

**Agricultural Constitution and Structural Change
in Taiwan's Agriculture**

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1. Introduction

The agriculture in Taiwan has grown rapidly since the Land Reform put into practice in 1949 to 1953. Its brilliant achievement evidently constructs a better agricultural economics, and its development becomes one of the important factors in facilitating the promotion of industrial and service sectors. Repeatedly the government has devoted itself to further agricultural reanimation and promotion. However, the conditions for the growth of agriculture are no more that good as those for the development of economics nowadays. Agricultural structure is therefore hardly obliged to be gradually and favourably improved and adjusted, and thus, agricultural development has

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been slowed down, and income disparity been increased between agricultural and industrial sectors. As to the agricultural structure, the cultivated land which each tiller owns is averagely small, scattered and dispersed, and parcels are irregular according to agricultural census. The share of small-scale farms, whose farm size is below 1 hectare, has increased tremendously. Moreover, the number of full-time farmers has decreased year by year. In 1985, the share of those farmers were only about 14.77 % of all (as per the following table). One can easily suppose that if there are only small farms, comprising scattered plots and a decreasing number of full-time farmers who are the core of agricultural operators, it will be difficult to modernize agricultural production, increase agricultural productivity, and even ensure the tillers an adequate income any more. How to “agricultural constitutions” project its probable influences into a change of agricultural structure? How can agricultural policies be conducive to the betterment of agricultural constitutions and thus push the improvement of agricultural structure?

To find the solutions of these pending questions is the objective of this paper.

Selective Structural Data of Taiwan's Agriculture

Year	Total		Distribution of farms according to farm size (%)						Percentage of farmers according to farm type (%)			
	No. of Farm Househ.	%	Average Farm size (ha)	under 0.5 ha	0.5-1.0 ha	1.0-1.5 ha	1.5-2.0 ha	2.0-3.0 ha	3 ha and over	Full-time farmers	Part-time farmers	Side-line farmers
1955	743928	100	1.12	30.15	26.71	16.83	9.82	9.33	7.16	39.85		60.15
1965	873000	100	1.14	37.98	28.77	14.93	8.11	6.56	3.65	31.93	40.94	27.13
1985	779978	100	0.80	42.58	30.39	14.11	5.77	4.64	2.51	14.77	21.60	63.63

Source: Reports of Agricultural Census, R. O. C., various years.

(4)

2. The relationship between agricultural constitution and agricultural structure

2.1. The improvement of agricultural constitution is indispensable for structural change

Agricultural structure covers a wide range, i.e., it consists of all the domains relating to agriculture. It not only has a close relationship with land, but it is also a result from natural, social-economic factors and agricultural policy and measures. With the development of statistics the information about national and regional agricultural structure has become more complete, and so the overall situation of agricultural development can be assessed. Judging from this we know that agricultural development is a series of agricultural structural change, adjustment and adaptation, in order to comply with socio-economic development.

However, agricultural structural change depends upon the change of agricultural constitution as a precondition for any improvements. With regard to Taiwan's agricultural development, the key point of the present problem is that agricultural constitution cannot follow the step of the rapid growing economics. Thus, steadiness in the mobility of production factors — above all the tardiness of land mobility, stands in the way of agricultural structural change. Agrarian constitution can be defined as the regulation, after which the activities of agriculture and life in the country are organized. This regulation is defined by the effective laws, the written and the non-written ones, i.e. by the laws enacted by the state and the generally accepted customs and habits. So the agrarian constitution is the legal basis of agricultural actions and of life in the agricultural domain. Agricultural structure develops in such specified sphere, so it is a situation of agriculture which can be showed in statistics.

Agricultural constitution has miscellaneous elements which

make it a complex system in each country. Its elements include property right, laws and customs in respect of land-ownership and disposal right, the employment rules of agricultural labours (e.g. employer and employee, landowner and tenant or part-owner), technical agricultural structure (e.g. the farm size and the number and size of parcel) and economic agricultural structure (e.g. farmers' organization, marketing and credit system). These elements have an interrelation, that is, what happens to an element may affect the others as well. So any change of the agricultural constitution affects the interrelation of these elements, the deep-rooted social customs and norms, and the regulations and rules it implicated. Therefore, agricultural constitution is hardly changed by individual farmer. Even the adoption of agricultural policy and the amendment of regulations can only in a long time limitedly change the agricultural constitution.

