is indicative that Stalinist propaganda films during collectivization showed tractors running over the old-fashion wooden plow, and not a steel plow or a horse-drawn reaper.
- (58) Selivanov, "Organizatsiia Zemledelcheskoi Ploshchadi", pp. 62-66.
- (59) Schlippe, Memoirs, pp. 100-01.
- (60) GUZZ, Zemleustroennye Khoziaistva, pp. 27-28; the average for the twelve provinces is derived by calculating each provinces proportional weight in population as shown on p. 8, applying that to the 19,767 households mentioned on p. 28, and adding up the provincial results for households consulting to arrive at a total.

- (61) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 189-94.
- (62) MZ, Kratkii Ocherk, p. 46.
- (63) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 110-12.
- (64) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 200.
- (65) This is Minin's conclusion in "Agronomiia i Zemleustroistvo".
- (66) Morachevskii, Agronomicheskaiia Pomoshch y Rossii, pp. 143-44.
- (67) Neklepaev, "Sotsiologicheskie Osnovy Obshestvennoi Agronomii", p. 100.
- (68) Ibid., p. 96.
- (69) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 116.
- (70) Ibid.
- (71) Oganovsky, Individualizatsiia Zemlevladienia, pp. 25-29.
- (72) Ibid. For well-rounded description of the relationship between cooperation and commercialization, see Chayanov, Osnovnye Idei... Selskokhoziaistvennoi Kooperatsii.
- (73) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 201.
- (74) GUZZ, Zemleustroennye Khoziaistva, tables xii and xiii.

Chapter Five: Social Agronomy

- (1) Kaufman, "Agronomicheskaiia Pomoshch v Rossii", p. 256.
- (2) Pares, My Russian Memoirs, p. 215.
- (3) Antsiferov, "Rural Economy," in Russian Agriculture during the War, p. 76.
- (4) GUZZ (DZ), Obzor Deiatelnosti za 1914, p. i; figures for the Ministry and Government budgets are from Kennard, The Russian Year-Book for 1914, pp. 474, 492.
- (5) Ibid.
- (6) GUZZ (DZ), Obzor Deiatelnosti za 1914, p. ix.
- (7) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 209-11; see also Kennard, The Russian Year-book for 1916, pp. 181-82, for a picture of zemstvo funding in 1915.
- (8) Kaufman, "Agronomicheskaiia Pomoshch v Rossii", p. 280; Bideleux (Communism and Development, p. 15) estimates that central government taxes at this time amounted 10.54 rubles per rural inhabitant.
- (9) GUZZ, Obzor Deiatelnosti za 1914, p. 39.
- (10) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, pp. 165-69. The figures represent the number of counties to be serviced by county agronomists. The numbers before 1912 do not seem to include the Don Territory, six western provinces and some other areas.
- (11) Figures for the number of county agronomists in Morachevskii, Agronomicheskaiia Pomoshch v Rossii, p. 169; the number of households in each province is from Veinshtein, "Chislenost i Dinamika Krestianskikh Dvorov", p. 13.
- (12) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 17.
- (13) Ibid., p. 18.
- (14) Tulaikov, "Glavnye Etapy Istории Selskokhoziaistvenogo Opytnogo Dela v SSSR", pp. 40-41; Kaufman, "Agronomicheskaiia Pomoshch v Rossii", p. 278; Kennard, The Russian Year-Book for 1916, p. 182.
- (15) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, pp. 296-

308, 336.

- (16) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 110.
- (17) Ibid., pp. 108-114.
- (18) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 206.
- (19) Ibid., p. 196.
- (20) Brunst, "Zemskaia Agronomiia", p. 340.
- (21) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 196.
- (22) Borozdin, "Novyi Byt Uchastokogo Agronoma", p. 16.
- (23) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, pp. 181-82.
- (24) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 111.
- (25) Polner, Russian Local Government, p. 44.
- (26) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 196-204.
- (27) Ibid., p. 163. "Feldsherism" was a widespread phenomenon in Russia; it referred to medical assistants -- feldshers -- taking on the jobs meant for fully-trained doctors.
- (28) Ibid., p. 202.
- (29) Brunst, "Delo Rasprostraneniia Selsko-khoziaistvennykh Znanii", pp. 18-19.
- (30) Fridolin, Ispoved Agronoma, pp. 51-53.
- (31) Brunst, "Zemskaia Agronomiia".
- (32) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 37-38.
- (33) Ibid., p. 36.
- (34) Ibid., p. 40.
- (35) Ibid., p. 41.
- (36) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 129.
- (37) Ashin, "Agronomicheskii Krizis".
- (38) Teitel, "Agropomoshch Naseleniu", p. 56.
- (39) Ksenokratov, "Iz Dnevnika Molodogo Agronoma", pp. 15-16.

