The Algerian Development Strategy, Income Distribution and Poverty.

by

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Thesis

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Dedication

To my daughter and my son

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CONTENTS

List of Tables

Within the Text.

List of Figures.

Abbreviations.

A.A.R.D.E.S.	Algerian Association for Demographic, Economic, and Social Research.
A.D.	Algerian Dinar (the Algerian Currency).
A.R.	Agrarian Revolution.
A.R.B.	African Research Bulletin.
CE.N.E.A.P.	National Centre of Studies and Analysis for Planing.
C.C.I.A.	Chamber of Commerce and Industry of Algiers.
C.N.R.E.S.	National Centre for economic & Social Research.
D.G.G.A.	Government General Delegation in Algeria.
F.A.O.	Food and Agricultural Organisation.
F.N.L.	National Liberation Front.
I.L.O.	International Labour Office.
I.M.F.	International Monetary Fund.
I.N.E.A.P.	National Institute of Studies & Analysis for Planning.
M.A.R.A.	Ministry of Agriculture and Agrarian Reform.
M.E.E.D.	Middle East Economic Digest.
M.P.A.T.	Ministry of Planning and Regional Development.
N.S.S.	National Sample Survey.
O.N.S.	National Office for Statistics.
S.E.P.	State Secretary for Planning.
U.N.P.D.	United Nations for Planning and Development.

Abstract

The study has focussed on four issues:

First, the study has stressed the idea that patterns of income distribution and poverty are the outcome of a complex interaction of many social, economic, and political factors operating in a manner peculiar to each individual economy. It is such factors which differentiate the experience of different countries with regard to growth, income inequality and poverty. Accordingly, it was decided to pursue a more eclectic approach to the understanding of such factors in Algeria.

Second, a review of the Algerian economy during the colonial era shows how the economy was serving its metropolitan counterpart in general and the settlers in particular. While the settlers were enjoying a high standard of living, the Algerians were experiencing impoverishment.

Third, a critical analysis of the Algerian development strategy, which was implemented during the post independence era, showed that the economy remained beset by a number of problems, bottlenecks and performance failures, which have not permitted the generation of self-sustainable growth of output and employment. Consequently, the pattern of income distribution and poverty has been significantly affected. The improvement in the overall income distribution and alleviation of poverty, identified during 1967/68 - 1979/80 (the seventies) was ephemeral. During the Eighties, it seems

that the trend has been in the opposite direction. The economic variables which accounted for the improvement in the seventies were, in fact, the same variables which accounted for the deterioration in the Eighties, now operating in reverse. In this respect, the primary conclusion is that such a reversal was to be expected. The improvement had been based on a temporary advantage (the oil boom), and on an ill-founded economic policy (job-sharing). The short-term improvement followed by a reversal was directly due to the type and nature of the development strategy in general and of the distributional policy in particular. As a matter of fact, the prevalence of unequal distribution of assets (specifically land), the continuous rise in unemployment, the deterioration of the wage rate, and the rising cost of living lead us to a pessimistic forecast about the trends of poverty and income inequality in the immediate future.

Fourth, the policy implication is that attainment of a sustainable improvement in income distribution and reduction of poverty requires more drastic reform of the mechanism of resource allocation and resource use. It would also require corrections of the observed distortions, the increase and expansion of production units on an autonomous basis, in order to create the conditions favourable to vigorous growth, as well as a sustainable improvement in the distribution of income and in the alleviation of poverty. For such an aim, issues of income distribution and alleviation of poverty will have to become integral parts of the development strategy.

Introduction

Over the last two decades, the need to improve the distribution of income and alleviate poverty while fostering rapid economic growth has been emphasised in the development literature. As a result the analysis of the determinants of the pattern of income distribution and poverty has been brought to the forefront. By now, there is a growing consensus that the disparities in the distribution of economic assets and political power, which result from complex interaction between economic as well as socio-political forces, are the main factors determining such a pattern in a particular society.

It has to be noted that the understanding of how income comes to be distributed is an exceedingly complex matter. It is subject to various limitations which stem from the fact that the distribution of income is the end result of the workings of the entire socio-economic and political system. This explains partly why we lack a comprehensive theory explaining how income is distributed among persons or households. Most theories of income distribution have, in the past, taken a partial view, focussing on one or more factors which govern the distribution of income in a particular society. The recent econometric analyses have tended to be more comprehensive as they have attempted to incorporate the impact of development strategies and policies on the incidence of poverty and on the relative

shares of various groups. But because of the difficulty in quantifying socio-political relationships, it is often advanced that some variables are either non-existent or at best constant; (i.e. included in the "other things remaining constant" - but other things never are the same, or anything like the same). In fact, in a developing society, particularly when the government has adopted planning as the tool of policy formulation and implementation, it aims at reforming attitudes and motivations; therefore assuming that political and social variables are constant casts doubt on the findings arrived at by such econometric analyses. Besides, it has been commonly experienced in many developing countries that attempts to change the existing income distribution or property relations have encountered severe opposition from the vested interests. Neither privileged groups nor individuals give up or concede their privileges to other groups or other individuals easily, let alone willingly. In such circumstances not including such factors in one's analysis makes the results of such analysis rather weak and somewhat meaningless for practical policy making. One may also cast doubts even on the accuracy of the quantifiable variables and their impact on income distribution and the incidence of poverty because the data on which such econometric models are constructed, are often very shaky.

It is not being suggested that econometric analyses are not much use. In many ways they are; they provide the researchers some insights into various quantifiable relationships as well as the gaps in our knowledge about a country. But at

the same time one has to be aware of the limitations of such econometric exercises for practical policy making. A socio-economic analysis probably gives us much more insight than an econometric exercise which does not (or cannot) include socio-economic relationships. In the present thesis it has been decided consciously to take a socio-economic approach because, leaving out socio-economic variables and relationships is not particularly justifiable in such an analysis. But it is also true that Algeria does not possess the range of data required for a full-blown econometric model of the type that are available for India or Korea.

An intensive search into the causes of inequality is the crux of this study, because it enables us to determine the obstacles to the "trickle down" effect of growth or to a sustainable improvement in the distribution of income and alleviation of poverty. This would help us to examine the nature of the policies related to income distribution and poverty and to explore their likely effects. It remains to be seen whether such policies have had lasting effects, or only short-lived ones attributable to special conditions. Such an examination allows us also to test the hypothesis that the policy of 'sharing jobs' implicit in Algerian policies, which was associated with the oil boom period, represented a type of a once and for all income transfer, generating only a temporary improvement in the distribution of income and in the alleviation of poverty. The recent status of the Algerian economy, as indicated by a number of factors, shows that the trend in income distribution and

poverty, which was noticed during the seventies, has been reversed during the 1980's, and this is more likely to continue in the immediate future despite the rhetoric to the contrary to be found in its first and second five year plans. Therefore such an examination would not only reveal how the Algerian development strategy has exerted its effects on the pattern of income distribution and poverty, but also determine the main forces shaping such a pattern in its long term trend.

Essentially, this study will further four distinct tasks:

(a) to identify trends in income distribution and in poverty in the overall economy, in urban, and in rural areas during 1967/68 -1979/80 period, (henceforth the seventies).

(b) to explore the main factors which have apparently been responsible for the changes in income distribution and poverty during the 1970s.

(c) to indicate the likely trend in the distribution of income and poverty during the 1980s and in the immediate future.

(d) to stress the need to incorporate the issues of income distribution and the alleviation of poverty specifically into development planning.

Any analysis of this nature requires a framework in which the above tasks can be performed with analytical rigour. One of the best ways of creating such a framework is to review the existing literature on income distribution and poverty.

Such a framework provides a basis of selecting the main determinants of income distribution and poverty. But such determinants may not necessarily behave in the same fashion in all societies. Therefore it may be useful to examine the structure of the Algerian economy and to see how these determinants operate (or are likely to operate) in the Algerian situation. This will form the second main aspect of this study.

The third aspect of the study traces changes in the distribution of income, as to provide a basis for analysing the impact of growth on income distribution and its main determinants. It examines the intra-sectoral and inter-sectoral effects which contribute to the overall income inequality - employing measures of income inequality that can be decomposed - and which provide a deeper understanding of the underlying characteristics of inequality. This would highlight how policy measures affected the distribution of income during the 1967/68 - 1979/80 period.[1]

The fourth aspect of the study aims at examining the trends of absolute poverty and its extent during 1967/68 - 1979/80, both in urban and in rural areas, and how inequality changes have affected various income groups. This leads us to the fifth aspect of this study which examines the main determinants of the pattern of income distribution and poverty during the 1967/68 - 1979/80 period, during the 1980s, and in the years to come. This means that such an examination would allow us not only to indicate some of the

main forces which have shaped that pattern during the 1967/68 - 1979/80 period but also to examine how these forces have determined the trends in that pattern during the 1980s, and how will they affect it in the near future. The final and the concluding section suggests some policy measures as well as some changes in the pattern of development in order to achieve more lasting improvements in the distribution of income and reduction in the incidence of poverty.

It has to be noted that any analysis that attempts to document and explain income inequality and poverty will inevitably suffer from problems of oversimplification and of methodological nature.[2] However, it is hoped that this study will make some contribution to the understanding of the patterns of income distribution and poverty in developing countries in general and in Algeria in particular.

Notes.

1. It is only through the examination of changes in the distribution of income over the years that one can see how changes in various policy measures affected the patterns of income distribution and poverty.

2. Any analysis for a developing country is also plagued by unavailability and/or inaccuracy of relevant information and data.

CHAPTER I

Development, income distribution and poverty.

Economic development has attracted a considerable interest since the end of World War II. Early in that period, economic development was expressed almost exclusively in terms of increases in GNP; and growth was seen as a sufficient goal of development policy. Accordingly, it was thought that rapid gains from the overall growth in per capita average income would, automatically, narrow income differentials and bring benefits to the masses. This has not happened: the poor do not seem to have gained significantly from the economic development of recent decades.[1] It was emphasised that "Contrary to earlier expectations, the experience of the past two decades has shown that rapid growth of aggregate output does not by itself reduce poverty and inequality…"[2] Although growth did take place, the distressingly persistent problem of poverty remained widespread.[3] This, therefore, casts doubts on the hypothesis that poverty can be taken care of after growth is achieved,[4] and refutes the idea of "grow now and redistribute later", leading to a growing scepticism about whether "later" would ever come.[5]

Moreover, as the ILO points out "it is no longer acceptable in human terms, or responsible in political terms, to wait several generations for the benefits of development to

trickle down until they finally reach the poorest groups."[6] Some other scholars also agree that "Distribution cannot be left as a fortuitous by-product of growth, but must be made a conscious and explicit element of policy."[7] In fact, the growing awareness of the problems of poverty and income inequality has led to a surge of interest in the relationship between development and income distribution. This has attracted a tremendous amount of empirical analysis and research both by development economists and international development institutions.

This requires certainly an understanding of the nature of the forces which determine the pattern of income distribution and the incidence of poverty in an economy. Admittedly, the attempt to understand how income is distributed, or what causes poverty goes back to the classical economists, if not earlier, but so far a comprehensive theory has not yet been developed. Most attempts have tended to be a partial analysis as a brief review presented here suggests. Nevertheless, such a review may give us some insights into the understanding of the problems of income distribution and poverty and may enable us to draw some conclusions about the main determinants of inequality and poverty in Algeria.

1.1- The Distribution of Income.

In the literature, the distribution of income has been dealt with by two main approaches - the functional distribution

which analyses the distribution of income among the factors of production namely land, labour and capital, and the personal distribution (known also as the size distribution) which examines the distribution of income among individuals, families or households.

1.1.1- The Functional Distribution of Income.

The classical economic theory analysed the phenomenon of income distribution through the functional approach which centered its analysis on the relative shares that the owners of different factors of production receive out of the total income. Thus, the concern was primarily with the distribution among factors of production, in the form of rent, profit, and wages attributed respectively to the three main classes of the community, namely landlords, who owned titles of property in land, capitalists who owned property in capital, and labourers, who provided labour power. In his *Wealth of Nations*, Adam Smith wrote that "the whole annual produce,… naturally divides itself into three parts, and constitutes a revenue to three orders of people, to those who live by rent, to those who live by wages and to those who live by profit. These are three great, original and constituent orders of civilised society."[8]

In this perception, the division of what was produced among the factors of production attributed to the prevailing social classes, determined the functional distribution of income. Ricardo saw the laws which regulate this distribution as the principal problem in political economy. In a

letter to Malthus he wrote, "Political economy, you think is an inquiry into the nature and causes of wealth; I think it would rather be called an inquiry into the laws which determine the distribution of the produce of industry among the classes which concur in its formation."[9]

Adam Smith discussed the trend of the labour share, to show how wages gravitated around subsistence. According to him wages first rose and then fall back to subsistence as population catches up with capital accumulation; other shares were less satisfactorily explained. He advanced that the rate of profits would fall[10] due to the exhaustion of investment opportunities, overlooking the fact "that continuing new inventions will greatly delay the fall of the profit rate to its minimum and perhaps continue to do so permanently."[11] This was observed by many economists such as Kuznets who noticed that, in this century, growth of technology has been enough to keep the real rate growing at something like an exponential rate.[12] Moreover, Smith did not give a coherent statement about rent; he appeared not to be sure about it. At one time, he argued that progress will cause rents to rise both in nominal and in real terms; and at another time, he suggested that rent tended to decline with progress. Moreover, at one point, he suggests that the highest rates of profit will eat up all rent. In this respect, it seems that Smith did not have a clear idea about the trends of relative shares. In fact, as pointed out by Ricardo, "Smith advanced very little satisfactory information concerning the natural course of rent, profit and

wages."[13]

Ricardo, meanwhile, presented a clearer idea about the trends of relative shares. He saw wages tied up to subsistence, rent increasing[14] - mainly due to diminishing returns and the pressure of population on land, and profits falling. He argued that with the pressure of population, poorer soils are brought under cultivation, resulting in a decline in the marginal yield of land. Consequently, rent tended to rise, wages gradually absorbed an increasing portion of the remainder, and profit correspondingly declined. The continuation of such a process reduced capital accumulation to nil, more workers could not be supported and the "stationary state" is reached. At this stage, the share of the rentiers is relatively high, while average labour income still remains near subsistence and, consequently income will be unequally distributed. However, Ricardo's basic theory on distribution is that a rise of wages - due to the rise of corn - would invariably lower profits.[15] Accordingly, the only persistent forces working to lower profits is diminishing returns in agriculture and population growth. This by no means suggests that the forces regulating the trend of rent are the same as those regulating the trend in profits. In this respect, Ricardo pointed out that "the laws which regulate the progress of rent are widely different from those which regulate the progress of profits, and seldom operate in the same direction."[16] Thus, the three shares are determined by different principles. Rent is the surplus over marginal yield, wages are determined by the

standard of living of the labouring people and profits absorb the residual.[17] It seems that Ricardo underestimated the effects of technological progress which could lower wage-good costs and thereby increase profits. In fact, many economists[18] have rejected the Ricardian view, mainly the one of the inverse movement of wages and profits, on dynamic grounds, reflected through the role of technical progress in both the agricultural and manufacturing sectors.