By the influence of agricultural constitution, the adjustment and change of agrarian structure is relatively confined in a fixed range, while the present agrarian structure limits the potential of agricultural production. Therefore, agricultural structure come out to be with relative steadiness, and can only change slowly in a long term. If there are no political guidance and agricultural reform, agricultural sector will be affected by the problems of structural adjustment and adaptation during the process of economic development. As a result, agricultural sector and agricultural production cannot follow the rapidly changing national socio-economic development. This kind of phenomenon is called "structural defect". Agricultural structural policy is going to solve the problems of agricultural structural adjustment through the legal system, and to set up a better agricultural constitution, in order to help structural change. Therefore, the main goal of agricultural structural policy lays emphasis on the improvement of agricultural

constitution, the annihilation of structural defect, and the support of structural adjustment.

Let's take a look at the problems of Taiwan's past agricultural constitution, the worst one was regard to the distribution of land ownership, i.e. the problem of land right. Because there was unequal distribution of land, the land rights were concentrated. Many abuses thus appeared. Some landlords, who owned land but couldn't make good use of their land, wasted the land at their will, and so against the principle of production. In addition, some landowners enjoyed great profit by leasing their land with high rent. The poor were in deep poverty and had no employment opportunities outside the farm, and the only way for them to earn their living was to lease land through land tenancy system. As a result, land-owners exploited tenants and the general socio-economic problems hampered structural change and agricultural development. At that time, a series of land reforms, which had put into practice since 1949, were thus designed to improve agricultural constitution. They were in view of political and social goal to solve the problems of land distribution, to eliminate social inequalities based on unequal land ownership, and the achievements were satisfactory. The structure of landownership and production was improved, farmers' interest in investing and increasing production was raised, and agricultural development was facilitated.

Economic structure changed rapidly in these years. The agricultural constitution under the former land reform which was orientated at land right distribution, cannot coordinate with today's agricultural development. Although the former land reform did not directly limit farmers' farming scale, the relative scarcity of land resources and the practice of landownership being distributed to many tillers, led to the increment of farms and the diminution of farm size. Therefore, such kind of agricultural constitution is disadvantageous for the modernization of farming.

2.2. Imperfect agricultural constitution impedes agricultural development

As above mentioned, we can see that imperfect agricultural constitution impedes agricultural structural change and prevents the modernization of agriculture. Following, the consequences are stated in detail:

1. Insufficient utilization of land

As regard to the past rural society the annexation and concentration of land resulted in "extreme disparity between the rich and the poor". The phenomenon which landlords exploited tenants came rightly after the problem of unequal landownership. The landlords got undeserved credit by receiving high rent, and the tillers' income was out of proportion to their effort. So, the later was unwillingly to increase the input of labour and capital, and had little interest in creasing production.

In point of today's industry-business settings, "land" is no more the only source of income. There is an outcome of the overprotection of tenants: landlords and the farmers who had ever accepted any land are unequally paid after leasing their land, and cannot safeguard their landownership. For this reason, the one who has small land would rather keep his hands in the profitless cultivation than lease his land. This kind of notion is also conveyed to the farmers who leave farming and engage in other trades. Therefore, land is accordingly extensive and wasted, and at the same time those farmers who have ability and with cultivating interest, are hindered to enlarge their farming scale through land tenancy.

2. No incentives for agricultural production

As respects the past years, tillers' labourious earning were exploited by landlords, so farmers' cultivating will were discouraged, production incentives were lacking, and thus rural economics was unable to prosper. At present, there

is incoordinative man-land ratio. Farm households are excess and farmland is relatively deficient. Land is too small on an average. For the limited profit of small farms, it is impossible to keep up a reasonable living standard or accumulate capital, not to say improve production techniques or facilitate a modernizing agriculture. Productivity and farm income are thus lower all the time. Since the income disparity between agricultural and non-agricultural sectors is continuously increased, farmers will not put their hearts into the improvement of agricultural production.