- (40) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, p. 344.
- (41) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 35.
- (42) Ibid., p. 35.
- (43) Ibid., p. 36.
- (44) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 23.
- (45) Khoziaistvo 1910, pp. 1832-33.
- (46) Khoziaistvo 1910, p. 1750.
- (47) Ashin, Obshestvenno-Agronomicheskii Etudy, p. 125.
- (48) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 23.
- (49) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 24.
- (50) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 45-46.
- (51) Ibid., p. 47.
- (52) Teitel, "Agropomoshch Naseleniu", p. 57.
- (53) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 12.
- (54) Ibid., pp. 6-8.
- (55) Ibid., p. 26.
- (56) Ibid., p. 14.
- (57) Ibid., p. 18.
- (58) Ibid., p. 15.
- (59) Ibid., p. 19.
- (60) Minin, "Agronomiia i Zemleustroistvo".
- (61) Brunst, "Zemskaia Agronomiia", pp. 324, 334.
- (62) Ibid., p. 334.
- (63) Ashin, Obshestvenno-Agronomicheskii Etudy, pp. 149-50.
- (64) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 13.
- (65) Ashin, Obshestvenno-Agronomicheskii Etudy, p. 198.

Chapter Six: The Work of the Agronomist

- (1) Valentinov, "Zemskii Otdel", p. 1745; Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 169-70.
- (2) Brunst, "Zemskaia Agronomiia", p. 330.
- (3) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 122.
- (4) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, p. 330.
- (5) Ibid., p. 334.
- (6) Khoziaistvo 1910, pp. 1657-58.
- (7) Ibid., p. 1657.
- (8) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 79-80.
- (9) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 101.
- (10) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 81.
- (11) Ibid., p. 81.
- (12) Ibid., pp. 70-71.
- (13) Ibid., pp. 70-71.
- (14) Michael My Russian Experience 1910-1917.
- (15) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 73.
- (16) Ibid., p. 72.
- (17) Ibid., p. 72.
- (18) Michael, My Russian Experience 1910-1917, pp. 20-50.
- (19) A survey of agricultural students in Chernigov province showed that half were under the age of 30; in neighboring Poltava, only 11% of the agricultural students were illiterate, a far lower percentage than in the nation as a whole. See Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 128.
- (20) Iugo-vostochnyi Khoziain, Vol. 2 (Feb. 1911), pp. 26-28.
- (21) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 127.
- (22) Brunst, "Delo Rasprostraneniia Selsko-khoziaistvennykh Znanii", pp. 17-18.

- (23) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 105.
- (24) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, pp. 177-79.
- (25) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 99.
- (26) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 96.
- (27) The Ministry of Agriculture claims that in 1913, there were 25,085 model farms, fields and allotments in the areas of land settlement alone. (See GUZZ, Obzor Deiatelnosti za 1913, p. 54.) In 1913, this area encompassed 229 districts, less than half the total in European Russia. (See *Ibid.*, p. 53.) Since demonstration farms and fields were almost always organized by agronomists, it is reasonable to assume that very few existed in 1905, when only a few hundred agronomists were employed in Russia.
- (28) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 75-76.
- (29) Veselovskii, Istoriia Zemstva za Sorok Let, vol. 4, p. 111.
- (30) Brunst, "Zemskaia Agronomiia", p. 337.
- (31) Brutskus, Agrarnyi Vopros, p. 163.
- (32) Brunst, "Zemskaia Agronomiia", p. 338.
- (33) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 91.
- (34) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 23.
- (35) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 90.
- (36) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 99.
- (37) GUZZ, Obzor Deiatelnosti za 1914, p. viii.
- (38) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 132-33.
- (39) *Ibid.*, pp. 140-141.
- (40) *Ibid.*, p. 144.
- (41) *Ibid.*, pp. 156-57.
- (42) Oganovsky and Kondratiev, Selskoe Khoziaistvo Rossii, pp. 198-201.
- (43) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 156-58; Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 93.
- (44) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 109-10.

- (45) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 84.
- (46) Chuprov, Melkoe Zemledelie i ego Osnovnye Nuzhdy, p. 37; for the total sales of agricultural equipment in Russia, see Seleznev, "Mashina v Russkom Selskom Khoziaistve", p. 222 and Shestakov, Kapitalizatsiia Selskogo Khoziaistva Rossii, p. 46.
- (47) Kennard, The Russian Year-Book for 1914, p. 341.
- (48) Kennard, The Russian Year-Book for 1916, p. 535.
- (49) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 106.
- (50) Shestakov, Kapitalizatsiia Selskogo Khoziaistva Rossii, p. 46.
- (51) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 106.
- (52) Ibid., pp. 107-08.
- (53) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 89.
- (54) GUZZ, Obzor Deiatelnosti za 1914, p. viii.
- (55) See, for example, Danilov, Sozdanie Materialno-Tekhnicheskikh Predposylok Kollektivizatsii, pp. 129-31.
- (56) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 92.
- (57) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. xxiv-xxix.
- (58) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 12.
- (59) Ibid., p. 11.
- (60) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. xxvi-xxvii.
- (61) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 12-13.
- (62) Ibid., pp. 12-13.
- (63) Ibid., p. 93.
- (64) Valentinov, "Zemskii Otdel", p. 1746.
- (65) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 102.
- (66) Ibid., p. 102.
- (67) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 172; Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 108.
- (68) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 102.