On the other hand, Mill supported Ricardo's conclusion that "the rate of profits depends on wages, rising as wages fall, and falling as wages rise."[19] However, while the theoretical foundation of Mill's analysis of distribution is still the same as of Ricardo, noticing that rent rises, wages, and profits move inversely; Mill introduced the effects of social and institutional factors. He considered the laws of property, and inheritance, systems of land tenure and customary practices as affecting rents, and wages, and the distribution of ownership. He showed that the absence of competition was a main factor contributing to inequality of remuneration and stressed the consequences of the inheritance of wealth on the unequal distribution of income. He advocated the system of peasant proprietorship, which may gradually move the society toward less income inequality. But for Mill the distribution of income concerns only the 'advanced countries.'; he stressed that, "it is only in the backward countries of the world that increased production is still an important object; in those most advanced countries, what is economically needed is a better distribution".[20] This is, to

some extent, the idea that less developed countries (LDCs) do not have to worry about distribution until there is something to redistribute, which will be discussed below.

All in all, the Classical economists envisaged the pre-existent division of society into classes and formulated principles in accordance with which national income is divided among them; each class is aimed to secure a larger share of the income. It was this idea which gave Karl Marx the basis for the development of the concept of class conflict. But the Classical economists did not discuss how income should be distributed. In this respect, according to Sidgwick, "Adam Smith and his immediate successors conceived [political economy] as the maximisation of the national production of wealth, and hardly appear to have entertained the notion of aiming at the best possible distribution."[21] However, it may be concluded that the reward to different factors of production, portraying the source of income, would give us insights into the determinants of income distribution in a particular society. Further elaboration on this point will be seen below.

In Marxists' thinking, the distribution of income is systematically organized around the distribution of property. In capitalism, from Marx' point of view, labour power itself becomes a commodity; and ownership of the means of production becomes concentrated in the hands of a class that is able to appropriate a part of the output produced by labour in the form of surplus value, which is converted into

capital for the purpose of producing more surplus value. This process of capital accumulation, in Marxists' terms, increases the size of the proletariat through the global expansion of the capitalist mode of production and by breaking up non capitalist mode of production - traditional handicrafts and so on; it keeps wages at their subsistence level by virtue of the existence of the 'reserve army' of labour, and increases the immiserization of the proletariat.[22]

In this respect, from the stand point of Marxist theory, the existence of labour power as a commodity is associated with a distinctive social relation, the capital-labour relation. It is within the social relations of production that classes are defined, on the basis of relationship to the means of production (owners of means of production versus hired labour). It is on this foundation that Marxist theory was based, explaining the division of the national product between labour, and capital, representing the two different classes in the society. With these two different classes, Marxists emphasized the impact of property ownership on the concentration of wealth and income, and stressed the unavoidable consequences, in terms of deprivations and income inequalities in the context of capitalist development. In other words, in a model of capitalist accumulation, wages are prevented from rising permanently above a socially determined level by the existence of a "reserve army"[23] of labour, replenished by workers who are displaced from handicrafts and/or by the labour saving innovations of the capi-

talists, resulting in a falling share of wages in total output, and consequently increasing the concentration of wealth and income.[24]

From this point of view, the distribution of income is determined within the framework of the theory of surplus value or theory of exploitation. In fact, while emphasising the income determination process between classes and only casually discussing the income determination process within classes, the Marxists believe that it is the between-classes income differentials which are the main determinant of income inequality in a capitalist society.[25]

Marxists, however trace the dynamics of capitalist society in general and income inequality in particular to this unequal control over the productive apparatus according to which a substantial degree of inequality is inevitable. Here Palma[26] follows Cardoso and Warren in deriding those who hope that capitalism could ever produce a just distribution of income, wealth and power. This stems from the idea that class - defined as positions within the social relations of production - plays a central role in generating income inequality in capitalist societies. In other words, it does demonstrate that class has a systematic and pervasive impact on income inequality. In this respect, as it has been pointed out, to ignore social relations of production in the distribution of income, is thus to ignore one of the fundamental dimensions of social inequality in capitalist society.[27]

In the absence of different classes, in so far as there is no private ownership of the means of production, there can be no meaningful distinction between income from property and income from labour power.[28] Accordingly, the inequalities that may emerge, would be entirely explicable in terms of the differential remuneration of mental as opposed to manual labour, which, as Marx and Lenin were careful to note, was to be regarded as regrettably inevitable in the initial phase of a socialist development. In this respect, it has to be noted that such a principle for differentiation has hardly been seen in the real world, where political status is another element for differentiation. For instance, a member of the Communist Party in socialist societies enjoys high status and fringe benefits which are usually not taken into account in the size distribution of income.[29] In Poland, for instance, "Extremely high incomes are found in households whose members are closely linked to the political power centre or are representatives of the so-called 'private initiative',... The first group comprises the households of those who work in national defense, police and secret service, or the political and party apparatus."[30] As a matter of fact, in most societies, even when the means of production are said to be publicly owned, advantages and privilege are not equitably shared with the populace at large but are enjoyed by a handful of decision-makers, whether they are capitalists or party executives. In a word, inequalities in both the sphere of ownership and the sphere of decision-making lead to inequalities in the distribution

of income.

However, we can infer from the Marxists' theory that the sources of inequalities are identified as being in the sphere of ownership. The private control over the means of production is one of the main forces generating "some apparently built-in tendencies for the rich to sustain their riches and the poor their poverty which one would expect to help in explaining the persistent continuation of the large inequalities in income and wealth"[31] which have apparently been seen in many countries. In turn, change in the structure of ownership of the means of production was treated as a prerequisite for the elimination of all other inequalities in social life.

In the view of the Marginalist School on the other hand, all factors were assumed to be paid according to the value of their marginal product. This ties in neatly with the marginal productivity theory of distribution, laid down under certain conditions, with the assumption of a constant return to scale and/or perfect competition in factor and commodity markets. The main idea is that the productive factor is paid at a rate equalling its marginal value product, which eliminates the need to attribute residual income to any one factor, as the Ricardian system did - it assigns to 'profits', as shown above, the residual in total output value after rent which was determined by the differential fertility of land, and wages determined by subsistence were deducted. It follows, according to the Marginalist School that the sum of payments, i.e. the prices paid for the factors of

possessed by an individual, determine his income. In this respect, factor shares are governed by the changes in the relative factor quantities, elasticity of substitution between factors, changes in the demand for products, and the character of the technical change. It is the specific form of the marginal productivity theory that is embodied the Neoclassical conception of different categories of income as returns to different factors reflecting relative factor scarcities and technical conditions of production.

In this model, however, relative factor shares change with both technical changes affecting marginal productivities and changes in the relative amounts of factors employed. Consequently these have raised certain problems mainly: (a) the question of the measurability of capital in the context of the Neoclassical production function. In other words the main argument put forward is that it is not possible to measure adequately aggregate capital, because the value of capital is dependent on the rate of interest that is used to discount future profits, and interest rate itself is equal to the marginal product of capital. It is circular reasoning rendering the measurement of capital a questionable issue. Moreover, capital as such is produced by labour; it is a whole debate in the Neoclassical economic theory.[32] And (b) how the choice of techniques of production and technical progress affect growth and income distribution over time.[33] Furthermore, one has to question the assumptions of the Neoclassical approach, mainly with regards to the particularities of LDCs. Among its characteristics are a general

distribution of knowledge and opportunities, and absence of impediments to factor mobility, which thereby occur within a perfectly competitive structure. Most of these, if not all, assumptions are not valid with regards to the specific socio-economic institutional structure of less developed countries. In other words, it has been mainly concerned with abstract economies, which resemble the developed countries more than the developing countries. In developing countries, knowledge of opportunities is poorly distributed, factor mobility is impaired, exchange systems are rudimentary and non competitive, preferences are volatile,[34] and the structure itself is undergoing rapid change. The above factors inhibit the use of the generalities of an ideal model. So, there is little significance to the Neo-classical functional distribution of returns in explaining how income is distributed in less developed countries. A satisfactory explanation, meanwhile, has to incorporate the specific socio-economic institutional structure of LDCs.

All in all, the literature on the functional distribution of income allows us to have some ideas about the factors affecting factor shares between different classes. Such factors are ownership of land and capital, population growth and technological progress. Meanwhile, the income of different classes may originate from different sources - from the reward of different factors of production (land, labour and capital) which yield income shares overlapping the threefold scheme of rent, wages and profits as seen by the classical economists or the twofold scheme of wages and profits as in

the Marxist definition. This may make the trend in factor shares different from the trend in class incomes, which leads to the analysis of the variability within source of income among income receivers. In fact, the assumption of homogeneity within source group, as assumed by the classical economists, is untenable.[35] After all the overall income inequality is the sum of "within" and "between" inequalities. Moreover, within-country decomposition analyses of income inequality in many developing countries[36] have shown that "within" factor inequalities are far more important in accounting for inequality than "between" factor inequalities. However, what can be inferred from the above section is that although the Classical Economists lack a disaggregation of different classes' income by source, they still give us some insights into the determinants of the distribution of income, as advanced, for instance, by the Marxists: the higher the share of capital income, the more likely is the unequal distribution of income.

1.1.2- The size distribution of income.

As a matter of fact, the income of an individual or a household may be derived from different sources, not necessarily from one source only, as assumed by the Classical Economists. Such an income may be the sum of the reward from different factors of production (as seen above, land, labour and capital) and from transfers, public and/or private. This shows also how the functional distribution of income is linked to the size distribution of income. Accordingly, in

recent years the controversy has focussed on what determines the personal income distribution (known also as the size distribution of income), emphasising the trend in income of individuals or households by source of income. It focuses on how such an income is constituted, where it has been earned and from which occupation.

In economic literature, the field of the size distribution of income is less developed than the field of functional income distribution. In this respect, many economists have noticed the lack of a satisfactory theory of personal income distribution. Blinder, for instance, closed his book with the comment that "the theory of size distribution is indeed still in its infancy."[37] And in the same line of thought, Atkinson pointed out that "…far too little is known about this central subject."[38] Nevertheless, over the past century different theories have been developed in the attempt to portray what determines the size distribution of income. An extensive survey of such theories has been presented by Sahota,[39] ranging from early theories such as the 'Ability Theory' - the 'stochastic theory' - through to the theories of 'educational inequalities' and of 'distributive justice.' But none of these theories, as emphasised by Sahota, can be called a general theory, "most of them are piecemeal and partial despite claims of generality."[40] For it signifies that personal distribution of income defies and goes beyond simple explanation, as income is the end result of the interaction of a complex of socio-economic and political factors. That is, most if not all socio-economic and politi-

cal factors impinge in one way or another on the size distribution of income. In this respect, Sahota concluded that future development of a more satisfactory theory of personal income distribution should incorporate various forces determining the distribution. "These include the non-genetic components of abilities, education (including pre-school, school, post-school, and informal education), other forms of human investment (health, fertility, marital selection, job search, migration, earnings, work, saving, accumulation, and so on"[41] including ownership of assets (land and capital).[42]

The question now being asked is whether the distribution of income in a society has become more or less equal. In view of this, there has been an attempt at developing tools of measurement, particularly for comparability and for gauging the trend in income distribution and poverty. Such tools of measurement have their own drawbacks and ambiguities, and are reviewed in Appendix 1. Development economists have some times directed their attention, also at the characteristic features of income distribution together with the forces that create or influence them, the possible impact of different distributive structures on economic development, and the policy issues of redistribution. In this respect, considerable empirical insights have been attained by statistical and econometric analyses; one of the earliest examples of such analyses is by Kuznets, who examined the relationship between personal income distribution and different stages of economic growth. So what evidence is there of the

pattern of income distribution that accompanies economic growth in a developing economy?

1.2- Economic Growth and Income Distribution.

The analysis of the pattern of income distribution that accompanies economic growth in a developing economy was pioneered by Kuznets who was interested in exploring the trends in the size distribution of income that emerges in the process of economic development. On the basis of a cross-section study of some developed and developing countries Kuznets[43] concluded that relative income inequality[44] rises during the early stages of development, reaches a peak and then declines in later stages. This phenomenon came to be known as the "Inverted-U hypothesis" because of the graphic representation of this trend.

In analysing the factors determining the secular level and trends of income inequalities, Kuznets distinguishes between two groups of factors which pull inequalities in different directions. Among these factors, at least two factors point to an accentuation of the inequality of incomes before tax. The first factor was the concentration of savings in the higher income groups. He points out that "only the upper income groups save; the total savings of groups below the top decile are fairly close to zero."[45] This leads to increasing concentration of assets, and that of income (mainly when they yield an income). The second factor lies in the structure of employment and migration, a shift away

from agriculture, a marked feature of economic growth - a process usually referred to as industrialisation and urbanisation." Such a shift, Kuznets believes, is likely to be accompanied by an increase in inequality. This is for two reasons: incomes per head in the non-agricultural sector are higher and grow faster than in the non-agricultural sector, and the inequality of incomes in the non-agricultural sector is greater than in the agricultural sector and may grow faster. He concludes that "the increasing weight of urban population means an increasing share for the more unequal of the two component distributions… and if this is so, inequality in the total income distribution should increase."[46]

Furthermore, he showed, with different numerical values, that even if the difference in income per head is constant and if the income distributions are the same in the two sectors, a mere shift of the population from agricultural sector to non-agricultural sector will, in general, first widen the range of income distribution and then diminish it. That is, when the proportion of the population in agricultural sector diminishes, the differences in incomes first widens and then diminishes following the rise in the income share of the lower income groups within the non-agricultural sector. Meanwhile, along this process, Kuznets identified a number of factors limiting the tendency for inequality to increase. One group of such factors was said to be legislative interference and 'political' decisions."[47]

In fact, Kuznets was not only aware of the fact that there are many important factors determining the distribution of

income, but he was also aware of the limitations in determining such factors. He pointed out that "the long swing in income inequality must be viewed as part of a wider process of economic growth, and interrelated with similar movements in other elements."[48] (He did not go into the nature of these elements). Furthermore, he added that "without better knowledge of the trends in secular income structure and of the factors that determine them, our understanding of the whole process of economic growth is limited."[49] Among the constraints that inhibit such an understanding, Kuznets stressed that "the field is distinguished by looseness of concepts, [and] extreme scarcity of relevant data..."[50] It is partly this that made Kuznets appropriately tentative in describing his findings.