3. Limited social mobility of farmers

Before land reform, poor tenants cultivated for and banked upon landlords. They were always being a tenant. Not only the change of their position in vertical social mobility or agricultural ladder was impractical, but their inter-generational mobility was also infeasible.

Today's situation, as aforesaid, is that land tenancy system overprotects tenants. The landlords, who own land but cannot make good use of their land, are unwillingly to lease out their land to those who are interested in and able to cultivate more land and achieve a proper farm size. The steady mobilization of land therefore confines farmers' social mobility: small farmer is still small farmer, the improvement of his living and social status remains impossible. On the other hand, in fact, the employment outside the farm will increase in tune with the prosperity of industry and business. Even if tenants who wish to leave agriculture may not lease their land to others because they are afraid of losing their property rights. Then they either have the choice of leaving the land idle or to go on with farming without taking up a non-farm activity. In this case, farmer's horizontal mobility is thereafter confined.

4. No achievement of social and political requirements

In the past, tillers had no land and tenants' laborious earning were small, but a large piece of land belonged to the people who were unwilling to cultivate by themselves. The latter got great profit, but the former had to live in misery in spite of the year-long efforts on the fields. Social economic situation was unequal. Moreover, tenants depended thoroughly upon landlords, and the man who had land always implied that he was surely in possession of political power. Land hereof symbolized not only wealth but also a source of political power. Tenants could not have a satisfactory social and political status without land.

However, "real estate can bring perseverance" as today's situation, although farmers' land is small, the living of rural people is on a stable basis. Nevertheless, labour productivity does not effectively increase, and farmer's income cannot match with that of the people with non-farm occupations. Although the tiller has land, the low farm income still cannot maintain a reasonable living standard for his family. Not to mention the tiller's participation in social and political activities or promotion in social status.

5. Damage of soil fertility and destruction of ecological environment

Tenancy system in the past had two ways for paying rentals. One is yearly fixed payment: the tenant pays to his landlord a fixed amount of rental according to each unit area of the farmland. Aside from this fixed rent the surplus amount belongs to the tenant. Most of the tenants are therefore hard cultivators who devote themselves to production, but they make substantial use of the natural resources since the tenants have no long-term interests in the land. So the land is used too excessively. The other is the share-cropping system: that is, the tenant submits his production

at a fixed rate of rental to his landlord. Regardless of a plentiful or a lean year the landlord and his tenant must go shares with each other in the risk of a harvest. Although they have the same standpoint and are apt to deal with each other much more harmoniously, however, if the rental rate, as above mentioned, is inadequate and the incentives to promote tenant's production are too few to encourage his further labour input, the land cannot be utilized effectively either.

At present there is no way to trace the origin of the unreasonable usage of land but it is still alive and is going to get worse. As for the individual farmers, they keep on introducing new forms of inputs to their lands in order that they can uplift their income from agricultural production. Therefore, a great deal of pesticides, manures and chemicals applied by them have been more than the capacity which the unit area of farmland could burden. The adding of pesticide superfluity, the decrease of organic compound in soil, and the pollution of running water and ground water, have broken down the quality of water resources and soil conservation, and indirectly infect people's health. In the viewpoint of general environmental protection, farmers look after the economic profit of short-term agricultural production and they do not care much about the reasonable usage of land and the permanent preservation of our nation's territory. Their excessive felling of trees and cultivating of hillside carry erosion to the land and loss to the soil. Furthermore, the reduction of fresh-water resources and the sinkage of ground all result from excavating the riverside and fishponds with no restrictions whatsoever. Not only natural scenery is hereupon ruined but our living circumstances are also threatened directly. For the needs of present economic development, the way

for agricultural production should gradually get rid of the pattern of small farming in the past. The approach which need to be considered is the economic utilization of land and the safeguard of tiller's farm income, so as to correspond with the income of other trades. The most important task of nowadays is to improve agricultural constitution and facilitate agricultural structural adjustment, and furthermore create a better agricultural production environment in order to comply with the needs of modernization of agricultural production.