- (69) Khizhniakov, "Kooperatsiia i Zemstvo", pp. 671-72.
- (70) Khoziaistvo 1910, pp. 1787-88.
- (71) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 104.
- (72) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 49.
- (73) Ibid., p. 49.
- (74) Zavadskii, "Selskie Uchrezhdeniia Melkogo Kredita", p. 50.
- (75) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 51.
- (76) Ibid., pp. 51-52.
- (77) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 102-103.
- (78) Khizhniakov, Zemstvo i Kooperatsiia, pp. 3-8.
- (79) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 93.
- (80) Ibid., p. 95.
- (81) Ibid., p. 103.
- (82) Khizhniakov, Zemstvo i Kooperatsiia, p. 29.
- (83) Fridolin, Ispoved Agronoma, p. 96.
- (84) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 47-48.
- (85) Ibid., pp. 53-54.
- (86) Ibid., pp. 53-54.
- (87) Ibid., p. 54.
- (88) Ibid., pp. 55-57.
- (89) Antsiferov, "Credit Cooperation", p. 315.
- (90) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 103.
- (91) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 65-66.
- (92) Khizhniakov, Zemstvo i Kooperatsiia, p. 22.
- (93) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, pp. 104-06.
- (94) Khizhniakov, Zemstvo i Kooperatsiia, p. 11.
- (95) Ibid., pp. 11-14.

- (96) Brunst, "Zemskaia Agronomiia", pp. 335-36.
- (97) Chayanov, Osnovnye Ideii... Obshchestvennoi Agronomii, pp. 85-87.
- (98) Ibid., pp. 85-87.
- (99) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 107, 110.
- (100) Ibid., p. 109.
- (101) Chayanov, Osnovnye Ideii... Obshchestvennoi Agronomii, pp. 85-89.
- (102) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 51.
- (103) Ibid., p. 52.

Chapter Seven: The Rise of Cooperation

- (1) Totomiantz, Kooperatsiia v Rossii, p. 70. See also the appendix to Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii. With respect to the amount of population represented by cooperative membership in Russia, Tugan Baranovsky seems to overlook the larger size of the average Russian family. In any case, as we shall see in this chapter, cooperative membership was much more widespread than Tugan-Baranovsky makes it seem.
- (2) Kayden, "Consumer Cooperatives", p. 14; Minin, Selsko-Khoziaistvennaia Kooperatsiia, p. 8; The Russian Cooperator (August 1917) p. 140; the number of agricultural associations in 1904 is taken from Kennard, The Russian Year-Book for 1916, p. 481.
- (3) Kheisin, Istoricheskii Ocherk Kooperatsii, pp. 87-88; Kabanov, Oktiabrskaiia Revoliutsiia i Kooperatsiia, p. 58.
- (4) Minin, Selsko-Khoziaistvennaia Kooperatsiia, pp. 8-9.
- (5) Ibid., p. 8.
- (6) Ashin, Obshestvenno-Agronomicheskie Etudy, p. 35.
- (7) Ibid., p. xix.
- (8) Ibid., p. 35.
- (9) Ibid., p. 31. The Danish experience struck the imagination of Russia's agriculturalists and bureaucrats. It was mentioned as a model by most agronomists, from Ashin and Brunst to Chayanov and Fabrikant.
- (10) The Russian Cooperator (Dec., 1916) p. 8.
- (11) Ashin, Obshestvenno-Agronomicheskie Etudy, pp. 37-38.
- (12) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, p. 2.
- (13) Ibid., p. 27.
- (14) Prokopovich, "Kooperatsiia (Teoriia)", pp. 652-53.
- (15) Makarov, Krestianskoe Khoziaistvo i ego Interesy, pp. 32-34.
- (16) The Russian Cooperator (March 1917), p. 63.
- (17) Makarov, "Kooperatsiia, Kreditnaia", p. 654.
- (18) Kayden, "Consumer Cooperatives", p. 8.

- (19) Prokopovich, p. 420.
- (20) Bekhteev, Mertvaia Zyb, pp. 22-23.
- (21) Prokopovich, Kooperativnoe Dvizhenie v Rossii, pp. 373-419.
- (22) Ibid., p. 429.
- (23) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 93; Totomiantz, a man dedicated to Russian cooperation, also mentions the "many revolutionary elements" harbored by the cooperative movement (see Kooperatsiia v Rossii, p. 146).
- (24) Prokopovich, Kooperativnoe Dvizhenie v Rossii, p. 426.
- (25) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 124.
- (26) Prokopovich, Kooperativnoe Dvizhenie v Rossii, pp. 424-25.
- (27) Ibid., pp. 426-27.
- (28) Ibid., pp. 427-28.
- (29) Ibid., pp. 420-21.
- (30) Ibid., pp. 422-23.
- (31) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, pp. 152-53.
- (32) Ibid., p. 153.
- (33) Morachevskii, Spravochnye Svedenia o Selskokhoziaistvennykh Obshestvakh, pp. 197-98.
- (34) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, p. 372.
- (35) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 116-17.
- (36) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 134.
- (37) Ibid., p. 177.
- (38) The Russian Cooperator (March 1917), p. 68.
- (39) Ibid., pp. 62-63.
- (40) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, p. 322.
- (41) Prokopovich, Kooperativnoe Dvizhenie v Rossii, p. 430.
- (42) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, p. 323.
- (43) Totomiantz, Kooperatsiia v Rossii, pp. 120, 127.