Subsequently, several cross-sectional studies have supported Kuznets's findings. Adelman and Morris[51] found that the income shares of the poorest groups showed a marked decline in the early stages of development, confirming Kuznets' hypothesis. Chenery and Syrquin,[52] and others have also added support to the inverted-U hypothesis. Paukert,[53] in considering the shares of different socio-economic classes of 56 countries, not only confirmed Kuznets'hypothesis but was able to identify the per capita income levels at which inequality was most marked. His study revealed that income distribution begins to become noticeably more unequal at a relatively early stage of economic growth. Paukert found that in countries with per capita incomes of less than $100, the average Gini coefficient was 0.42, while in those with

$101 - 200, the Gini coefficient was 0.46, while in those with $201 - 300, the Gini coefficient was 0.50, then the Gini coefficient begins to decline to 0.49 in countries in the bracket of 301 - 500, to 0.44 in countries in the range of $501 - 1000, to 0.40 in countries 1001 - 2000, and to 0.36 in countries with over $2001.

It is in respect of this general trend he claimed that his study supports Kuznets's hypothesis, even though he recognised that at each level of income, as the data of his study show, there are some countries whose income distribution in sharp contrast with the prevailing Inverted-U hypothesis. But this resulted from the fact that he was dealing with averages among groups of countries and not with the information on individual countries themselves, as significant variation in relative inequality was noticed within groups of countries. This is to say that within each income group there was a sharp variation in the Gini coefficient. He did not examine which factors contribute to the differences in income inequality and its changes in the course of economic development. In this respect, it seems that he placed a heavy emphasis on per capita income itself; and it appears to suggest that governments wishing to develop their economies had to accept the inevitability. Official policies may be important in influencing the trend of income distribution, as Kuznets himself acknowledged. To base one's judgement on per capita income alone may not be justified.

Ahluwalia,[54] in a cross-country analysis based on a sample

of 60 countries, comprising 40 developing countries, 14 developed countries and 6 socialist countries, showed that as per capita GNP rises, the income share of the poor - the lowest 40%,[55] first falls, reaches a minimum and then rises. He estimated the per capita income - the turning point - at which the share begins to rise. Such a per capita was found to be $468 if the entire sample is used and $371 if only the developing countries are considered. The trend of the income share of the lowest 40% moves from 17% at a level of $100, to 11% at the turning point, and rises to about 15% at the level of $2000. It is to this trend that Ahluwalia was led to believe these results confirmed the Inverted-U hypothesis.[56] As to what affected the degree of inequality in the process of development, he suggests three different variables. The first is the shift of population from the traditional agricultural sector to the modern sector, (i.e. the migration factor, as Kuznets did). The second variable, Ahluwalia advances, is improvements in the quality of human resources, which operate to decrease income inequality.[57] The third variable, he suggests is the demographic factor - the population growth which has an important effect on income inequality by prolonging the phenomenon of surplus labour.[58]

Meanwhile, when he regressed the rate of growth, regardless of the level of per capita income of the country - as the dependent variable, against income inequality - the independent variable, he reached a different conclusion, different from regressing level of per capita income and income

inequality. The results show no systematic relationship between higher inequality and a faster rate of growth. He did not reconcile the two different findings. All he suggests, is to promote the highest rate of growth to pass the traditional period of severe inequality as quickly as possible. He explains that "higher growth rates accelerate this transition without necessarily generating greater inequality than can be expected, given the structural characteristics of the economy at each level of development."[59] It seems that Ahluwalia fails to recognise the effect of other structural factors affecting income inequality, such as the distribution of assets (land and capital), which is one of the main reasons why at a comparative level of development, the distribution of income in socialist countries is more equally distributed than in other countries.[60] Furthermore, some empirical studies have shown the extent of the property income in shaping the distribution of income. McLure,[61] for instance, has shown that in Panama property income is sufficiently large and sufficiently inequitably distributed to explain a large part of overall income distribution.[62]

In fact, a country-by-country examination reveals the wide variety of experience found among developing countries. In this respect, Fields,[63] using time series data for 20 countries, found that inequality had worsened in seven countries, improved in 5, and remained unchanged in the remaining eight countries. These findings suggest that alternative development strategies may really have differing

impacts on the income of different groups, not systematically displaying the Kuznets U-pattern. As far as Ahluwalia's study is concerned, Anand and Kanbur have shown that "the index used by Ahluwalia, the income share of the lowest 40%, does not generate an explicit functional form for the inequality-development relationship under intersectional shifts theory."[64] Furthermore, they have expressed dissatisfaction with the data base employed by Ahluwalia.[65]

Different trends, however, are expected because the complex processes influencing income distribution affect different strata of the population in different ways; and because the forces inducing changes in income distribution may interact quite differently in countries having different policies and characteristics.[66] Accordingly, such policies and characteristics may render the pattern of income distribution deviating from the observed curve. It is not surprising, therefore, that if one looks at empirical evidence concerning the relationship between economic growth and income distribution, evidence of which is available for about 80 countries, we observe different patterns. Along this line, Cline, in his survey of literature on distribution and development, stated that:

> "it seems more reasonable to postulate that particular policies combined with the inherited social structure make it more highly unequal in some less developed countries, while alternative policies and structure make it more even in others, but there is no inexorable theoretical basis justifying a worsening of the distribution in the course of development."[67]

All in all, the conventional practice of testing growth distribution hypotheses such as the Kuznets hypothesis, by using cross country data (which have their pitfalls) suffers from serious problems of data comparability, and bypasses country-specific characteristics. It entails fairly arbitrary assumptions concerning the question of the growth paths of the individual countries, and provides no guarantee that the patterns of growth distribution association found in the cross country sample, will be of the same nature as those that characterize intra-country data. That is to say, its application to any particular country is rather limited; and it is much too aggregative to help formulate policy for any specific country. The use of cross-country data for the analysis of what are essentially dynamic processes raises a number of familiar problems. Ideally, such processes should be examined in an explicitly historical context for each particular country. Studies, focussing on specific experience, support the diversity hypothesis concerning the relationship between growth and inequality.

Certainly, countries having the same level of income but different characteristics have experienced different types of income distribution, e.g. China and India, Brazil and Taiwan, Japan and USA. Moreover, some individual countries have been able to establish the preconditions for a more egalitarian distribution of income; stimulating growth in such a policy environment may well avoid the Inverted-U hypothesis; the experience of a number of countries such as Yugoslavia, Taiwan and South Korea[68] are cases in point.

1.3- Poverty and its causes.

In spite of the preoccupation of the classical economists like Adam Smith and Ricardo with subsistence wage and relative shares of population groups; poverty and its causes did not get any prominence. It was Malthus who explicitly undertook to explain the causes of poverty, although he did not give any rigorous definition of poverty. To him rapidly rising population was the main cause of poverty and not the political system or distribution of income which the 'utopian' socialists had claimed. According to Malthus population, when unchecked, increased in a geometrical ratio, while subsistence increased only in an arithmetical ratio. This meant that over a certain period of time, food requirement would exceed food supply giving rise to 'positive' checks (i.e. starvation, disease and famines). He also argued that wherever human beings obtained more than mere subsistence, their numbers go up. Ultimately positive checks restored a new equilibrium. It follows therefore that there is no point in trying to improve the conditions of the lower income groups by measures such as poor relief, for it will only end up in more people being poor.[69] Even technology provided only a temporary respite.

Malthus'views received heavy refutation from many writers both of the classical as well as Marxian; Senior, for instance, in a letter to Malthus, pointed out that "in the absence of disturbing causes, food has a tendency to increase faster than population because, in fact, it has

generally done so..."[70] Moreover, Mill emphasised that "it is an error to maintain that population, in any improving community, tends to increase faster than, or even as fast as, subsistence."[71] Such a proposition "was agreed to be perfectly consistent with the regular fact of food increasing faster than population."[72] Clearly, the experience of Europe in the 19th century went against Malthusian hypothesis, but the spectre of famine continued in the colonies of European countries and Malthusian ideas continued to have some influence in those countries.

To Marx and Engels, who were very critical of Malthus, poverty like inequality was the consequences of a certain type of social relationship of production, in which the means of production concentrated in the hands of the capitalist class. Over the long-run the uncoordinated nature of capitalism led to overproduction and crisis which in its own turn led to deprivation and immiserisation of the proletariat, which are the unavoidable consequences of capitalist development.[73] "As long as capitalism remains capitalism, surplus capital will never be used for the purpose of raising the standard of living of the masses, for this would mean a decrease in profits for the capitalists."[74] Poverty is therefore endemic in capitalist societies - it is part and parcel of the working of the system. Capitalism has an inherent tendency to create poverty as part of the process of generating wealth.

In fact, Marx's prophecy about increasing immiserisation has not come out to be true due to the increase in the power of

not come out to be true due to the increase in the power of the trade unionism which strengthened the bargaining power of the workers to press for a higher share of the growing national product, the rise of the welfare state, and the growth of the public sector and the policies of social justice.[75] The provision of social services: especially health, education, transport and drinking water, has contributed to the improvement in the well-being of the poorer strata of the population. Furthermore, as noted earlier, the evidence shows that in most (but not all) countries, regardless of their economic system, "absolute incomes for the poorest groups have improved, and consequently absolute poverty[76] has diminished with economic growth."[77]

With the emergence of the Marginalist School, the focus of attention moved away from the questions of income inequality and poverty, particularly in economic thinking. It was related to the way economics was developed; a lot of effort was devoted to research on economic theory. There was some steady trend from 'static analysis in 1870 to a much more 'dynamic analysis at the end of the period, (1870 - 1929). A very great deal of the controversy of the period, in all branches, centred around this difficult process of clarrifying the significance of 'static' and 'dynamic' analysis, and the transition from the one to the other.[78] However, troubled with poverty in Europe, sociologists such as Rowntree gave considerable attention to the measurement and analysis of poverty early in the 20th century. Some of these attempts will be discussed later in chapter 4.

Given the immensity of the problem of poverty in developing countries after the Second World War and more after the 1960s, major efforts have been made to analyse the causes of poverty. There has been a growing consensus that since assets are a major source of income, its unequal ownership and limited access (such as the prevalence of landlessness), remains a major factor causing poverty and inequality. In absence of assets, employment remains the only meaningful sense of earning income and eliminating or reducing poverty. It is emphasised that "insufficient and unequal access to employment rank high among the major causes of poverty and inequality."[79]

This, meanwhile, by no means excludes the importance of other factors because, as pointed out "the problems of poverty are deeply rooted in the institutional framework particularly in the distribution of income and political power within the system."[80] Along this line, Adelman and Morris emphasised that, "in underdeveloped countries, it is to be expected that a variety of historical, social and political influences that are difficult to measure will interact with classical economic considerations in determining the distribution of personal income."[81] Hence, it is worth stressing that poverty and inequality are the result of a complex interaction of socio-economic and political factors or forces deeply rooted in the structure of a particular society, and it is very difficult to disentangle these causes from one another or indicate their relative importance.[82] It is precisely these factors that are of interest

from the analytical as well as the policy-making point of view. In this respect, in the realm of policy implications of the income distribution, poverty and development relationships, some development economists have used the econometric analysis not only to find out the factors shaping the pattern of income distribution that accompanies economic growth but to incorporate the impact of development strategies and policies on the incidence of poverty and on the relative shares of various groups. Such studies have added support to the view that the interaction of the concentration of asset ownership, the prevalence of landlessness,[83] and near-landlessness,[84] and the lack of employment opportunities constitute the main factors determining the generation and the persistence of poverty and inequality in a particular economy. Reviewing some of such studies may give us an insight into the factors and policy options which may reduce income inequality and alleviate poverty in the course of economic development.

1.4- Simulating income distribution and poverty.

One of the recent simulation models that is worth reviewing is the Adelman-Robinson Model based on Korea - the country often considered among the LDCs which has succeeded in undergoing a rapid growth with equity. The model was designed to provide a laboratory for investigating the potential impact of standard economic policy instruments and programmes intended to improve the relative and absolute incomes of the poor, and tracing out both the direct and the

indirect influences on the distribution of income.[85] The main results they reached are that a steady reduction of deprivation may be the hardest to achieve, and that "most anti-poverty policies eventually help the rich and middle income groups more than they help the poor… This trickle-up effect was evident in a great many different policy experiments and is difficult to avoid."[86] Other policies that have a significant influence on poverty are those encouraging rural-urban migration. This has been the case because in a rapidly growing economy like the one of Korea where the urban labour force can absorb the new migrants without a significant fall in wages, which leads to the eradication of the surplus labour - a main necessary condition for the sustainable improvement in the distribution of income and for the alleviation of poverty. But these results were conditional on the availability of other factors and conditions. They emphasised that "These results cannot be generalised to nations that do not start out with both a reasonably equitable pattern of land-ownership and tenure and a relatively well-educated and skilled population."[87] As far as sectoral and regional development are concerned, they advanced that a concerted rural development strategy is very effective in alleviating poverty and improving the distribution. In this respect, they stressed the effective role of land redistribution in affecting the distribution of income and poverty, showing that with land reform, there are 30% less households living in poverty than in the package without land reform.[88] Concerning urban areas, it was found

that a certain programme of public works, export promotion in labour intensive industries, and the adoption of more labour-intensive techniques is effective in reducing poverty and improving the distribution of income. Meanwhile, such an outcome can be brought about, only when a sufficient number of different interventions are applied simultaneously, so that there is, in effect, a change in development strategy; stressing that structural change is required to affect inequality, and that equity objectives must shape the choice of basic development strategy if they are to be met.[89]

All in all, they concluded that "In our summary, our study reinforces the view that the distribution of income is firmly rooted in the structure of the economy, and that its path over time depends on the fundamental development strategy chosen by the society."[90] This really emphasises the principal idea that the improvement in the distribution of income and the alleviation of poverty are relegated to a complex interaction of the socio-economic and political forces operating within the chosen development strategy.