3. Land tenancy system and the improvement of agricultural structure

3.1. The 2nd stage land reform and structural change

Land reform is a social and economic reform, it is to promote social equality as well as to increase agricultural productivity. In a narrow sense, it means the transfer of landownership, i.e. the reform with regard to land distribution. In a broad sense it refers to the transfer of landownership and coordinates with farm management, and meanwhile to solve the problems of land right and land use. Hence, land reform is to harmonize the reforms of landownership (Bodenbesitzreform) and farm management (Bodenbewirtschaftungsreform), and in order to reach three main goals:

1. facilitate social equality and improve the structure of political power by way of landownership reform.
2. through the reform of farm management right to promote a recombination of production factors, i.e. land, labour and capital, and to improve management method.
3. adjust agricultural constitution to follow the changing socio-economic environment.

Accordingly, land reform is a means of agricultural structural policy, and is also a measure for the improvement of

agricultural constitution. Even a small amendment of land regulations, applying to the change of socio-economic milieu, represents a land reform and an improvement of agricultural constitution.

Land reform is a dynamic process. It devotes itself to the flexibility and elasticity of agricultural constitution and agrarian structure, in order to benefit agricultural adjustment and adaptation in the process of economic development.

As the aforesaid, the past land reform which pointed at the adjustment of landownership cannot fulfill the requirements of today's agricultural development, because it distributed small pieces of land to a crowd of tillers, farmland became fragmental. Furthermore, the rapid growth of population and the division of inheritance led to a farm scale that is too scattered, slender and small to modernize the farming. Thus, "the 2nd stage land reform", which is now implemented internally, aims at the improvement of this disadvantageous agricultural constitution to promote agrarian structural change and meet the needs of development. The reasonable utilization of land, the increase of labour productivity and farm competitiveness, and the upholding of tiller's available income, are also the purposes it struggles for.

The essential schemes practiced by "the 2nd stage land reform" include:

1. promote joint, entrusted and cooperative farming, in order to enlarge farming scale.
2. accelerate land consolidation, in order to promote the mechanization of agriculture.
3. actively facilitate the mechanization of agriculture, in order to increase labour productivity.
4. amend today's land regulations, in order to comply with present and future development.

5. provide long-termed and low-interest loan for purchasing land.

All of these schemes are set up for the purposes of breaking the bottleneck of small farming. Therefore, the land regulations proclaimed and amended by our government have taken the problem of economic utilization of land into consideration. Its objective not only to enlarge farming scale, but also to avoid the division of land inheritance. Furthermore, in order to fulfill the requirements of the modernization of agricultural production, it is also with an effort to promote land consolidation and improve agricultural production environment. The foregoing schemes seem obviously to pay much attention to the improvement of agricultural constitution and the promotion of agricultural structural change. They too, reveal our government's determination to enlarge farming scale and accelerate the mechanization and modernization of agriculture.

Of course, family farms can be expanded through the above mentioned joint or cooperative farming, and by way of financial support for the purchase of farmland. However, most farmers are unfamiliar with group farming and lacking interest to organize such a type of farming system. Then the land mobility is still tardy. On the other hand, in order to improve the man-land ratio, lighten the pressure of agricultural labour toward land, and enlarge the farming scale of each farm labour. The Article 48 of "Agricultural Development Act" prescribed that the government encourages and guides farmers to transfer into other occupations and gives them professional training. Nevertheless, this prescription must have a precondition: trans-occupational farmers should be accompanied with land mobility, so that such farmers can at the same time turn over their land to those who have the will of farming to expand farming scale. Otherwise, it will be difficult to reach the ideal of enlarging farming scale or accelerate the mechanization and

modernization of agriculture.

By the way of purchasing land the goal of expanding farm size can also be attained. But it is a way with great costs and of time-consumption. Most farmers have only a limited amount of purchasing fund, even if they request the long-term credit, to buy the land to enlarge their farm-size. Land mobility will be delayed as well, if a change of land to another farmer is only possible by purchase, because the more urgent structural adjustment is, the more expensive will the land be. This defect can be made up through land tenancy which is economic and effective in facilitating structural change.