- (44) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 177.
- (45) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 31. Consumer societies, for instance were excluded from the 1912 Cooperative congress, largely on the urging of credit cooperatives.
- (46) This is the general theme of Kabanov's Oktiabrskaya Revoliutsia i Kooperatsiia.
- (47) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 110-11.
- (48) Ibid., pp. 110-11.
- (49) Ibid., p. 110.
- (50) Ibid., p. 111.
- (51) Ibid., p. 114.
- (52) Prokopovich, "Kooperatsiia, teoriia", p. 653.
- (53) Minin, Selsko-Khoziaistvennaia Kooperatsiia, p. 46.
- (54) Vygodskii, Selskokhoziaistvennyi Kredit, p. 173.
- (55) Ibid., p. 174.
- (56) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, pp. 324-26.
- (57) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 156 and Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 28.
- (58) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, pp. 156-57 and Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 21.
- (59) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, pp. 324-26.
- (60) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 158.
- (61) Morachevskii, Spravochnye Svedeniia o Selskokhoziastvennykh Obshestvakh, pp. 190-93.
- (62) Ibid., pp. 204-205.
- (63) Ibid., p. 204; for the literacy rates of the general population, see Kennard, The Russian Year-Book for 1916, pp. 94-97.
- (64) Calculated from Morachevskii, Spravochnye Svedeniia o Selskokhoziaistvennykh Obshestvakh, pp. 207-8.
- (65) Ibid., p. 221.

- (66) Ibid., pp. 221, 256-57.
- (67) Bubnoff, The Cooperative Movement in Russia, p. 45.
- (68) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 167; Minin, Selsko-Khoziaistvennaia Kooperatsiia, p. 8.
- (69) Morachevskii, Spravochnye Svedenia o Selskokhoziastvennykh Obshestvakh, pp. 254-55.
- (70) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 167.
- (71) Khoziastvo 1910, pp. 1873-74.
- (72) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 168.
- (73) Morachevskii, Spravochnye Svedenia o Selskokhoziastvennykh Obshestvakh, pp. 54-55.
- (74) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 78.
- (75) Ibid., pp. 79-80.
- (76) Ibid., pp. 79-80.
- (77) Iugo Vostochnyi Khoziain Vol. 7 (July 1911), pp. 35-48.
- (78) Morachevskii, Spravochnye Svedenia o Selskokhoziaistvennykh Obshestvakh, pp. 230-32.
- (79) Kennard, The Russian Year-Book for 1914, p. 124.

Chapter Eight: Cooperation and Credit

- (1) Chuprov, Melkoe Zemledelie v Rossii, p. 41.
- (2) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 1.
- (3) Zavadskii ("Selskie Uchrezhdenia Melkogo Kredita", p. 44) mentions interest rates of 400%. This is unlikely in a country with almost no inflation, so I have assumed that an extra zero was added through a misprint. The interest charged by private moneylenders could be as high as 40%. Gattrel, by the way, also speaks of a 40% interest rate on private loans in the countryside (see The Tsarist Economy, p. 74).
- (4) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 6.
- (5) Adams and Graham, "A Critique of Traditional Agricultural Credit Projects and Policies", pp. 317-18.
- (6) Bukharin, Put k Sotsializmu i Rabochii-Krestianskii Soyuz.
- (7) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 74.
- (8) Zavadskii, "Selskie Uchrezhdenia Melkogo Kredita", p. 44.
- (9) Minin, Selsko-Khoziaistvennaia Kooperatsiia, p. 8.
- (10) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, pp. 97, 145; Prokopovich, Kreditnaia Kooperatsiia v Rossii, Appendix i.
- (11) Minin, Selsko-Khoziaistvennaia Kooperatsiia, p. 77.
- (12) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, pp. 117-18.
- (13) Brutskus, Agrarnyi Vopros, p. 96.
- (14) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, p. 321.
- (15) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 120.
- (16) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, pp. 173-74.
- (17) Ibid., p. 174.
- (18) Ibid., p. 180.
- (19) The table is compiled from Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 23 and Appendix i; Makarov, "Kooperatsiia, Kreditnaia", p. 658; Totomiantz, Kooperatsiia v Rossii, p. 55,

comes up with approximately the same figures.

(20) Makarov, "Kooperatsiia, Kreditnaia", p. 658; Antsiferov, "Credit Cooperatives", p. 272; Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 147.

(21) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 155.

(22) Kennard, The Russian Year-Book for 1916, p. 646; Prokopovich, Kreditnaia Kooperatsiia v Rossii, Appendix.

(23) Vygodskii, Selskokhoziaistvennyi Kredit, p. 176; similar figures in Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 149.

(24) Antsiferov, "Credit Cooperatives", p. 258.

(25) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 160.

(26) Ibid., pp. 149-50.

(27) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 25-34.

(28) Ibid., p. 117.

(29) Vygodskii, Selskokhoziaistvennyi Kredit, p. 175.

(30) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 54.

(31) Ibid., p. 86; Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 170; Totomiantz, Kooperatsiia v Rossii, p. 58.

(32) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 169.

(33) Ibid., p. 170.

(34) Vygodskii, Selskokhoziaistvennyi Kredit, pp. 176-77.

(35) Ibid., p. 177.

(36) Ibid., p. 175.

(37) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 84-85.

(38) Makarov, "Kooperatsiia, Kreditnaia", p. 655.