Another interesting simulation model which is useful to present its main conclusions, is the one on India, developed by Sinha and others. It was set up not only to explore the interrelations between poverty, income distribution and employment, but also to simulate the implications for the distribution of incomes and the attainment of basic needs of various possible strategies of development and policies. These include: "income transfers from rich to poor; growth strategies based on alternative groups of sectors, such as

light or heavy industry, hypothetical policies of growth with redistribution, and a land redistribution."[91] In discussing the redistribution of income transfers between classes and its effects on income and employment, they first noticed the general limited sensitivity of employment to income redistribution, and showed as well that an income transfer from the rich to the poor is largely reversed almost immediately by the system itself. They found that it is the redistribution of income from the rich to the middle income groups which has most favourable effects on income and employment.[92]

More important, they assessed the effects on employment and income distribution of various growth strategies based on alternative groups of sectors, in agriculture, in industry and in services, and land redistribution, aiming to determine the policies that will have greater impact on output, employment and income distribution. They emphasised that the redistribution of existing assets, including land, or the creation of new assets vested specially in these groups, or a restructuring of factor rewards, that any redistribution policy must focus if it is to be successful. As a consequence, they come to point out that "An alternative, and more fundamental, form of redistribution would be the redistribution of assets, to change the income shares, accruing from production to the various classes."[93] Particularly, it was found that a radical redistribution of land improves both the absolute income level and income shares of the rural poor. But the likely effects of land redistribution on

output and employment, as they acknowledged, cannot be ascertained, mainly because "a land redistribution might alter the social and economic organisation of the villages so drastically that it becomes difficult to be at all certain about likely output and employment effects."[94] They also found that in the present socio-political context of India, the implementation of a radical land distribution was rather implausible. Under these circumstances, employment creation or reduction of poverty had to be seen in the context of existing pattern of assets (i.e. land etc) ownership. With the limitation in view, one could mainly think of a development strategy which helped employment creation. Among various simulated strategies, the capital-intensive, heavy industrialisation strategy created the lowest employment, particularly for the rural population, while agriculture and livestock based strategies created the maximum employment potential.

However, before commenting on the findings of the above simulation studies, it is important to question some of the assumptions made by these models. The difficulty in quantifying socio-political relationships in affacting income distribution and poverty led that these variables are assumed in such econometric models to remain constant which is obviously not the case in a developing country. One can, in fact, stress that in such a country there is a conscious effort and aspiration to reform institutions, political and social structures, attitudes and motivations. In such a situation, the assump-tion that they remain constant reduces

the importance of the results obtained by such econometric analyses. Besides some technical problems remain unsolved, as Sinha et al have conceded; if there is a drastic redistribution of land and other assets, the production function coefficients generated cannot be relied on as a guide to future policy, therefore casting doubt on the relevance of their results. It was emphasised that "It is necessarily a very rough approximation, since it is almost impossible to anticipate or to quantify the likely changes in cropping patterns and input use… which would follow from such a major modification in the social and economic structure. As such, the results of this simulation have to be viewed with caution."[95]

Nevertheless, the insights advanced by such studies are of immense help in determining factors which are of importance in a study of income distribution and poverty. It shows that a once and for all income transfer may bring only a temporary improvement in the income position of the poor and the level of employment. More important, the central recommended proposition is that long term effects on the distribution of income and poverty can only be brought about by structural changes in the economy - by a development strategy which explicitly incorporates the generation of employment and the redistribution of assets including its related productive resources.

1.5- Summary.

The above survey of literature does show that income distribution and poverty are determined by the complex interaction of many social, economic and political factors. Their effects vary among different countries owing to the differences in endowments, economic systems, pattern and stage of development. It is not even possible to determine the effects of such factors for a particular society, due to their large and inter-connected numbers, the lack of disaggregated data and information (some are difficult to measure). In fact, it is all these which are responsible for the lack of a comprehensive theory, explaining how income is distributed. Yet from the varied contribution to an understanding of income distribution of many economists (Classical, Marxists, and Neoclassical), international organisations, and the empirical support of the recent econometric analyses, can be inferred some important factors determining changes in both income distribution and poverty. Such factors are the pertinent roles of development strategies and policies but much more so the redistribution of assets and the generation of employment opportunities. These, in their own turn, depend on appropriate social and political institutions as well as the ability of the poor (i.e. trade unions to improve labour conditions) to organise and struggle for improvements in their share of the country's income. Since land is limited in many developing countries, asset redistribution can only provide miniscule land holdings, particularly in view of rapid rate of popula-

tion growth. Therefore, creation of employment opportunities will depend largely on rapid growth of the non-agricultural sector. But employment creation may be thwarted by a wrong development strategy and inappropriate choice of technology.

It is in this context that the Algerian development strategy is being analysed here. Based predominantly on petrochemicals, the development strategy in Algeria has been oriented towards highly capital intensive, state directed industrialisation strategy. How such a strategy has shaped the distribution of income and poverty, is the subject of the subsequent chapters.

Notes to chapter 1.

1. See for instance, R. Sinha et al: *Income Distribution, Growth and Basic Needs in India*. Croom Helm. London, 1979.

2. See I.L.O. *Employment, Growth and Basic Needs: A One World Problem*. Geneva. 1976. p. 4.

3. See Hollis Chenery in: *Redistribution with Growth*. Oxford University Press. 1974, p. xii. Some studies, for example, Adelman and Morris found that an absolute rise in national product in developing countries does not necessarily translate into any improvement, and many in fact mark a deterioration, in the plight of the nation's poor. See I. Adelman, and C.T. Morris in: *Economic Growth and Social Equity in Developing Countries*. Stanford, California. Stanford University Press, 1973.

4. See for example Mahbub ul Haq in: "Crisis in Development Strategies". *World Development*, volume 1 nº7, July 1973.

5. See for instance Fei, Ranis and Kuo, in *Growth with Equity: The Taiwan case*. Oxford University Press, 1979.

6. See I.L.O. *Employment, growth and Basic Needs*. op cit. P. 4.

7. See R. Jolly: "The World Employment Conference: The Enthronement of Basic needs." *ODI Review*, Nº 2, 1976. p. 40. Moreover, the main point in the strategy outlined by the ILO was thus that there should be a direct effort at improving the lot of the poorest without waiting for the 'trickle-down' process to do the job. See ILO: Employment, Growth, and Basic Needs. Geneva, 1976.

8. See Adam Smith, *The Wealth of Nations*, (ed) Edwin

9. See Works and Correspondence of David Ricardo, Piero Sraffa (editor), Cambridge University Press, vol i, 1951. p. 5.

10. As far as the falling rate of profits is concerned, it seems to have been taken for granted. See for instance D.P. O'Brien: *The Classical Economists*. Clarendon Press, Oxford 1975. p. 131.

11. See Samuelson, Paul A. "The Canonical Classical Model of Political Economy", *Journal of Economic Literature*, vol XVI 1978. p. 1417.

12. As reported by Samuelson, Paul A. op cit. p.1417.

13. See D. Ricardo: The Principles of Political Economy and Taxation. 1911. p. 1.

14. According to Ricardo, rent increases most rapidly as the disposable land decreases in its productive powers. See Ricardo: *The Principles*, op cit. p. 40.

15. With the progress of society, the natural price of labour has always a tendency to rise, because one of the principal commodities by which natural price is regulated has a tendency to become dearer from the greater difficulty of producing it. See Ricardo: *The Principles*, op cit. p. 52.

16. See D. Ricardo: The Principles, op cit. p. 43.

17. See for instance, John M. Clark: Distribution, in: *Readings in the Theory of Income Distribution*. Selected by a Committee of the American Association. The Blakiston Company. 1946. pp. 58 - 71.

18. See for instance, D.P. O'Brien and J.R. McCulloch: *A*

Study in Classical Economics, London 1970. pp. 296 - 9, as reported by D.P. O'Brien, in: *The Classical Economists*. op cit p. 136.

19. See John S. Mill: *Principles of Political Economy, vol 1*. Longmans, Geen, 1878. London. p. 512.

20. See J.S. Mill in: *Principles of Political Economy* (ed) W.J. Ashley. London. Longmans 1900. p. 749.

21. See H. Sidgwick's *Principles* 3rd edition 1901. p. 306, as quoted by T.W. Hutchison, *A Review of Economic Doctrines 1870 - 1929*. Oxford at the Clarendon Press, 1953. p. 55.

22. See for instance, Donald J. Harris in: *Capital Accumulation and income Distribution*. Routledge and Kegan Paul. London and Henley 1978.

23. It was believed that capitalists had an incentive to create a reserve army of unemployed whose brooding presence would ensure that the real wages of employed labourers would not rise, but would instead hover around the subsistence level.

24. In fact, Marx's Theory of wages and profits stems from Ricardo's theory of value and distribution. See John M. Clark: Distribution. op cit.

25. That is, it is the mode of production in which the social relations of production are the determining factor in the distribution of income, wealth and power. Such a mode of production attributes a central role to the dynamics of social conflict and class struggle in the process of capital accumulation.

26. See for instance, *Global Unemployment: The new*

Challenge to Economic Theory. Martin Godfrey. Harvester Press. Brighton 1986.

27. See for instance, Erick Olin Wright, in: *Class Structure and Income Determination*. Academic Press, New York, London 1979.

28. There is, accordingly no special significance to be attached to the value sum of capital upon which profit is to be paid and on the basis of which a share of the product accrues to a particular class.

29. See for instance, Abram Bergson: "Income Inequality under the Soviet Socialism" in *Journal of Economic Literature*. vol XXII (Sept 1984. pp. 1052 - 1099).

30. See Andrzej F. Lulek and Leslaw A. Paga, "The Sphere of Inequality in a Centrally Planned Economy", in: *International Journal of Social Economics*, vol 16 Nº 1 - 1989. P. 36. Within these countries, it is political power that is the determinant force in the distribution of income.

31. Borrowed from Meade James E: *The Just Economy. vol 4.* Principles of Political Economy. Albany: State University of New York Press, 1979, pp. 157 - 58.

32. See for instance J. Robinson in: "The Production Function and the Theory of Capital." *Review of Economic Studies*, vol xxi (2) Nº 55 1953/54; and see also Harcourt, G. in: "Some Cambridge Controversies in the Theory of Capital". *Journal of Economic Literature* 7 Nº 2, 1969.

33. See William R. Cline in: "Distribution and Development: A Survey of Literature." *Journal of Development Economics* Nº 1, 1975.

34. In this respect, it was pointed out that "By taking choice and preferences as given, it [the marginalist school] implicitly attaches sanctity to them also. This is a wrong procedure. For it ignores the fundamental fact that discriminatory class relations, such as exist in our society, distort preferences." See A.K. Das Gupta: "The Purpose of Economic Theory," in *Reflections on Economic Development and Social Change: Essays in Honour of V.K.R.V. Rao.* (eds) C. H. Hanumantha Rao and P. C. Joshi. Bombay. 1979. 13.

35. The distribution of income within classes has hardly been examined by the classical economists. Wages differentials were discussed by Adam Smith who advanced five principal circumstances which make up for the variation of wages. See *The Wealth of Nations.*, op cit pp. 102 - 107.

36. See for instance, Fei, Ranis and Kuo (1979) for Taiwan, Ayub (1977) for Pakistan, Pyatt (1976) for Sri Lanka.

37. See Alan S. Blinder in: *Toward an Economic Theory of Income Distribution.* The MIT Press, Cambridge, Massachusetts, and London. 1974. p. 163.

38. See Atkinson, Anthony B. *The Economics of Inequality.* London. Oxford University Press, 1975. p. 258.

39. Gian Singh Sahota: "Theories of Personal Income Distribution: A Survey." in *Journal of Economic Literature,* vol 16, March 1978.

40. Sahota, op cit. p. 31.

41. Sahota, op cit. p. 40.

42. It has to be borne in mind that these factors represent the most important ones.

43. See S. Kuznets: "Quantitative Aspects of the Economic Growth of Nations: Distribution of Income by Size" in: *Economic Development and Cultural Change*. Jan 1963.

44. Meanwhile, Kuznets measures inequality by the range between the share of the total income accruing to the first and fifth quintiles.

45. See S. Kuznets op cit. p. 18.

46. Ibid. p. 8.

47. Ibid. pp. 8-9.

48. Ibid. p. 20.

49. Ibid. p. 27.

50. Ibid. p. 27.

51. I. Adelman, and C.T. Morris in: *Economic Growth and Social Equity in Developing Countries*. Stanford, California. Stanford University Press, 1973.

52. See Chenery, H.B. and M. Syrquin: *Patters of Development 1950 - 1970*. Oxford University Press, London 1975.

53. See Felix Paukert: "Income Distribution at Different Levels of Development: A Survey of Evidence." *International Labour Review*, August-September, 1973.

54. Montek Ahluwalia in "Inequality, Poverty and Development". *Journal of development Economics* 3, 1976. pp. 307 - 42.

55. Unlike Paukert who used the Gini coefficient.

56. He stressed that "there is strong support for the proposition that relative inequality increases substantially in the early stages of development, with a rever-

sal of this tendency in later stages." See Montek Ahluwalia, in: "Inequality, Poverty and Development". op cit. p. 338.

57. In using the literacy rate and the secondary school enrolment rates - as an index for investment in human capital, he finds that "improvements in literacy have a beneficial impact on the income share of the middle 40%, probably reflecting the exclusion of the lower income groups from access to schooling." See Montek Ahluwalia: "Income Distribution and Development: Some Stylised Facts" *American Economic Review*, 66 May 1976. 131.

58. He shows that while the rate of growth of population has a negative effect on the income shares of the lower and middle groups, as a large proportion of the work force remains locked into low income employment in the traditional or informal sector of the economy, it has a positive effect on the top 20 per cent income share. See Montek Ahluwalia: "Income Distribution and Development: Some Stylised Facts". op cit. p. 131.

59. Montek Ahluwalia in "Inequality, Poverty and Development". op cit. p. 337.

60. It was pointed out that "There is evidence that the socialist countries have less inequality for any given stage of development than capitalist and mixed economies." See Francis Stewart: Work, Income and Inequality. op cit. p. 321. The main reason is that the socialist countries have changed the rules of asset ownership, limiting the ability of individuals to accumulate assets and placing assets in collective ownership and control.

61. See McLure, Jr., L.E. "The distribution of Income and Tax Incidence in Panama, 1969." Programme of Development

Studies, Paper Nº 36 Rice University, Houston, Texas, 1972.

62. Therefore, the policy of constantly decreasing the share of property income and distributing it more equitably would constitute an effective means of achieving a more equal distribution of income. The experience of Taiwan, for instance is a case in point; see Fei, Ranis and Kuo, in: *Growth with Equity*, op cit.