Land tenancy system is originally a workable way, which makes those who own land but cannot make good use of it, to lease out their land to those who are interested in and able to cultivate, to lease more land to achieve a proper farm size; and makes trans-occupational and aged farmers willingly lease out their land to the potential farmers. So, labour mobility can be coordinated with land mobility, and the tillers who have cultivating interest and ability can there-upon enlarge their farming scale. Today's land tenancy system, which overprotects tenants' rights was fitted for the socio-economic conditions of the 1950's. As regard to the current situation, it must be somewhat revised. Because these "landlords" farm size is too small to keep a reasonable living standard, they want to lease their land without affecting their landownership and devote themselves to non-agricultural professions to earn a sufficient income. Under the land tenancy system which strictly protects tenants, the reward from leasing land is small and the protection toward landownership is also lacking. So the mobility of land is very sticky.

Thus whether a land tenancy system is available for land mobility and structural change or not, depends upon the

turning of the viewpoint on social equality - protected tenants in the past into economics of nowadays - to enlarge farming scale, raise tiller's productivity in a long term.

Although our government has amended "Farm Rent Reduction to 37.5 % Act" in order to correspond with the needs of current circumstance, in fact the effect is unsatisfactory. The 2nd stage land reform has put stress upon the facilitation of entrusted farming. Because of the de facto identity of lease and entrusted farming, many farmers hesitate to engage in entrusted farming. However as proclaimed in Article 5 of Agricultural Development Act, this kind of farming is unproperly to Farm Rent Reduction to 37.5 % Act. This proclamation is going to eliminate farmers' (landowners') apprehensions. However, the farmers' suspicions and doubts are still strong. In farmers' opinion, nothing can be more proper and secure than the revocation of Farm Rent Reduction to 37.5% Act. How to formulate a reasonable and adequate land tenancy system which can be willingly accepted by landlords and tenants, therefore is the important subject for land reform hereafter.

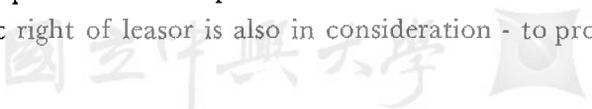
3.2. The direction which land tenancy system Taiwan should follow

A well-practiced land tenancy system can promote land mobility, separate "landownership from cultivating right" and expand tiller's farming scale. The distribution of landownership corresponds with the social goal of the "dispersion of owner's property", and is just the same as the ideal of "balance of wealth", as expressed in the "Principle of the People's Livelihood", which is one of the "Three Principles of the People", advocated by the late Dr. Sun Yat-sen.

Tenancy system, thus, plays an important role in improving the agricultural structure and it is much easier to transfer land by leasing than selling and buying. When farmers consider

giving up farming, they think of leasing their land as superior to selling since they wish to keep their land properties. On the other hand, those who lease out their land and still own the property may keep a close relationship with their home town. Moreover, when they have given up farming, they are still interested in living in their own village, and will be more concerned about the development of their village and the strength of public investments.

On account of the change of socio-economic background, the main goal of the reform of land tenancy system will emphasize on the protection of the right of private property, this is different from the past one, which laid stress on the reform of rental and tenancy right. Let's take some countries in Western Europe as examples. In these countries, agricultural population is small and the competition for land lease is not drastic. The landlords are not easy to find tillers, not to mention that raise land rent or engage in exploitation. If tenants or part-owner farmers do not terminate the tenancy contract and lessors do not alter the leasees, then tenancy right will be absolutely secure. Therefore, the phenomenon which lessor exploit leasee is not a result from tenancy, but from the past, owing to the unequal distribution of landownership, the concentration of farmland, the living of a majority of people relying on agriculture, and a lacking placement outside the farms. In another word, the reform of present land tenancy system should not aim at avoiding exploitation but the protection of the rights of both lessor and leasee; it struggles not only for the improvement of tiller's living to expand farming scale and raise productivity, but also for the attainment of the goal that make them receive a proper income compared to other trades. Additionally, the basic right of lessor is also in consideration - to protect



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their landownership. A reasonable tenancy system, therefore, would rather protect the living of tillers or leasees to make them enlarge their farm size and raise their productivity and competitiveness, than maintains lessors' landownership.