(39) Vygodskii, Selskokhoziaistvennyi Kredit, pp. 177-78.

(40) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 61-63.

(41) Ibid., p. 71.

(42) Antsiferov, "Credit Cooperatives", p. 287; Vygodskii (Selskokhoziaistvennyi Kredit, p. 173) also quotes these figures but states the maximum for a secured loan to be 750 rubles.

- (43) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 74; Antsiferov ("Credit Cooperatives", p. 287) states that the average indebtedness in the savings and loan associations was 147 rubles.
- (44) Antsiferov, "Credit Cooperatives", p. 287.
- (45) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, pp. 164-66.
- (46) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 76.
- (47) Statistical surveys as reproduced in Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 167. (Note that the percentages add up to less than 100.)
- (48) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 36; Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 158.
- (49) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 127.
- (50) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 61.
- (51) Makarov, "Kooperatsiia, Kreditnaia", p. 655.
- (52) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, p. 243.
- (53) Khizhniakov, "Kooperatsiia i Zemstvo", p. 671.
- (54) Antsiferov, "Credit Cooperatives", p. 315.
- (55) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 55.
- (56) Ibid., p. 54.
- (57) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 144.
- (58) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 119.
- (59) Ibid., pp. 123, 144.
- (60) Kheisin, Istoricheskii Ocherk Kooperatsii, pp. 101-17.
- (61) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, pp. 134-44.
- (62) Ibid., pp. 141-42.
- (63) Antsiferov, "Credit Cooperatives", p. 333.
- (64) Tugan-Baranovsky, Sotsialnye Osnovy Kooperatsii, p. 243.
- (65) The Russian Cooperator (May, 1917) pp. 100-101.
- (66) Prokopovich, Kreditnaia Kooperatsiia v Rossii, Appendix.

(67) Antsiferov, "Credit Cooperatives", p. 279. I have corrected a typographical error with respect to the proportion of loans in 1913. In the original it read as 83%.

(68) Ibid., p. 307.

(69) Ibid.

Chapter Nine: Cooperation and Commerce

- (1) The Russian Cooperator (December 1916), p. 8.
- (2) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 93, 96.
- (3) Zavadskii, "Selskie Uchrezhdenia Melkogo Kredita", pp. 50-51.
- (4) Ibid., p. 46.
- (5) Fabrikant, Osnovy Agronomicheskoi Pomoshchi, pp. 50-51.
- (6) Zavadskii, "Selskie Uchrezhdeniia Melkogo Kredita", pp. 51-53.
- (7) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 103.
- (8) Ibid., p. 95.
- (9) Ibid., p. 95.
- (10) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 171.
- (11) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 98-99, 107. The number of cooperatives participating in 1916 is my estimate that 65.2% of (16,261) credit cooperatives participated. The 65.2% figure is an estimation based on the rate of growth in the "percent of all cooperatives" column. Similar figures on the sales of credit cooperatives can be found in Totomiantz, Kooperatsiia v Rossii, p. 64; Kennard, The Russian Year-Book for 1911, p. 271; Kennard, The Russian Year-Book for 1916, p. 647; for the sales of just credit associations, see The Russian Cooperator (May, 1917) p. 101.
- (12) Kennard, The Russian Year-Book for 1916, p. 535.
- (13) The Russian Cooperator (August, 1917) p. 140; Kabanov, Oktiabrskaiia Revoliutsiia i Kooperatsiia, pp. 58-59. In 1917, the average membership of rural consumer societies was 242 and in 1916, 89% of all consumer societies were village societies (See Brutskus, Agrarnyi Vopros, p. 43); hence 7.5 million rural members. Totomiantz (Kooperatsiia v Rossii, pp. 28-29) is slightly more conservative in his estimates: he mentions 6,730 consumer societies in 1911 (of which 5,220 or 70% were rural) and over 20,000 societies by 1917, with a larger proportion being rural.
- (14) Brutskus, Agrarnyi Vopros, p. 43.
- (15) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 131.
- (16) Bubnoff, The Cooperative Movement in Russia, pp. 144-45.

- (17) Brutskus, Agrarnyi Vopros, pp. 38-43.
- (18) In 1910, the zemstvo depots alone accounted for sales of 8 million rubles, 10% of total national sales of agricultural machinery (Kennard, The Russian Year-Book for 1914, pp. 341-42). By 1912, the sales of just government-run depots in just the Western Siberian region reached 8 million rubles (see Kennard, The Russian Year-Book for 1916, p. 535). If we account for the growth in zemstvo sales in 1910-14 and the sales of depots run by agricultural societies and other cooperatives, it is easy to accept analysts' estimate that farm supply depots accounted for half the 107 million rubles in sales of agricultural equipment in 1913 (see Fabrikant, Osnovy Agronomicheskoi Pomoshchi, p. 106 and Seleznev, "Mashina v Russkom Selskom Khoziaistve", p. 222).
- (19) Antsiferov, "Credit and Agricultural Cooperation", p. 367; Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 98.
- (20) Morachevskii, Agronomicheskaiia Pomoshch v Rossii, pp. 152-54.
- (21) Antsiferov, "Credit and Agricultural Cooperation", p. 350 and Totomiantz, Kooperatsiia v Rossii, p. 82.
- (22) NKZ (Zemplan), "Osnovy Perspektivnogo Planan Razvitia", p. 9
- (23) Prokopovich, Kreditnaia Kooperatsiia v Rossii, pp. 100-01.
- (24) Ibid., pp. 89-94.
- (25) Ibid., p. 103.
- (26) GUZZ, Sbornik Statistiko-Ekonomicheskikh Svedenii, (1916) p. 542.
- (27) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 171; Mozzhukhin, Agrarnyi Vopros v Tsyfrakh i Faktakh, p. 75.
- (28) Vygodskii, Selskokhoziaistvennyi Kredit, pp. 158-64; Kennard, The Russian Year-Book for 1914, p. 136.
- (29) Kennard, The Russian Year-Book for 1914, pp. 139-40.
- (30) The Russian Cooperator (November, 1919), p. 166.
- (31) Antsiferov, "Credit and Agricultural Cooperation", pp. 371-72; Totomiantz, Kooperatsiia v Rossii, pp. 112-16.
- (32) The Russian Cooperative (February 1917), pp. 50-51.
- (33) Ibid., pp. 50-51. It is significant that Witte was instrumental in the creation of both the most successful branches of cooperation: credit associations and Siberian dairy cooperatives.