63. In: Poverty, Inequality, and Development. op cit.

64. See Anand, S and S.M. Kanbur: "Inequality and Development: A reconsideration." in : *Towards Income Distribution Policies: From Income Distribution Research to Income Distribution Policy in LDCs.* (ed) Hans-Peter Nissen. EADI. Book series B. 1984. p. 161. Meanwhile, this criticism does not apply to Paukert's study, which used a different index - the Gini coefficient and not the income share of the lowest 40%, as Ahluwalia did.

65. See Anand, S and S.M. Kanbur. op cit. p. 161. They also raise other econometric issues.

66. See for instance, I. Adelman, and C.T. Morris: *Economic Growth and Social Equity*. op. cit. p. 146.

67. M.S. Ahluwalia, in: distribution and Development. op cit. p. 374.

68. See M.S. Ahluwalia, Nicholas G. Carter and Hollis B. Chenery: Growth and Poverty in Developing Countries. *Journal of Development Economics* 6 (1979) p. 309.

69. To reduce or avoid such a poverty, Malthus advocated two main instruments: 1) infanticide which despite being painful and repulsive was preferable to Malthus' checks of 'misery and vice'. He asserted that "if the alter-

natives were complete, I had rather such a child should perish in the first hour of its existence than a man should spend seventy years of life in state of misery and vice." 2) postponement of marriage to avoid the poverty resulting from a great family. See *An Essay on the principle of Population,* Royal Economic Society. London 1926. pp. 65 - 73, as quoted by George J. Stigler, "The Ricardian Theory of Value and Distribution." *The Journal of Political Economy*. Volume LX June 1952. p. 191.

70. See N. Senior: Two Lectures on Population. (London 1829), p. 58, as quoted by George J. Stigler. op cit. p. 194.

71. See J. S. Mill: *Principles of Political Economy,* vol 1. op cit. p. 439.

72. See T.W. Hutchison, op cit. p. 73.

73. Accumulation of wealth at one pole is, therefore, at the same time accumulation of misery, agony of toil, slavery, ignorance, brutality, mental degradation, at the opposite pole, i.e., on the side of the class that produces its own product in the form of capital. See *Capital, vol 1* (Foreign Languages Publishing House, Moscow), 1954. p. 654.

74. See V. I. Lenin, *Imperialism: The Highest Stage of Capitalism,* Progress Publishers, 1966; as quoted in R. Owen and B. Sutcliffe (eds), *Studies in the Theory of Imperialism*. London: Longman, 1972, p. 53.

75. See for instance R.L. Meek: "Marx's Doctrine of Increasing Misery? in: *Karl Marx's Economics: Critical Assessments*. (ed) John Cunningham Wood. Croom Helm 1988.

76. Absolute poverty is meant to describe the situation where individual's or household's income falls below a certain 'poverty line'. This will be much more elaborated on in chapter 4.

77. See G. Fields: *Poverty, Inequality, and Development*. op cit. p. 162.

78. See T.W. Hutchison, op cit. p.iv.

79. See ILO: Employment, Growth and Basic Needs., op cit. p. 15.

80. See R. S. McNamara, Address to the board of governors, (Washington, D. C. World Bank, 25 Sept 1972. p. 8.

81. See I. Adelman, and C.T. Morris: *Economic Growth and Social Equity*. op. cit. p. 144.

82. See for instance, Radha Sinha: *Landlessness: A Growing problem*. FAO. Rome 1984. p. 18.

83. Landlessness, meanwhile, is often considered to be both the cause and the symptom of chronic poverty. See Sinha, Radha (1984), p. 1. See also: Griffin, Keith (1981); Griffin, K. and Khan, A. R. (1978).

84. In other words, small landowners who lack the capacity or the access to the necessary inputs and supporting services which inhibit the provision of the basic needs for the family. See for instance R. Sinha: *Landlessness*. op cit.

85. See I. Adelman and S. Robinson: *Income Distribution Policy in Developing Countries: A Case Study of Korea*. Oxford University Press. 1978. p. 1.

86. Ibid. p. 191.

87. Ibid. p. 193.

88. Ibid. p. 197.

89. Ibid. p. 17.

90. Ibid. pp. 198-9.

91. R. Sinha et al: *Income Distribution, Growth and Basic Needs in India*. Croom Helm. London, 1979. p. 20.

92. See R. Sinha et al. op cit. pp 109 - 110.

93. Ibid. p. 109.

94. Ibid. p. 110.

95. Ibid. p. 110.

Chapter II

THE STRUCTURE OF THE ALGERIAN ECONOMY AND ITS EVOLUTION.

This chapter tries to examine evolution of the Algerian economy and the structure which resulted from the implementation of the development strategy of the post-independence Algeria. In this respect, examining the inherited socio-economic structure from the colonial era is rather important, because it portrays the conditions under which Algeria attempted to restructure itself after independence.

2.1- The Pre-independence Algerian Economy.

The Algerian economy before independence was mainly designed to serve the interests of metropolitan France in general and of the European settlers in particular. In order to meet this overall objective, the colonial government brought about a major transformation in the social and economic aspects of the Algerian society. The process through which such a transformation was brought about started during the early years of occupation. In strengthening the occupation the Europeans in general and the French in particular were encouraged to settle in Algeria. With a view to facilitate their settlement, the colonial government radically altered the Algerian property structure. The traditional property structure was composed of four main categories:

1) *Arsh* land, private but non-alienable property, signified both the tribe and the land which tribesmen share; land property was under common ownership but the output yielded by each family belonged to it, i.e. the family group had the right of utilisation - usufruct right - which was obtained through work. Land was transferred to a family member by inheritance, but could not be sold under any circumstances.

2) *Melk* land, equivalent to private alienable property, i.e. designated private property and with associated right of ownership. It could be sold, but generally only within the tribe.

3) *Habous* land, land donated to religious foundations or cultural institutions, as non-alienable property, it could not be sold. It served different purposes, such as construction and maintenance of mosques and schools.

4) *Azel* land, or the *Beylik* land, which was the public domain under the control of the district Turkish governor "Bey", constituted the best arable land. Part of it was under the system of sharecropping called the *Khammassat*,[1] where land was cultivated by 'Khammes' for the benefit of the treasury. Other parts were donated to certain families, or a particular tribe as reward for services rendered to the state, but only with the right to usufruct. It could not be alienated by any kind of transfer.

However, the appropriation process of native lands by the *colon*, and the introduction of European laws and

administrative arrangements destroyed the prevailing collective forms of land ownership, kinship unity and community life of social solidarity. This affected the whole social organisation of the society. In fact, the policy was largely guided by the view that a system of private property should be encouraged and reinforced by the French law. In so doing, it profoundly disrupted the pre-existing legal order, while substituting French law for the tribal juridical system.

The French colonists, by various measures and mechanisms, such as the exercise of harsh military and administrative coercion, with arbitrary laws, seized *Habous* estates and expropriated the communal *Azel* land and *Arsh* land;[2] destroying the very basis of the prevailing Algerian structure of traditional rural society, breaking the tribal structure, driving the people out of the best arable lands, transforming some of them to wage labourers, serving the needs of the European settlers' agriculture.[3] Table 2.1 shows the evolution of European settlers' land.

Table 2.1 Evolution of European settlers land 1830 - 1950

period	Lands added to colonial holdings in hectares	year	Net colonial holdings in hectares
before 1870	504,116	1870	504,116
1870 - 1900	1,144,015	1900	1,648,131
1900 - 1912	7,669,315	1917	2,317,446
1917 - 1930	528,219	1930	2,345,666*
1930 - 1950	360,464	1950	2,706,130@

*) the small net change between 1917 and 1933 reflects the sale of about 500,000 hectares to the indigenous population from settlers.

@) these lands belonged to about 25,000 Europeans.

source: D.Sari: *Depossession des Fellahs (1830 - 1962)*. S.N.E.D., 1975. p. 97.

Hence, most of the holdings owned by the *colon*[4] were obtained through extortion, forced sales imposed on Algerians, foreclosure and other forms of legal or economic pressure, or outright dispossession.[5] These measures allowed the French settlers to have their own estates on the best agricultural lands, while the Algerian peasantry was by and large separated from the means of production. This profound transformation led to the impoverishment of a large segment of the population, which was uprooted, and alienated from their native lands, and forced to adapt - as wage earners and sharecroppers - to new economic conditions - the rise of a capitalist agriculture.[6]

The above process, not only transformed land into an exchange commodity, but also separated the producers from the means of production, creating a steadily increasing landlessness, as the number of rural landowners decreased by 20% while the number of rural workers increased by 29 per cent during the 1900-1950 period. Furthermore, this process made the native an employee and/or forced him to eke out a living on more and more marginal lands for a bare subsistence. The livelihood of the peasants became much more insecure, and increasingly they became vulnerable to poverty and its resultant consequences. This situation was clearly summarised by a French administrator as follows: "After the introduction of the individualisation of property [and] once the land is definitively appropriated, inequality begins with the landowners on one side and the proletariat on the other, as in our civilised societies."[7]

During the colonial era the Algerian economy was mainly based on agriculture, as were most developing countries at that time. More than 75 per cent of the population, and more than 65 per cent of the working population were living on the land. It provided the bulk of all export products (table 1 appendix 2), but operating on a dualistic system of production. The modern sector was owned by only about 25,000 European landowners; it constituted the best arable land (with 75 per cent of total irrigated land) situated in a high rainfall area of 400 - 600 mm/p/a along the coast, stretching at most 100 miles inland, and accounted for more than 2.5 million hectare, representing one-third of total arable land (7.5 million hectare).[8] This sector was employing skilled labour, improved inputs - better seeds and fertilizers as well as financial backing - operating on a large scale and mainly oriented to exports.

The backward traditional sector was characterised by small plots of infertile land with less than 400 mm/p/a. rainfall, using traditional techniques and mainly devoted to subsistence production for the majority of the Algerian population.[9] This traditional sector hardly benefited from public facilities, where, for example, during the fifties, out of 458 million francs of credits attributed to agriculture, only 55 million francs (i.e. only 12%) went to Algerian peasants.[10] This was equivalent to a credit per hectare of arable land of about 161 francs for the European settlers against only 11 francs for the Algerians.

Owing to the fertility of land, farming methods, choice of crops and capital investment, the colon agricultural sector accounted for 60% of gross agricultural income; and for 74.5 per cent of all traded agricultural products, whereas the Algerian part represented the residual (see table 2.2).

Table 2.2: Structure of Agriculture income between the two communities in late 1950s, in millions of French Francs.

	Algerian Farmers	European Farmers	Total
Vegetable production	62.9	155.2	218.1
Animal production	46.1	9.7	55.8
Gross agricultural Income	109.0	164.9	273.9
Self consumption	- 54.2	- 4.7	- 58.9
Commercialisation	54.8	160.2	215.0
Gross Agricultural Income in %	40.0	60.0	100.0
Commercialisation in %	25.5	74.5	100.0

Source: Constructed from *Tableaux de l'Economie Algérienne 1960.*

These apparent differences reflect the dualism of an economy in which a modern rich colon sector was juxtaposed with an impoverished traditional Algerian sector. The *colon* (in agriculture) were enjoying a high standard of living, as represented by an income per capita of $2058 in 1954, equivalent to as much as 36 times the average income of the Algerian agricultural population with only $57. The average income of the *colon* was three times as high as the average one of the metropolitan France $770.

The prevalence of poverty among the Algerian population was also due to the limited scope of the non-agricultural sector to provide enough employment opportunities for the labour

which could not be absorbed within agriculture. Unemployment in the non-agricultural sector was widespread among the Algerians. According to Samir Amin, "In 1955, unemployment rate in non-agriculture among the Algerians was in the range of 25 - 33 per cent, whereas for the European settlers, it was practically unknown."[11] Such a state of affairs was the ultimate outcome of an almost stagnant economy, where the overall growth of the Algerian economy, during the period 1880 - 1955, was hardly keeping pace with population growth, (table 2.3).

Table 2.3: Annual Growth rates of output 1880 - 1955 in %.

Agriculture	1.5
Industry	3.1
Services	2.0
Total production	1.9
Population	1.6
Production per head	0.3

Source: S. Amin, in: *The Maghreb in the Modern World: Algeria, Tunisia, Morocco*. Chivers, Penguin edition, 1970. p. 46.

The disparities between the two communities were seen in all the socio-economic and political aspects from education to level of living and political rights. An indication of the situation of low status and the incidence of poverty the Algerians were subject to, can be clearly portrayed by the inequalities of income between the two communities.

2.1.1- Income distribution pattern during the pre-independence period.

The privileged position of the European settlers - as discussed above - was manifested in an unequal distribution of income. In 1951 the poorest two-third of the population - all were Algerians - got only 26% of total income, whereas 6% of the population - all were Europeans - got about 32%. The average per capita income ratio between the Algerians and the European settlers was 1 to 5.3. Income inequality as represented by the Gini coefficient was 0.54 (table 2.4).

Table 2.4: Distribution of income in 1951 in us$ and in %.

Group	population %	income %
Group 1: Bourgeoisie- all European Settlers	0.17	4.7
(per capita income 3,181)		
Group 2: Upper professions, farmers	6.60	29.0
of which: European Settlers	(6.12)	(27.0)
Algerians	(0.48)	(2.0)
(per capita income 502)		
Group 3: Salaried workers, shopkeepers, artisans	10.60	22.0
of which: European Settlers	(4.7)	(10.0)
Algerians	(5.9)	(12.0)
(per capita income 240)		
Group 4: Urban Proletariat- all Algerians	17.7	19.0
(per capita income 121)		
Group 5: Agricultural workers - all Algerians	65.0	26.0
(per capita income 45)	100.0	100.0
Average per capita income of all:		
Europeans Settlers 431.30		
Algerians 82		
Algeria's population 120		
Gini coefficient 0.54*		

*) calculated by the author.

Source: Constructed from: "Algeria: A post Revolutionary Elite." I.W Zartman, in: *Political Elites and Political Development in the Middle East*, (ed) F. Tachau Schenkman. London 1975. p. 258.

However, in 1954 the ratio of the average per capita income of the Algerians and the European settlers was much higher, with a ratio of 1 : 12.4. The gap was much higher in the agricultural sector, where income differentials was of 1 to 36 respectively.[12] (table 2.5). The overall Gini coefficient was 0.57, (see table 2.6). These income differentials largely resulted from the unequal distribution of assets and from the official assistance that the *colon* received from the colonial government.

Table 2.5: Income per head (Algerians & Settlers) in US$* in 1954.

	Algerians	Settlers
Agriculture	57.40	2,058
Non-agriculture	131.60	924
of total population	82.60	1,022
The overall average per capita	180.30.	