A liberal land tenancy system can promote land mobility and enlarge farm size according to structural needs. On account of such a viewpoint, this article is going to put forth some principles as a reference for the establishment of a reasonable tenancy system:

1. tenancy period: should protect lessor's landownership, and secure the benefit of lessee's investment in agriculture. Not only takes care of tenants' welfare but also protects landowners' interest.
2. rental: not only correspond with the supply — demand conditions in landlease market, but also with land productivity.
3. freedom of market: lessor and lessee entry land-lease market under mutual free will, in accordance with legally specified procedure.
4. the role of government: examine tenancy periods and rentals of farm lease contracts, and ensure that land tenancy will meet the objective of improving the agrarian structure.

4. Land-use control and the improvement of agricultural structure

4.1. Present status

Conversion of land from agricultural to non-agricultural use has been a problem of the world, especially in heavily populated areas like Taiwan. The rapid economic development is accompanied with the great need for more land used for non-agricultural purposes, especially for residential areas, industrial zones and infrastructural facilities. Likewise, as welfare increases, the land for recreation and entertainment is also expanded.

Agricultural production relies heavily on land. The great need for non-agricultural land is in severe competition with the agricultural sector, which has a negative effect on the goal of preserving farmland for maintaining food production. According to the statistics of the agricultural yearbook, the area of cultivated land amounted to 918,143 hectares in 1980, of which only 894,326 hectares remained in 1985. This fact represents a reduction of 23,817 hectares in five years or 4,763 hectares annually, that is, 13.4 hectares have been transferred to non-agricultural use every day. The agricultural land, which has been transferred to non-agricultural use, includes mostly farmland of best quality near cities due to imperfect land-use planning and control.

For those farmers left behind chances are decreasing more and more in expanding their farm size because no land will be supplied for agricultural use at reasonable prices anymore. It becomes impossible to adjust one's farm size in order to earn an adequate level of income as a farmer. Furthermore, fields located close to industrial areas are polluted by smoke and exhaust fumes. On this account, the present problem of land-use is that how the agricultural sector adapts and adjusts itself to the rapid industrial and economic development. It is not simply only the problem of land utilization and distribution within the agricultural sector, but a more complicated one among the different sectors.

Under the free economic system of private ownership, land becomes an asset. If it belongs to an individual, the person who has the land title has at the same time the right to utilize, benefit and manage the land at his own will. But land is different from other properties, it cannot be created by human beings or produced by manual power.

Since the size of land cannot be increased and plots cannot be moved to other areas, ill-utilization or destruction will make

it hardly to return to its former condition, and even lose its value in utilization forever. Because the purpose of an owner in utilizing the land is for his profit, this attitude conflicts sometimes with the overall objective of the whole society, which depends on land utilization for its own survival. Thus, although the land belongs to individuals, one should also take account of the social responsibility and the benefit of all the people as well. The use of land is not only an economic problem of individuals, but also one of the public since it is closely relating to the development of the whole country. Government must make interventions and give guidance to land distribution and utilization, so that the country's precious land resources will be utilized reasonably. The problems stated above result from the rapid economic development which causes the competition among different sectors for the distribution and utilization of limited land resources. However, they can be solved by the government through methods of land-use planning and control.

So far, the government has not been successful in controlling the various uses of land and to take into account both, individual and public interests. Scattered settlements are going on, precious agricultural land is lost and the land speculation impedes the overdue improvement of the farm size structure. These varied problems concerning the utilization of the scarce farmland reveal the desperate need for regulating interventions. Land-use planning and control are the means and methods which a government adopts to solve land problems and rationalize land distribution and utilization.

In Germany, the land utilization and control has a long history and is well documented. The government has set up many regulations and policies to transfer the land into reasonable utilization, in order to benefit the public. It does its best in preserving farmland; it does not only protect farmland from non-agricultural use but also, with a compulsory means, reserves

certain land for specific agricultural use only. With a better understanding of German development experience and Taiwan's current problems, it is expected that Taiwan may find the optimum way in formulating its land-use policy for structural adjustment.