- (34) Totomiantz, Kooperatsiia v Rossii, pp. 85, 90.
- (35) Ibid., pp. 89, 100; also The Russian Cooperator (February 1919), p. 23 and Kheisin, Istoricheskii Ocherk Kooperatsii, pp. 162-65.
- (36) The Russian Cooperator (February, 1919), p. 23.
- (37) Antsiferov, "Credit and Agricultural Cooperation", p. 391; similar figures are given in the The Russian Cooperator (March, 1919), p. 39.
- (38) Pares, My Russian Memoirs, pp. 522-23.
- (39) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 130.
- (40) Kondratiev, Rynok Khlebov, p. 54; Lyashchenko, Russkoe Zernovoe Khoziaistvo, pp. 307-8.
- (41) Upravlenie Delami Osobago Soveschania, Soveschanie Upolnomochennykh, p. 5.
- (42) Totomiantz, Kooperatsiia v Rossii, p. 148; Antsiferov, "Credit and Agricultural Cooperation", p. 363.
- (43) The Russian Cooperator (November 1918), pp. 181-82. The projections for 1917 are a straight line based on the figure of 115 million rubles for the eight months ending August 31, 1917.
- (44) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 173; Antsiferov, "Credit and Agricultural Cooperation", p. 363.
- (45) The Russian Cooperator (May, 1917), pp. 100-101.
- (46) Kheisin, Istoricheskii Ocherk Kooperatsii, p. 122; Totomiantz, Kooperatsiia v Rossii, pp. 38-43.
- (47) Prokopovich, Kreditnaia Kooperatsiia v Rossii, p. 106.
- (48) Fallows, "Politics and the War Effort", p. 77.

Chapter Ten: Measuring the Impact of Rural Trends

- (1) Chayanov, Osnovnye Ideii... Obshestvennoi Agronomii, p. 122.
- (2) Ibid., pp. 101-02.
- (3) Wheatcroft, "The Reliability of Russian Prewar Grain Output Statistics", p. 157. See also the discussion of Tsarist statistics in Sirinov, Ocherki po Agrarnoi Statistike; Svavitskii, Zemskie Podvornye Perepisi; Volkov, Agrarno-Ekonomicheskaiia Statistika Rossii; Goldsmith, "The Economic Growth of Tsarist Russia"; Gregory, Russian National Income; Kahan, Russian Economic History.
- (4) The sources of the raw data and the rationale for using them are outlined in the Appendix.

Chapter Eleven: The Stolypin Reform and Russia's
Economic Development

(1) The decline in agricultural production and crop yields in the period 1906-10 can be seen in virtually all agricultural categories (see IIA, Annuaire Internationale de Statistique Agricole 1910); lack of investment is indicated in the low levels of rural bank turnover and in the reluctance of peasant farmers to put down cash for the abundant gentry lands that were put up for sale in the period 1905-1908 (see Prokopovich, Kreditnaia Kooperatsia v Rossii, Appendix).

(2) Gentry farmers proportionately tended to employ more modern equipment and techniques than the average peasant. They were also more commercialized; though they farmed only 11% of the arable land in 1916, they provided 22% of agricultural marketings. (See NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 11).

(3) Ibid., p. 11.

(4) This is a rough calculation based on the 1901-5 crop yield averages for the 50 provinces of European Russia as reproduced in GUZZ, Sbornik Statistiko-Ekonomicheskikh Svedenii.

(5) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", pp. 11-12.

(6) The figures for the 1905-8 or the 1906-10 periods show stagnation or decline in the production and yields for most crops in European Russia (see IIA, Annuaire Internationale de Statistique Agricole 1910); this was a reflection of both the social upheaval and probably a certain degree of land exhaustion.

(7) Compiled from IIA, Annuaire Internationale de Statistique Agricole, 1910, 1913 and 1914; the figures for barley production 1901-5 in 9 out of the 72 provinces (the Asian provinces) are for the years 1906-10; the figures for maize 1909-13 are actually figures for the years 1910-14.

(8) See the figures reproduced in Kahan, Russian Economic History, pp. 14-15.