*) The actual figures were given in sterling.
Source: Constructed from: "L'Agriculture Algérièn ne." Nº Spécial. *Le Développement Africain* (Paris, Octobre 1961) p. 143. as cited by O. Norbye: "The Economy of Algeria," in Lury and Robson (eds) *The Economies of Africa*. George Allen & Unwin. London 1969. p. 479.

Table 2.6: Distribution of income in 1954 in US$ and in %.

Group	population %	income %
Group 1: European Settlers in agriculture (per capita income 2,058)	0.9	10.3
Group 2: Europeans in Non-agriculture. (per capita income 924)	9.5	48.7
Group 3: Algerians in agricultural activities (per capita income 131.60)	30.4	22.2
Group 4: Algerians in Non-agri. activities* (per capita income 57.40)	59.2	18.8
	100.0	100.0
Gini coefficient 0.57#		

#) Calculated by the author.
Source: Constructed from table 2.5 above.

2.1.1.1- Assets Distribution.

The average size of land holdings for the European settlers was much higher than the average size of the Algerians, i.e. 124 hectares for the *colon* and only 11.6 hectares for the Algerians. The majority of the Algerian landowners lay in the category size of (1 - 10) hectares and the higher ratio of land area was that of the category (10 - 50) hectares, whereas the bulk of the *colon* landowners appeared in the category size of over 100 hectares, representing over 87 per cent of their total area; (tables 2.7A, 2.7B and 2.7C).[14] Such a structure of land distribution explains, to some extent, the colon higher income share in total income (in relative terms) and the higher inequality within the agriculture sector in particular and in the whole economy in general.

Table 2.7A: Land distribution among Algerians, (1950 - 51).

Categories of size holdings	Individual holdings in Numbers	in %	Areas of holdings in 1000 ha in Numbers	in %
less than 1 ha	105,954	16.8	37.2	0.5
1 - 10 ha	332,529	52.7	1,341.2	18.2
10 ha - 50 ha	167,170	26.5	3,185.8	43.4
50 ha - 100 ha	16,580	2.6	1,096.1	14.9
100 ha and over	8,499	1.4	1,688.8	23.0
Total	630,732	100.0	7,349.1	100.0

Gini coefficient of land concentration 0.62*

*) Calculated by the author.

Source: As table 2.7C below.

Table 2.7B: Land distribution among Settlers, (1950-51).

Categories of size holdings	Individual holdings in Numbers	in %	Areas of holdings in 1000 ha in Numbers	in %
less than 1 ha	2,393	11	0.8	...#
1 - 10 ha	5,039	23	21.8	0.8
10 ha - 50 ha	5,585	25	135.3	5.0
50 ha - 100 ha	2,635	12	186.9	6.8
100 ha and over	6,385	29	2,381.9	87.4
Total	22,037	100	2,726.7	100.0

Gini coefficient of land concentration 0.63*

#) less than 0.1%; it was about 0.03%.

*) calculated by the author.

Source: As table 2.7C.

Table 2.7C: Overall land distribution in Algeria, (1950 - 51)

Categories of size holdings	Individual holdings in Numbers	in %	Areas of holdings in 1000 ha in Numbers	in %
less than 1 ha	108,347	16.6	38.0	0.4
1 -10 ha	337,568	51.7	1,363.0	13.5
10 ha -50 ha	172,755	26.5	3,321.1	33.0
50 ha -100 ha	19,215	2.9	1,283.0	12.7
100 ha and over	14,884	2.3	4,070.7	40.4
Total	652,769	100.0	10,075.8	100.0

Gini coefficient of land concentration 0.70*

*) calculated by the author.
Source: Constructed from *Tableaux de l'Economie Algérienne, Statistique Générale de l'Algérie, 1960*. p. 129.

It is worthwhile stressing that land concentration among the Algerians was high, as it is shown in table 2.7A. As a result, the incidence of landlessness was high. However, tables 2.7A, 2.7B and 2.7C portray the whole situation of land holding by size within and between the two communities and their respective Gini coefficients of land concentration.[15] In fact, the situation of the Algerian peasants, at the end of the 1950's did not improve; it deteriorated as a result of continuing economic stagnation on one hand and population increase and devastation of the liberation war on the other.

All in all, the inequality in income distribution and in assets between the Algerians and the European settlers is reflected in the differences in the standards of living in all of its components. For instance, the consumption of meat

by one million European settlers exceeded the consumption of over 8 million Algerians; it was, in fact, 43,500 tons against 43,000 tons respectively. The settlers consumed on average 130 grammes per head per day (of various meats), compared with only 10 grammes on average for the Algerians.[16]

In education, the gap between the two communities was very wide. In 1944, while illiteracy among the Algerians was 90%, it was only 6 per cent among the European settlers. Algerian children in primary school were only 8 per cent of all the school age (against 90% for European settlers). The rate for the Algerians rose to about 22 per cent in 1954 and to about 37 per cent in 1961/62. The number of Algerians at secondary school was about 4,000 in 1950 against 22,000 for European settlers. Their number rose to about 7,000 against 29,000 in 1954 and to 11,000 against 34,000 in 1959 respectively. At the university, only 14% were Algerians, i.e. about 700 against 4,300 of European settlers; a ratio of 1 to 6 respectively in a population of 90% Algerians.[17] In early 1962, out of the total 27,000 educators in all institutions of learning, less than 2,000 were Algerians.[18]

However, during the colonial era, the economic and socio-political structure was fashioned in a way the European settlers had enjoyed a high standard of living while the Algerians, in general, were experiencing poverty and low status.

2.2 - The Algerian Economy at early years of Independence. (The period of Recovery 1962 - 1966).

When the independence was obtained in July 1962, the Algerian society inherited structural problems of political and socioeconomic dimensions. The eight years of war (1954 - 62) had left over one million dead; 2 million people in concentration (regroupment) camps under harsh conditions, and half a million refugees in Tunisia and Morocco. Moreover, 400,000 people migrated to France; 2 million people were under- and unemployed. More than 80 per cent of the population was illiterate. Malnutrition was reported to be widespread in a population growing by about 3 per cent per annum. Within the rural areas (which were the major battle fields), the problem of social and economic disequilibrium was particularly troublesome. Vast areas of farm land were ruined during the liberation struggle, livestock and implements were lost, wells sanded over, and the distribution system totally destroyed.

Moreover, demographic pressure, land hunger and the shocks of war contributed to a burgeoning urban population. Only between 1960 and 1964, 800,000 landless peasants flooded to the cities in search of work, raising the national percentage of urban Algerian population from one quarter to one-third, straining the resources of the cities and endangering a wide range of health, housing, employment and educational problems.

Urban areas were also the victims of destruction and sabotage caused by the secret army organisation (OAS)[19] which was dedicated to the idea that Algeria must remain part of France, otherwise it must be reduced to what it had been in 1830 (the conquest year), i.e. the Algerian population should not have the benefit of any thing that had been brought or created by the European settlers.[20] The destruction was in all sectors, from machinery in industry and agriculture to public records. Important government files were destroyed or carried abroad. Public buildings, schools, shops, restaurants, hotels, almost everything that belonged to the *colon* were destroyed. Property damage through sabotage accounted for over $1 billion.[21] As a result, many firms and public enterprises and services become idle and in inoperative conditions.

It is clear that at the independence, Algeria had inherited a rather weak and war-exhausted economy. Further strains were put by the sudden departure of the European settlers, comprising the bulk of the country's skills in the various economic occupations. This process not only spelled the loss of skills needed to maintain the modern economic sectors during a critical transitional period, but also resulted in a net decline in revenues, productive capabilities and managerial talents required for the effective maintenance of government services.[22] All these resulted in a sharp drop in gross domestic product (in constant prices) from AD75.5 billion in 1959 to AD48 billion in 1962, (table 2.8). It decreased by an average rate of about 11 per cent per annum.

Table 2.8: Evolution of GDP during 1959 - 1962, in billions of AD.

Year	1959	1960	1961	1962
GDP (current prices)	14.2	13.2	11.8	9.7
GDP (constant prices)*	75.5	60.1	59.6	48.0

*) In 1980 prices.
Source: Compiled from *International Financial Statistics Year Book 1987*. I.M.F. 1987. pp. 184 - 185.

The problem that was facing Algeria, in such a situation immediately after independence, was how to achieve economic development and a diversified economy from a situation of a declining economy which depended largely on the exports of raw materials. It lacked capital for industrial and agricultural development, and while there was massive unemployment, there was also an acute shortage of skilled labour. With such a heritage of economic and social problems, it was not easy to accelerate the process of economic development.

The great landmark which characterised the Algerian economy and society during 1962 - 1966 period was the emergence of self management (autogestion) in 1962. It started in the second half of 1962, when the workers spontaneously took over the farms and firms abandoned by the European settlers and started to operate them. The workers seized the vacated *colon* estates and started operating them as self managemed farms,[23] managed by a committee of workers headed by an elected president. Faced with such an action the government endorsed the take-over and by the end of 1963, all the remaining European farms were nationalised and passed over to the self-management sector, (or the 'socialist sector',

as it is often referred to). This sector, once established, comprised over 2.3 million hectares, i.e. roughly 30% of the total arable area divided into about 2,000 units (*domaines*), among them 300 veterans cooperatives, with an average size of 1,150 hectares (table 2.9). It provided employment to about

Table 2.9: Structure of *Domaines* under Self-Management 1970.

Size of *Domaines*	*Domaines* (units) in numbers	in %	Area in 1,000 ha	in %
less than 100 ha	106	5.3	5	0.2
100 ha - 500 ha	479	24.0	159	6.9
500 ha - 1000 ha	634	31.8	520	22.6
1000 ha 2000 ha	554	27.8	856	37.2
2000 ha and over	221	11.1	762	33.1
Total	1,994	100.0	2,302	100.0

Source: *Tableaux de l'Economie Algérienne. 1971.* S.E.P. p. 115.

135,000 permanent workers and 120,000 seasonal workers. It constituted the modern agricultural sector, accounting for about 60 per cent of agricultural production in value. The other 70 per cent of the arable land, largely arid and unfertile, remained in the hands of the private sector providing subsistence to about 8 million of the population. This sector accounted for only 40 per cent of the output (in value terms). This situation continued to prevail until 1972 when a programme of "agrarian revolution" was introduced, which will be discussed below. During the 1962 - 1967 period, the type of investment that had been carried out was mainly in light industries, establishing only 14 factories[24]

(table 2.10).

Table 2.10: Industrial Public sector and established factories during 1962 - 1967 period.

	in Number (s)	Investments*	Nr of Jobs
Textiles	5	325	4,199
Leather: Tanneries	2	40	501
Shoes	4	16	525
Food:Sugar Mills	1	85	321
Fruit Juice	1	13	140
Mineral Water	1	2	30
Total	14	481	5,646

*) In millions of AD.
Source: *L'Industrialisation en 1967, in: Situation Economique en Algérie*. C.C.I.A., 5th edition 1967. pp. 80 - 82.

In 1966, the government nationalised the banking sector, mining industries and all underground resources, except the hydrocarbons, which were in the hands of the multinationals. The hydrocarbon firms were repatriating an increasing amount of capital from the country. Such a repatriation increased from AD288.4 million (representing 9 per cent of total exports in 1963) to AD1,291.7 (representing more than 35 per cent of total exports in 1966); (see table 2.11).

Table 2.11: Total Exports & Repatriated Capital (AD millions) 1963 - 66.

	1963	1964	1965	1966
1- Exports	3,185.0	3,486.0	3,386.0	3,655.0
2- Repatriated capital	288.5	615.4	895.0	1,291.7
Percentage: 2/1	9.1	17.7	26.4	35.3

Source: *Comptes Nationaux*, S.E.P, 1963 - 69, as cited by A. Benachnhou, in: *Planification et Développement en Algérie. 1962 - 1980*. S.E.N.D., Algiers 1982. p. 21.

All in all, although significant structural changes in terms of reorganisation of land, and nationalisation of some industries and services were achieved, the period did not experience a major upsurge of economic activity. The first task during this period consisted in bringing the existing enterprises into operation after the devastation of the war. In spite of the establishment of some light industries, the economy was almost stagnating. GDP in 1967, in constant prices, was almost the same in 1963; (see table 2.12).

Table 2.12: Evolution of GDP in AD billion 1963 - 1967.

Year	1963	1964	1965	1966	1967
GDP (current prices)	13.1	14.1	15.2	14.7	16.2
GDP (constant prices)*	62.8	63.5	65.7	60.2	63.4

*) In 1980 prices.
Source: Compiled from *International Financial Statistics Year Book 1987*. I.M.F. 1987. pp. 184 - 185.

It was such a stagnation that led the Algerian government to prepare a 'global development' strategy for the period 1967 - 1980. Since 1967 Algeria accepted planning as a way of organizing development, aiming at achieving a number of interrelated national objectives which was spelled out in its long term development strategy for the 1967 - 1980 period. Some basic features of the Algerian development strategy is being discussed below.

2.3- The Development Strategy, its perception and implementation.

A development strategy was outlined in 1966 by the 'revolutionary council', and ten years later, it was reaffirmed in detail in the national charter, approved by referendum in June 1976; it aimed at reaching the following objectives by 1980:

- The creation and organisation of a productive base in order to reach by 1980 a rate of self-sustained growth sufficient to ensure full employment.

- Economic independence.

- The improvement of the standards of living of the population and reduction of disparities in the distribution of income and substantially strengthening the national commitment to regional development objectives.

These objectives were to be attained by the implementation of a long term strategy which was centered around the following:

- Industrialisation through a "coherent industrial structure" to achieve growth and employment objectives. That is, the objective of greater diversification of the economy was to be achieved by a rapid expansion and broadening of industrial activities that would provide greater employment opportunities.

- Structural reforms aimed at increasing the role of the

state over the basis of production and accumulation.

- Central planning of the whole economy.

- The introduction of workers' participation in the management of state enterprises.

Subsequently, this strategy was to be reflected in the policies and measures contained in the different national development plans. In launching the development strategy in 1967, industrialisation was the keynote of the government economic policy. The strongest emphasis was placed on the establishment of heavy industries involving the hydrocarbons, iron steel, mechanical, electronic, metal and petrochemical industries to serve as a basis for economic development.

The rationale of the government policy was to give a big push to the industrialisation process by establishing the kind of industries which provide inputs to other industries and to other sectors of the economy.

2.3.1- The basis of the strategy.

In placing the Algerian strategy within a theoretical context, it can be said that it is a type of unbalanced growth, based on the hydrocarbon export sector and on the setting up of capital goods sector, with heavy restrictions placed on the imports of luxury goods, and high tariff taxes on imports of some consumer goods.[25] The strategy was strongly influenced by the theoretical work of economists

such as François Perroux, A.O. Hirschman, and notably G. Destanne de Bernis.