4.2. The direction which land-use policy Taiwan should follow

As described above, the present land-use problem is a consequence of the rapid industrialization. It is not just the simple problem of land distribution and utilization within the agricultural sector, but a complicated one among different sectors. According to the data of Integrated Development Program of Taiwan Area, the area for housing and industries is 81,200 hectares in 1976, and it will become 161,500 hectares in 1996. Doubtlessly, the increasing part of this land will be transferred from farmland, and the farmland conversion will increase rapidly under the economic development and growing population.

In the course of economic development it is an unavoidable phenomenon that agricultural land being changed into non-agricultural use. But, in order to protect the excellent agricultural resources and preserve the wholeness of agricultural region and agricultural productive environment, farmland resources should correspond with the need of all sectors in future and be planned as a whole, thereupon, the limited resources will be reasonably distributed and utilized within different economic sectors.

In view of this, the policy of land-use planning and control ought to pursue the following goals, which should be set up as guidance for the allocation of land resources while facing land-use conflict situations:

1. Protecting farmland resources effectively

The rural area is not only the place where food is produced, but also the place for recreation and entertainment for the

industrial population, as well as the conservatory field for preserving natural environment. In light of these requirements, farmland has to be protected due to the following reasons:

- a. full supply of food for the population has to be ensured.
- b. "green areas" have to be maintained and suitable living space has to be offered.
- c. natural environment has to be protected and areas for tourism and relaxation have to be reserved.

In addition, if farmland is transferred into non-agricultural use without planning and control, the necessary investment in public facilities all over the areas will bring a heavy burden to government's budget.

In Germany, land-use planning is also in consideration of the protection to natural and ecological environment. Agriculture, therefore, not only provides people's livelihood with necessary food, but also satisfies people's ecological requirements, and facilitates the renewal and self-purification powers of natural resources. Thus, land-use planning, which secures the supply of agricultural production, also cares actively about the protection of natural environment, the facilitation of ecological balance, and the beautification of landscape. Therefore, it is a priority to protect farmland resources in order to maintain agricultural production and food supply, so agriculture can carry out its other functions effectively. Consequently, the policy of land-use and control should take note of this situation.

2. Improving agricultural structure and promoting agricultural competitiveness and farmers' willingness to stay on as a farmer

In order to increase farmers' income, which will improve their livelihood and encourage them to stay on as a farmer, the improvement of the agricultural productive environment and the promotion of farmland structural change, are also the important goals of land-use policy. At present, on the

one hand, agricultural profit decreases relatively to non-agricultural incomes, and the willingness to be a farmer becomes weaker day by day.

Because of the small farm size and the scattered parcels of farmland, it is difficult to proceed with the modernization of production in order to increase agricultural productivity and farm income.

On the other hand, because there is no strict delimitation of agricultural regions in accordance with land-use planning, the process of urbanization pushes up the farmland prices. Therefore, people speculate in farmland to be converted into construction areas, and expect land prices to rise, so that farmers do not want to invest in the modernization of agricultural production any more. In addition, the high price of land discourages those, whose farm size is small, and, who are willing to continue cultivation to enlarge their farm size by way of purchase. So the land-use policy should promote the mobility of farmland among farmers, improve farm size structure, so that the difficulties of small-size farming are overcome in order to ensure farmers a reasonable income from agricultural production. Moreover, policy has to make sure that once farmland has been transferred into construction areas, this extraordinary rise of the value of land does not only benefit the land owner alone but the whole public (e.g. through land tax). In this way the speculation in land will be reduced to a high extent, since the extra-profit which arises so far will be low. For those areas which are preserved for agricultural production in the long run, public investments have to improve the production condition and agricultural facilities, so as to help farmers increase their productivity and farm income. So there will be no particular profit from the transfer of land for non-farmland use, and farmland preserved for

agricultural production will get its appropriate benefit. In this way, farmers will produce well, with nothing to worry about, and all people will enjoy “land-use advantages together”.