(9) Lyashchenko, History of the National Economy, p. 730.

(10) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 8.

(11) The data is taken from IIA, Annuaire Internationale de Statistique Agricole for the years 1910, 1913 and 1914.

(12) Shestakov, Kapitalizatsia Selskogo Khoziaistva, pp. 70-78; Lyaschenko, History of the National Economy, p. 732.

(13) Seleznev, "Mashina v Russkom Selskom Khoziaistve", p. 222; Grai, "Oktiabr i Mashina v Dereвне", p. 48. Shestakov quotes figures which are comparable, though not exactly the same (see Shestakov, Kapitalizatsia Selskogo Khoziaistva, p. 46).

(14) Seleznev, "Mashina v Russkom Selskom Khoziaistve", p. 222; Grai, "Oktiabr i Mashina v Dereвне", p. 48; Shestakov, Kapitalizatsia Selskogo Khoziaistva, p. 46. Already in 1908, Russian domestic manufacturers were producing annually 350,000 plows, 29,000 seed drills, 53,000 reapers and 20,000 threshing machines. (See Kennard, The Russian Year-Book for 1911 p. 272). With the opening of the International Harvester plant in Liubertsy outside of Moscow in 1911, the capacity of Russian domestic manufacture increased significantly.

(15) Kennard, The Russian Year-Book for 1914, pp. 345-47.

(16) Polferov, Selskokhoziaistvennye Rabochie, pp. 25-46; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 128-29.

(17) Antsiferov, Russian Agriculture, p. 61; that the vast majority of Russia's fertilizers were imported is confirmed in Khachaturov, "Promyshlenost i Rynok Iskustvennykh Udobrenii", p. 28.

(18) The figures for 1905, 1909 and 1914 are calculated from GUZZ, Sbornik Statistiko-Ekonomicheskikh Svedenii; the figures for 1916 are from the 1916 census as reproduced in Kennard, The Russian Year-Book for 1919, pp. 84-87.

(19) Kennard, The Russian Year-Book for 1914, p. 158.

(20) NKZ (Zemplan), "Osnovy Perspektivnogo Plana" p. 9.

(21) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 9. The fact that the proportion of grain marketings was rising has recently been disputed by Gregory (see Gregory, "Grain Marketings and Peasant Consumption").

(22) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 9.

(23) Ibid., p. 10.

(24) Lyashchenko, History of the National Economy, p. 736.

(25) Shestakov, Kapitalizatsia Selskogo Khoziaistva, pp. 73-74.

(26) Kennard, The Russian Year-Book for 1914, p. 336; The Russian Year-Book for 1916, pp. 182-84.

(27) Kennard, The Russian Year-Book for 1914, pp. 125-26, and The Russian Year-Book for 1911, pp. 235-37.

(28) Calculated from IIA, Annuaire Internationale de Statistique Agricole 1927, pp. 230-35, 240-43, 248-61, 270-75, 382-85, 406-11. The world total net exports of rye are evidently understated on p. 243; it is probable that the statisticians forgot to add in rye flour. I have done so, taking the commensurate figure from IIA, Annuaire Internationale de Statistique Agricole 1924, p. 336.

(29) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 8. These Zemplan figures seem to be based on Prokopovich's calculation of GNP (see Lyashchenko, Russkoe Zernovoe Khoziaistvo, pp. 290-91), which is considered by most historians to be overly conservative.

(30) Kahan, Russian Economic History, p. 69.

(31) Goldsmith, for instance, calculated that in terms of volume of crop production, the figures for 1913 were 63% above the average for 1896-1900. This, of course, does not include commercial dairy farming which was both growing very rapidly during this time and was lucrative in terms of market prices. (see Goldsmith, "The Economic Growth of Tsarist Russia", p. 450)

(32) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 11. I've corrected an obvious mistake in the total: 2,180 million puds should be 1,180 million, judging by the ruble value of total marketings and the gentry's share in it (see Ibid., pp. 9-11).

(33) Prokopovich, Kreditnaia Kooperatsia v Rossii, Appendix 1. The reader should note that the figures for peasant estate banks in 1895, 1899 and 1916 are estimates, as are the zemstvo figures for 1916.

(34) Kheisin, Ocherki po Istorii Kreditnoi Kooperatsii, p. 155.

(35) Crisp, Studies in the Russian Economy, pp. 131-2; Gatrell, The Tsarist Economy, p. 202.

(36) I am taking Zemplan's estimate that the peasantry accounted for 78% of (grain) marketings and that total marketings (local, national and international) from all (both peasant and gentry) farming in 1913 equalled 4.5 billion rubles. See NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 9.

(37) After peaking in 1907, per capita consumption of alcohol declined during the Stolypin Reform; during the war, alcohol consumption was prohibited by law. See Kennard, The Russian Year-Book for 1911 pp. 262-63; The Russian Year-Book for 1916 p. 647.

(38) NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 8.

(39) The two censi of 1897 and 1916 are reproduced in Oganovsky and Kondratiev, Selskoe Khoziaistvo Rossii, pp. 18-21.