The proposed strategy was based on the notion of 'industries industrialisantes' [industrializing industries]- a concept derived from Perroux's concept of growth pole industries. These industries, in terms of G. de Bernis,[26] are those that give rise to a series of associated industries both up-stream and down-stream, and which not only build the industrial sector, but help to modernise the agricultural sector, increase the level of living of the population and transform the country`s resources into product needed by the country itself. The entire national economy would, thereby, be stimulated. This would, in the view of the strategy, create the necessary condition for inter-sectoral integration of the national economy. In a sense it was aimed at developing and integrating the national economy in such a way to make local industries clients and suppliers among themselves. It contains the idea of backward and forward linkages of A. Hirschman,[27] suggesting that the setting up of the industry brings with it the availability of a new expanding market for its inputs; and that the domestic availability of a product brings into being an active force which utilises the product as inputs in new activities.

The 'industrializing industries' include energy related industries, petroleum and gas which provide fuel, feed stock and finance for the industrialisation process with petrochemicals representing the basis for a whole range of new

industries: iron and steel, metallurgical and mechanical industries and chemicals; they provide new materials and machinery for other sectors of industry engaged in a production of finished goods such as vehicles, farm machinery, pumps and irrigation equipment... etc.[28] This implies an explicit reference to industrialisation strategy advocated by Feldman, Mahalobonis, and others who emphasised the decisive role of the capital goods sector and within it the machine tool sector in the process of industrialisation. It was believed that 'industrialising industries', by their stimulating capacities, would generate a systematic filling-in of the inter-industry matrix. In fulfilling these criteria 'industrialising industries' are expected to induce a general expansion, and permit integration as well as an 'autonomous development' process.

For the implementation of the above strategy, meanwhile, the government placed its hope on the rich oil and gas resources as a source of revenues to finance much of the planned economic and social development, and as inputs by supplying cheap energy and raw materials to other industries which themselves supply other sector of the economy. The government wanted to mobilise all the resources endowment of the country, aiming to bring the country's underemployed resources together in order to exploit the opportunities they had revealed. Whether the above strategy was really coherent or not, and whether it fulfilled the principal objective of a sustainable improvement of the living standard of the population or not, will be discussed below.

2.3.2- The Ideological Foundation of the Strategy.

As far as the origin of the Algerian development strategy is concerned, it can be said that the main guide lines can be found in the basic official texts which were elaborated by the National Liberation Front Party (F.L.N). The first of these texts, the Tripoli programme which was set down in May - June 1962, just at the eve of independence, considered that Algeria was about to launch a long and arduous struggle for eliminating poverty and deprivation of the Algerian masses, with the ultimate objective being the creation of a just society. It emphasized the fundamental choice of a socialist path in organizing the Algerian economy and society; the take-over of production by the state was seen as an explicit transition to socialism.

As the Algerian economy was completely dependent upon the French one, the Tripoli programme's aim was to set up an independent economy through the nationalisation of all natural resources, wholesale trade, banking system and all financial institutions. It adopted central planning as a guide line for the socio-economic development of the country with the state control over the main elements of the development process.

The development of the agricultural sector was said to be achieved by radical land reform measures, the limitation of private property and the collectivisation of the land. It stressed the establishment of an industrialisation strategy as a leading factor in economic development. In fact, it

stated that:

> "the progress of agriculture and mobilisation of the masses can help the country to advance only if the proper technical and economic foundation is provided by industrial progress... But the real long term development of the country is tied to the establishment of the basic industries which are necessary to meet the demands of a modern agriculture. Algeria has a great potential for the development of petroleum and metallurgical industries. It is a function of the state to create the condition appropriate to the establishment of such heavy industries."[29]

Later on, the national charter (1976) re-emphasised the role of industrialisation in general and basic industries in particular, which appeared to be the main driving force for the transformation of the whole socio-economic structure. It stated that the industrial revolution must set the foundations for a basic industry itself capable of engendering new industries whose expansion must permit the creation of development dynamics in the economy in general and in the industry in particular. In fact, the development plans themselves reflected this concern; the first four year plan (1970 - 1973) stated that "during the deep change we are experiencing, our strategy is to consider industrialisation as the first sector of development."[30] The second four year plan (1974 - 1977) aimed at laying the foundations of a 'sound industrial' base and speeding up the implementation of its long term development strategy to the maximum, mainly in view of the improved financial prospects resulting from the increased hydrocarbon prices of 1973/74.

While the five year plan (1980 - 1984) gave more emphasis to

meeting social needs, such as housing, health and education, industry remained the basis of the government long term strategy with a shift in emphasis from heavy to light industries. In fact, all national development plans so far have stressed the role of industrialisation as a first priority in the chosen development strategy. This was reflected in the allotment of the investments between the different sector of the economy.

The questions that arise from the above development strategy are: how can the Algerian development strategy, which emphasized heavy industries with less emphasis on other sectors, fulfill the realisation of an introversion of the national economy? Was the pattern of investment that was mainly channelled to heavy industries involving the modern capital intensive technology appropriate to the conditions of the Algerian economy with a high rate of unemployment and underemployment, and the lack of skilled labour? How was the distribution of income and alleviation of poverty perceived and tackled, and how did the Algerian planners aimed to achieve growth with equity? Some of these issues will be discussed in the subsequent chapters.

2.4- The Economy under Planning.

During the period 1967 - 1984, four national plans were implemented, starting with a triennial plan (1967-69), two four year plans (1970-73), (1974-77), and then a five year plan (1980-84). The period 1978-79 can be said to be a

period of consolidation and of completing the projects which were part of the previous plans and could not be completed in the time specified earlier. Another five year plan (1985 - 1989) is under implementation.

From the beginning, the state intended eventually to control all internal transport, domestic wholesale trade and foreign trade. The government focussed primarily on reviving the economy and reorganizing the institutional structure by taking control of the major economic and financial sectors in order to effectively implement national planning. The hydrocarbon sector, the main source of foreign revenues, was nationalised in February 1971, and by 1975, about 75 per cent[31] of the industrial sector was state-owned. The state has been the major agent in capital accumulation and investments, and has had a determining role in the organisation of the whole economy.

The annual rate of investment to gross domestic product increased from 26.4 per cent during the triennal plan (1967-69) to 48.6 per cent during the five year plan (1980-1984), with an average rate of 40.8 per cent for the whole period (1967 - 1984); (table 2.13).

Table 2.13: Annual Investment rate to GDP in % (1967 - 84).

1967-69	1970-73	1974-77	1978	1979	1980-84	1967-84
24.4	33.5	46.8	54.7	49.7	48.6	40.8

Source: for 1967-78, *Synthèse du Bilan… 1967-78*. op cit. p.12. For 1979-84, *Rapport Général du Plan Quinquennal (1980-84)*, M.P.A.T. January 1980. p. 33.

This high rate of investment, compared to the average one of developing countries (26 per cent),[32] resulted from: a) the increase in foreign earnings (mainly from oil) which reached the record of $14.1 billion in 1981,[33] b) the increase in borrowing from foreign capital markets where the total foreign debt rose from about $1.5 billion in 1972 to about $23 billion in 1987,[34] and c) the increase in domestic borrowing.[35]

The sectoral distribution of investment did not entirely follow the pattern envisaged by the plans; the growth of investment in non industrial sectors was relatively slow while investment in industry continued to grow rapidly. Investment in industry, particularly heavy industry represented by the hydrocarbons and basic industries, rose more rapidly than planned. While 54.7 per cent of total planned public investments were allocated to the industrial sector, in reality it absorbed 60.3 per cent of total achieved public investment during 1967 - 1978 period; (table 2.14).

Table 2.14: Public investments (planned and achieved) by sector in percentages for 1967-84 period.

	1967-69		1970-73		1974-77		1978		1967 - 78*	
	plan	achi	plan	achi	plan	achi	plan	achi	plan	ach
Agriculture	17.9	20.5	17.8	12	15.2	7.4	8.7	7.5	9.2	8.8
Industry	59.6	53.6	44.7	57.3	43.5	61.2	54.5	61.3	54.7	60.3
-hydroca	(25.1)	(27.5)	(16.5)	(26.5)	(17.7)	(29.2)	(24.0)	(29.2)	(24.3)	(28.7)
-Basic ind	(24.1)	(17.2)	(18.8)	(20.7)	(19.8)	(23.1)	(19.3)	(23.1)	(19.4)	(22.5)
-other ind	(10.4)	(8.9)	(10.4)	(9.7)	(7.0)	(9.9)	(11.2)	(9.0)	(11.0)	(9.0)
C. Public W.	_	_	_	1.8	2.5	2.8	2.0	2.6	2.0	2.4
Services	5.1	3.9	6.7	7.1	9.5	8.4	7.4	7.6	7.3	7.3
Infrastructure	3.7	3.1	4.1	3.3	3.4	2.7	2.5	2.6	2.6	2.8
Social	13.7	18.9	26.7	18.5	25.9	17.5	24.9	18.4	24.2	18.4
Total	100	100	100	100	100	100	100	100	100	100

*) 1979 is not available.

Source: For 1967 - 78, *Synthèse du Bilan Economic et Social. op cit.* pp. 7-9. And for 1980 - 84, *Rapport Général du Plan Quinquennal (1980-84)*. op cit. p. 49.

While in heavy industrial sectors investments exceeded the targets, in light and small scale industries (represented in the table 2.14 by other industries) investments lagged behind the targets. The plan's target shortfalls were even more serious in agriculture. During the second four year plan (1974-77), agricultural investment accounted for only 7.4 per cent of total achieved planned investments, against a target of 15.2 per cent. Other sectors (i.e. infrastructure and social secotrs) were below the targets as well. In fact, such an investment pattern affected differently the growth of these sectors,[36] and as a consequence, affecting the way in which income is distributed, which will be discussed below in chapter 3.

The first five year plan (1980 - 1984) was aimed at improving the situation by allocating more resources to other sectors (apart from industry), as is seen from the distribution of investments between various social and economic sectors (see table 2.15), where housing, health, education and

Table 2.15: Structure of public investment of the first four year plan 1980 - 84, in billions of dinars.

Sector	In AD	In %
Agriculture	47.1	11.8
Industry	154.5	38.6
Means of implementation	20.0	5.0
Transports	13.0	3.2
Storage - Distribution	13.0	3.2
Telecommunication	6.0	1.5
Economic Infrastructure	23.2	5.8
Railway Infrastructure	5.0	1.3
Housing	60.0	15.0
Education - Training	42.2	10.5
Health	7.0	1.7
Collective Equipement	9.6	2.4
Total	400.6	100.0

Source: Constructed from *Plan Quinquennal 1980 - 1984.*

training received 27.3% of total investment.[37] Agriculture received about 12 per cent, higher than the proportion it received during 1967-78, which was about 9 per cent as shown in table 2.14. However, its implementation showed a different story; GDP measured in constant prices increased by an average rate of 4.3% per annum, well below the plan's target of 8.2% per annum. While the industrial sector increased by an average rate of 9.6 per annum, the agricultural sector was stagnating, increasing by only less than one per cent

(0.7%) per annum.[38] Such a stagnation of the agricultural sector was due to a number of factors, as will be discussed below.

Before one examines the implications of such development strategies on employment, income distribution and poverty, it may be worthwhile to analyse the evolution of different economic sectors which may have some bearing on the main subject matter of this thesis.

2.4.1- The Industrial Sector.

The industrial investment which took the lion's share in total public investment was mainly devoted to hydrocarbons and heavy industries such as mines, steel, metal, mechanic and electrical industries. These industries absorbed more than 80 per cent of total industrial investment during the 1967 - 77 period; (see table 16).

Table 2.16: Structure of Industrial Investment during (1967-77) in million of Algerian Dinars.

Sector	Amount in AD	in %
Hydrocarbon Industries	26.4	40.6
Mines	1.97	3.0
Manufacturing of Iron	8.77	13.5
I.S.M.M.E.*	7.64	11.8
Construction Material	5.05	7.8
Gas, Electricity & Water	2.30	3.5
Sub-total	52.13	80.2
Chemical Industries	4.97	7.6
Food and Drink	2.10	3.2
Textiles	2.12	3.3
Shoes and Leather	0.29	0.5
Wood, Paper	2.25	3.5
Others.	1.10	1.7
Sub-total	12.83	19.8
Total of Industries	64.96	100.0

*) Steel, Metal, Mechanic and Electric Industries.
Source: Constructed from Hamid M. Temmar: *Statégie de Developpement Indépendent: Le Cas de l'Algérie*. O.P.U. Algiers, 1983. p. 160.

The remaining 20% were in light industries such as food and drink, textiles, shoes, leather, wood, paper, and others. The industrial production increased in constant prices by an annual average rate of 6.2% during the 1967 - 1978 period.[39] However, such a growth rate was very costly, owing to a variety of reasons: higher components of imported capital goods and services whose price rose sharply in the world market, especially from 1974/75 onwards. Location of projects in regions where there was no previous industrial experience and infrastructure, and insufficient domestic

construction capacity, led to high construction costs and substantial delays in project execution, extending the period from construction to production over several years. There were also other constraints and difficulties, such as the problem of mastering the adopted advanced technologies, which stems from lack of industrial experience, shortage of skilled labour, and limited managerial capacity at plant level. All these, consequently, led to underutilisation of capacity. Such a situation was recognized in the general report of 1980-84 plan, which pointed out that: "While the five year plan is launched in an economic environment marked by the high cost of development actions and programmes, low effi-ciency of the production machinery, long capital freezing periods."[40] Over-staffing has been noticed in all public enterprises and, in fact, constituted an element responsible for the low productivity in these industries, (see below).

The managerial function in the public sector suffered from bureaucracy, slow decision making, and an insufficient concern about increasing production and productivity. As long as public enterprises had institutionalised guaranteed outlets for their products, they did not concern themselves with product quality and increasing productivity, and tended to avoid the risk associated with introduction of new products and innovating activity in general. The failure to offer incentives to managers and workers had had an important effect on the efficiency with which these enterprises were operating and the surplus that they generated, and

hence on their contribution to growth and development.[41]

As a rough approximation, productivity, expressed by average output per worker in non-agricultural material production, decreased substantially over the 1967-78 period by an annual average rate of 3.8%. The decrease was even substantial in the hydrocarbon and public work construction sectors; (table 2.17). In 1978, average productivity (in constant dinars) was 50 per cent less than it was in 1967. The situation did not improve even during the 1979 - 84 period, (see table 2.18).

Table 2.17: Productivity in non-agricultural material production in constant prices of 1978.