3. Reasonably planning the transfer of land-use

Land is the basic resource to ensure economic activities and to supply sufficient food for the people. Because of the limited supply of land resources, it is unavoidable that farmland is being transferred to non-agricultural use in the course of economic development. But there is different basic nature between agricultural and non-agricultural land. Non-agricultural land is mainly used as a factor of location, whereas farmland, in addition to that factor, is valued according to the natural fertility and the excellent agricultural productive environment. Therefore, it is very important to utilize land resources reasonably, in order to meet the need for land of the whole nation's economic development, and to protect the precious farmland resources from irregularly scattering. Otherwise, the pollution problem will aggravate and agricultural productive environment will be destroyed. In order to conduct a reasonable development of land resources and make some examining standards for land-use conversion, the authority of agricultural planning, like the “Agrarleitplanung” in Germany, should be established. It should not only take note of the needs of necessary food production and formulate medium and long-term agricultural development plans, but also consider the expansion and requirements of non-agricultural uses. Then we can reasonably and orderly normalize the transfer of farmland utilization, so as not to hinder the production of agriculture.

5. Conclusion

The vital bottleneck, standing in the way of agricultural development in Taiwan, is the tardy mutation of agricultural structure. Because of the small individual farms and defective farm structure, agricultural production is hard to modernize. This results in the low labour productivity, high production cost, and weak competitiveness among the farms. Under such kind of condition, the profit obtained from agricultural production is thus unable to match with those from non-farm occupations. For the purpose of getting over the difficulties of agricultural development and lessening the income disparity between agriculture and non-agriculture sectors, we must endeavor to promote agricultural productivity and competitiveness; that is to enlarge farming scale, improve the conditions for agricultural production, effectively utilize the farmland, and introduce modern production techniques. Furthermore, access to capital investment must be accelerated in order to enable the tillers with higher profit in farming.

Farmland tenancy plays a leading role in the strategies of agricultural constitutions. A well-constructed tenancy system can encourage land mobility: the land owners who are poor in handling their land will be pleased to rent it, therefore land can be leased by the farmers who are interested in farming and capable to cultivate more land, and they can hereafter enlarge their farming scales. The way to set up an adequate tenancy system, to mark out cultivating right and ownership and to attain the goal of agricultural changes, is the most important subject for the practice of land reform.

Furthermore, facing the impact of present economic development, the conversion of farmland must be planned thoroughly in order to protect precious farmland resources

and promote the reasonable utilization of land, so that the limited land resources can be adjusted and utilized well among different economic sectors. Therefore, it is necessary for the government to adopt the method of land-use planning and control. It has to establish the authority of agricultural planning (*Agrarleitplanung*) to make some examining standards for farmland transfer. The objective are as follows:

- on the one hand, to prevent the wholeness of agricultural productive environment from being destroyed, and the improvement of agrarian structure from being hindered,
- on the other hand, corresponding with the requirement of non-agricultural land in the course of economic development, to convert farmland to non-agricultural uses in an orderly, systematically and reasonably manner.

This article presents a view of the relationship between agricultural constitution and agricultural structure, illustrating their significance and meanings, giving a general picture of socio-economic problems hailed from defective agricultural constitution, and researching the improvement of agricultural constitution, and the realization of agrarian structural changes through land reform as well as land-use planning and control. These humble opinions, maybe can be taken as a reference or conducive to Taiwan's agricultural policy decision.

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**Agricultural Constitution and Structural Change
in Taiwan's Agriculture**

台灣農業基礎條件與結構之變遷

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〔 摘 要 〕

農業基礎條件乃總體經濟部門中有關各種權益、習俗以及社會規律的部分，它顯示一種經由法律與社會習俗所規範的規則與秩序，而為農村生活與農業的生產活動所依循。農業結構即在此一規範的範圍裏發展與變遷，而為統計上可以表現的農業狀況與現象。

臺灣由於農業基礎條件未臻完善，而阻礙了農業結構的變遷，並且成為當前農業發展的重要瓶頸。本文即在闡述農業基礎條件與農業結構之關係，探討其意義與內涵，進而分析不完善農業基礎條件所導致之社會經濟問題，最後則引申探討如何透過農地改革以及土地利用管制的方法，以改善農業基礎條件，促進結構之變遷。