(40) Bairoch, "Europe's Gross National Product: 1800-1975";

Maddison, "Growth and Fluctuation in the World Economy, 1870-1960". With respect to Russian GNP statistics, the first study was Prokopovich's; his figures were revised upward by Gosplan in the 1920s, then by Goldsmith (see "The Economic Growth of Tsarist Russia"), Falkus (see "Russia's National Income in 1913") and Gregory (see Russian National Income).

(41) Bairoch's estimate for the growth of Russia's GNP between 1900 and 1913 (3.88% compounded annual rate) falls in between Goldsmith's estimate of a 3.0% annual rate from 1883 and 1913 (Goldsmith, "The Economic Growth of Tsarist Russia", p. 443) and Gregory's 4.3% annual growth between 1904-8 and 1909-13 (Gregory, Russian National Income, p. 148).

(42) Bairoch, "Europe's Gross National Product: 1800-1975", p. 281. Bairoch does not include the United States in his comparisons, but he does mention that in 1913 per capita U.S. GNP was 40% higher than Britain's \$965 (Ibid., pp. 285-86), in other words, \$1,351. If we multiply this figure by the 1913 U.S. population, which I have estimated at 95,200,000, we get a total GNP figure of \$128,615 million. The 1913 population is estimated by taking 30% of the increment between the 1910 census -- 91,972,000 -- and the 1920 census -- 105,711,000 -- (see Bureau of the Census, Statistical Abstract of the United States 1990, p. 17). Going backwards, the size of the U.S. GNP in 1900 is estimated on the basis of Maddison's estimate that the U.S. GNP in 1900 in constant dollars was 60.2% of the GNP for 1913 (see Maddison, "Growth and Fluctuation of the World Economy", p. 193).

(43) Calculated from Bairoch, "Europe's Gross National Product: 1800-1975", pp. 279, 281, 286.

(44) Bairoch, for instance, compared the great powers in terms of "industrial potential" (a series of manufacturing production indices). He found that Russia had overtaken France in the late 19th century. But even by 1913, Russia's industrial potential was still 60% of Britain's, 56% of Germany's and 26% of the United States' (see Bairoch, "International Industrialization Levels from 1750 to 1980", p. 292.).

(45) These are based on the GNP table presented above and on Bairoch, "Europe's Gross National Product: 1800-1975", p. 286. Also see Goldsmith, "The Economic Growth of Tsarist Russia", p. 475; Crisp, Studies in the Russian Economy, p. 5.

(46) Polferov, Selskokhoziaistvenye Rabochie, pp. 25-46; Chuprov, Melkoe Zemledelie v Rossii i Ego Osnovnye Nuzhdy, pp. 23-24; Brutskus, Agrarnyi Vopros i Agrarnaia Politika, pp. 22, 128-29.

(47) Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 115; also Kennard, The Russian Year-Book for 1911, p. 39.

(48) Figures for the resettlement beyond the Urals are in Brutskus, Agrarnyi Vopros i Agrarnaia Politika, p. 84; concerning emigration statistics, one can consult Kennard, The Russian

Year-Book for 1911, p. 39; Gatrell (The Tsarist Economy, p. 69) estimates the average annual emigration in 1909-13 to have been 300,000. The rate of urbanization in Russia at this time is discussed below.

(49) The data for 1897 is reprinted in Oganovsky and Kondratiev, pp. 18-19; the 1913 data can be found in The Russian Yearbook 1916 pp. 55-58.

(50) The census is reprinted in Oganovsky and Kondratiev, Selskoe Khoziaistvo Rossii, pp. 20-21.

(51) That's 10 million minus 2.5 million (for those males who could normally be expected to be working in the towns, circa 1897). The mobilization of 7.5 million out of a rural population of 88.5 million squares with the estimates that by 1916, about 15 million men had been mobilized from the country as a whole.

(52) Compare this with the urbanization rates in 1914, according to the unadjusted figures mentioned by Thalheim (13.3%) in "Russia's Economic Development", p. 90, or the adjusted 18% figure estimated by both Crisp in Studies in the Russian Economy, p. 5, and Falkus in The Industrialization of Russia, p. 11.

(53) The Zemplan study noted a 19% growth in the rural labor force between 1900 and 1913, or a 1.35% annual growth rate; with population growth slowing down, the population was aging -- hence the difference between my 1.24% rural population growth estimate and Zemplan's estimate of 1.35% rural labor force growth. Zemplan also noted that in 1916, urban population accounted for 20% of the total, whereas the TsSK revisions basically left the urban population at 13%, the same as it had been in 1897. (See NKZ (Zemplan), "Osnovy Perspektivnogo Plana", p. 8, and Kennard, The Russian Year-Book for 1916, pp. 55-58.) Bairoch, with his calculations of GNP and GNP per capita implicitly uses a 1.71% population growth rate between 1900 and 1913 (see Bairoch, "Europe's Gross National Product: 1800-1975"); Goldsmith records a 1.5% population growth rate between 1860 and 1916 (see Goldsmith, "The Economic Growth of Tsarist Russia", p. 441); Gregory estimates a 1.6% population growth rate between 1897-1901 and 1909-13 (see Gregory, Russian National Income, p. 148).

(54) The figures for the Empire as a whole as estimated by several Western historians match quite closely our figures for the 42 provinces, as can be seen in the preceding footnote.

(55) Bairoch, "Europe's Gross National Product: 1800-1975", p. 286.

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