Sector	1967	1969	1973	1977	1978
Industry & Hydro-	150,114	138,509	120,604	86,687	85,532
-Industry	(36,607	35,902	37,520	31,746	31,100)
-Hydrocarbon	(2,363,500	2,100,875	962,773	563,300	616,250)
C. & P. works*	65,464	73,720	37,563	31,970	32,148
Average	119,132	116,675	84,315	60,149	59,854

*) Construction & Public works including petroleum construction.
Source: Constructed from: *Synthèse du Bilan Economic et Social de la Decennie 1967 - 1978*. Algiers, may 1980.

Table 2.18: Productivity in non-agricultural material production in constant prices of 1978, (1979 - 1984).

Sector	1979	1980	1981	1982	1983	1984
Industry#	103565	92508	87229	92942	95980	110045
C. & P. works*	36557	34693	32315	32723	31873	31465
Average	68622	62380	58459	60353	59758	59683

*) Construction & Public works, including petroleum construction.
#) Including Hydrocarbon sector; for lack of enough information to separate the two.
Source: Constructed from: *Statistiques*, Revue of O.N.S. N°15 April - June 1987, p. 11 and p. 67; and *International Financial Statistics Year Book 1987*. I.M.F. 1987, pp. 186 - 87.

Such a substantial decrease can be said to be the outcome of many factors among them:

Overstaffing of public enterprises: Many economists[42] and government officials agree that Algeria had not only a surplus of labour among its overall labour force, but also among the employed work force. In this respect, the Ministry of Planning, in its report on the evaluation of the period 1967-78, emphasised that "The decrease in productivity was partly due to the overloaded personnel mainly in industry and hydrocarbon sectors."[43] It was reported that during the implementation of the second four year plan (1974-77), an employment policy (regarded as optimistic) was adopted to encourage systematically all sectors in recruiting an abundant labour force. Such a policy led to the multiplication job opportunities and sometimes even the creation of fictitious posts; the ratio of these fictitious posts to the required ones varied between 75 and 110%.[44] As P. Robineau

pointed out "Many public enterprises recruit more personnel than they really need because of the strong pressures brought to bear by job seekers."[45] The situation is complicated by the fact that widespread overstaffing coexists with considerable shortages for certain skills and educational specialisations.[46]

Job turnover: Another factor was the movement of workers between sectors. In 1982 26 per cent of labour in the public sector, constituting high grades of levels 6 & 5, i.e. technicians, middle executive, executives and high technicians, moved to the private sector where there was higher remuneration, conversely about 34 per cent of the labour (mainly unskilled) of the private sector[47] moved to the public sector where there was much more security in employment and higher wages. This shift of workers caused distortions in the allocation of the labour force and considerable instability of employment. It was also detrimental to planning and to learning processes and productivity.[48] As a result of these constraints and conditions, it was hard to create an economically viable industrial sector.

All such factors may underline the economy's low performance, and the drain of national resources which acted as an increasing constraint on the pace of the development process (see chapter 5). In fact, the continuing covering of the losses of the public sector industries by the state to enable them to continue operating, tended to prolong the state of inefficiency of such industries, and went against

the long-term interests of the country. Out of the existing 400 enterprises (of the public sector), only 70 were breaking even.[49] "In 1984 - 1987 period, the deficit of the public enterprises," declared the Algerian President, "amounted to AD110 billion."[50] Such a deficit represented more than 43 per cent of 1987 GDP. Nevertheless, the industrial sector became increasingly important in the national economy both in terms of output and employment. In 1982 it accounted for 47% of total output, and 13.5% of the employed labour force, against 46%, and 7% respectively in 1967.

2.4.2- The Agricultural Sector:

The agricultural sector's structure which prevailed during 1962-66 period continued until the end of 1971,[51] when a programme of agrarian reform, known as the "Agrarian Revolution" (AR), was announced to deal with the great mass of the agricultural population outside the self managed farms. This programme aimed at bringing resources and social justice to the peasants, by breaking up of private latifundia and the redistribution of large privately owned and state owned land among the peasant population. Since land represented a large proportion of wealth in the rural areas, its concentration into a few hands was one of the main causes of income inequality. Such a redistribution of land was seen as an important means of achieving equity. However, the main declared goal of the agrarian reform programme was at:

"building a new, just and open society to all, but protec-

> ting in priority, workers' dignity… This is why the agrarian revolution, beyond its simple social justice preoccupations, means radical transformation of rural world, living and working conditions… For the agrarian revolution to be a fundamental genuine element of progress for the most destitute masses, it must provide them all with factors of progress."[52]

The programme also aimed to increase self sufficiency in agricultural products particularly in foodstuffs, widen the market for the industrial sector, improve rural living standards, and halt the migration to urban centres.[53] The intention was to change the whole socio-economic structure of the traditional agricultural sector[54] by organising the peasants into cooperatives. It aimed also to resettle the beneficiaries[55] of the agrarian revolution into socialist villages, and to undertake a system of social reform in the countryside by abolishing the system of share-cropping (*Khammassah*) and the cancellation of rural usurious loans; (rural interest rates were often known to exceed 50% per annum).

The beneficiaries were required to join multipurpose service cooperatives which were supposed to assist the farmers in obtaining credit, marketing their produce, and providing other facilities. A national average land ceiling of about 45 hectares[56] was imposed for private cultivators; the excess being expropriated - indemnifying the owners with 15 year state bonds. Absentee proprietorship was abolished, (only half an hectare of irrigated land or 5 hectares of dry land was allowed to the absentee). The market for farm land was officially abolished.[57]

However, the implementation of the agrarian revolution was entirely through state initiative without any spontaneous actions on the part of the peasants, in obvious contrast to the farm workers' occupation of *colon*'s farms in the second half of 1962. The scheme was mainly implemented in a two phased[58] programme of national action.

The first phase January 1972 - June 1973, abolished share-cropping, annulled sharecroppers debts, and distributed some 700,000 hectares of state land to 54,000 peasant farmers, organised into small production cooperatives.

The second phase, mid June 1973 - mid June 1975, consisted of the nationalisation of the absentee landowners (of over 45 hectares). During this phase some 650,000 hectares were redistributed to 60,000 beneficiaries, organised also into production cooperatives.

The number of production cooperatives (of phase 1 and 2) totalled about 6,000, i.e. with an average size of about 220 hectares per cooperative. These production cooperatives were to be supported by service cooperatives providing modern means of production, storage facilities, marketing, credit, planning and extension work. Thus, the agricultural sector ended with three sub-sectors:

- The self-management sector or the socialist sector.
- The cooperative sector (of the agrarian revolution).
- The private sector.

The performance of the three different sub-sectors (in terms

of production per hectare) remained meagre in general. This was more so for the cooperatives[59] and the private sector. On the whole, agriculture production has been stagnating or even declining during the post Agrarian Revolution period, (table 2.19). The index of food production per capita decreased from 100 in 1969-71 to 82 in 1982. (table 2.20).

Table 2.19: Yield (quintal per ha) of some agricultural products 1967 - 83.

Products	1967-69	1970-73	1974-77	1979-83
Cereals	6.5	6.0	6.2	6.0
Pulses	5.0	5.0	7.0	4.4
Market gardening	87.0	84.0	86.0	80.0

Source: Constructed from: "l'Evolution de l'Agriculture Algérienne de 1967-82," in Revue *Statistiques* Nº 2-1, 1984. O.N.S. op cit.

Table 2.20: Agricultural production index (1969/71 = 100)

1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
101	99	97	87	88	90	92	73	76	77	87	84	82*

*) calculated from F.A.O., *Production Year book 1982*. p. 77
Source: F.A.O., *Production Year book*, 1981. p. 79.

In an interview to the government's daily newspaper "El-Moudjahid",[60] the Minister of Agriculture pointed out that "Since 1962, the average annual cereal production has not been more than 16 million quintals, while in the ten years before independence, it had been 20 million quintals. This stagnation and decrease, he thought, "could be explained by the lack of innovation, and seed varieties which have not evolved in more than 50 years." However, he added that "The

main reason for the insufficiency of our agriculture production does not lie in the lack of cultivated land, but in low yields".[61] The situation, to my mind, has been a result of a combination of several factors:

a) The investment pattern: As stated above, the agricultural sector received only 8.8 per cent of total investment during 1967-78 period, and 11.7 per cent during 1980-84 period. This was inadequate for the development of the sector (as portrayed by its stagnation which was also due to lack of inputs, transport bottlenecks as well as to weather conditions). Such an investment was unequally distributed within the sector. The private sector, which accounted for 55 per cent of total arable land, received only marginal support from the government. For instance, the private sector acquired only 27 per cent of total supplied tractors, and only 25% of total fertilizers, (see table 2.21).

Table 2.21: Acquisition of tractors and fertilizers by juridical sector in %.

Sector	arable land	tractors 1967-78	tractors 1979-82	tractors 1967-82	fertilizers
Public	45	83.3	62.5	73	75
Private	55	16.7	37.5	27	25
Total	100	100	100	100	100

Source: Constructed from "l'Evolution de l'Agriculture Algérienne de 1967-82.", in Revue *Statistiques* Nº 2-1, 1984. O.N.S. pp. 48 - 49.

b) Nature of agricultural employment: Like the self-managed farm workers, peasants of the cooperatives created by the

Agrarian Revolution became employees of the state, working 8 hours a day as wage earners. All members of the cooperatives received, irrespective of what happened to production, a monthly installment subsidy of AD150 in cash, and AD100 per month worth of food. They added up to an income of AD3,000 per year, which was the minimum subsistence income per beneficiary, as set up by the programme of the Agrarian Revolution. Workers behaved like salaried staff of the public enterprises, who were less motivated by the financial results of their enterprise.[62] This was not favorable to the increase of production[63] and productivity.

c) Inter-sectoral income differential: The inter-sectoral income differentials were among the reasons that discouraged workers to farm land (whether in self-management, the cooperative or the private sector), specially by young people. The subsidies which were given to imports of foods (mainly cereals), most of which compete with domestic production, depressed agricultural production and productivity, as stated earlier. In 1974, income of a worker in non-agricultural sector was four times higher than that of an agricultural worker.[64] Urban sector had the added advantage of better job opportunities, education and health facilities. As a result, agriculture was often left with a high proportion of elderly workers. For instance, in the early 1970s, out of the 110,000 permanent workers of the self-managed sector, 47 per cent were in the range of 25-44 years old, 40 per cent are between 45 and 65 years old, and only 1.6 per cent are less than 21 years old. The group of 20-40

years old who form 47% of the collective members, constitute 70 to 80% of workers who left rural areas.[65]

d) Misuse of techniques: Despite the fact that there was an increase in mechanisation and in other inputs; for instance, from 11,000 tractors and 2,700 combine harvester in 1967 to 52,000 tractors and 5,225 machines in 1982,[66] agricultural yield has almost stagnated, and even declined, as mentioned above. Some machines (tractors, seeders, or combine harvesters) were inappropriate for being used in remote, rugged, and arid areas.[67] Moreover, handling machinery and other inputs calls for technological know how, often beyond farm workers' capabilities. This led to breakdowns and maintenance problems. Chemical fertilizers and pesticides etc were also misused.

e) Loss of arable land: The shrinkage of arable land resulting from urbanisation and industrialisation led to loss of arable land. One estimate[68] indicates that some 30,000 hectares of agricultural land, (i.e. about 0.5% of total arable land) mainly in the most fertile areas, of whom 10 to 12,000 ha were irrigated land, were lost to agriculture as a result of industrialisation and urbanisation. In addition, a substantial proportion of available water was lost to agriculture because it was used to supply factories and towns. Loss of land was not compensated by rural renovation and land improvement schemes.

The stagnation of the agricultural sector and the high growth rate of population increase, as well as the increase

in income, were largely responsible for Algeria's need to import considerable quantities of foodstuffs. In fact, food dependency, in a sense of how far food consumption is covered by imports from external sources, has reached a high level. It has increased considerably over the years, from a state of complete self-sufficiency at independence in 1962 to 75% in 1983; (see table 2.22). It seems to have reached in 1988 an acute level, as portrayed by the figures in table 2.23.

Table 2.22: Share of domestic production in Algeria's food needs.

Year	self sufficiency ratio
1962*	97
1967	70
1973	55
1977	35
1983	25

*) Muttin, for instance, gave a ratio of 93% for 1969, suggesting a higher ratio in 1962. See G. Muttin: "Production Agricole et Dependence Alimentaire en Algérie.", in Revue *Maghreb-Machrek*, Nº 90, Oct-Nov-Dec 1980. p. 47.
Source: Compiled from: J.P. Entellis: *Algeria: The Revolution Institutionalised.* op cit.

Table 2.23: Food Imports in covering consumption in % in 1988.

Goods/items	percentages
Wheat and derivatives	50 - 55
Concentrated tomato	76
Fresh Milk	85 - 90
Butter, Smen (Ghee butter)	90
Pulses	97
Cooking oil	100
Coffee, Sugar, Tea	100
Lahda (Milk)	100

Source: *Algerie-Actualité* Nº 1207 Semaine du 1 au 7 Dec 1988. p. 17.

The cost of food imports has become an immense financial burden placed on the economy. It increased from $1 billion in 1977 to $2 billion in 1982,[69] and reached $2.6 in 1983.[70] In 1986, however, the cost of import declined to $2.2 billion mainly because of cut in imports, as a result of the decline in external resources resulting from the decline in oil prices).[71]

These food imports represented an important proportion of the balance of trade, i.e. representing more than one-quarter of its total imports bill in 1983 and one-third in 1986. Such imports were equivalent to more than 23% of total exports' income in 1983 or as much as nearly 35% of revenues from oil exports.[72] The figure is believed to have risen to more than 40% in 1986, as a result of the recent oil glut. These would generate an increased pressure on the balance of payments, on the state budget, and on investments.

All in all, the agricultural policy in general and the agrarian reform in particular, did not achieve the results which were "to improve production… and to secure a just distribution of the proceeds of agriculture", as stated in the ordinance[73] declaring the 'Agrarian Revolution'. (See chapter 5 for further elaboration on this point).

Nevertheless, there is still some scope for increasing production and productivity in Algeria's agricultural sector by the use of modern technology, and of adequate incentives.[74] Cereal yields in Algeria's agriculture are still very low compared to Tunisia and Morocco - the two

neighbouring countries; for Algeria it was 5.6 quintals/ha for hard wheat and 6.05 q/ha for soft wheat. In Tunisia, the yield was 6.03 q/ha and 10.52 q/ha respectively during 1975-79. In Morocco, cereal yield (largely wheat) was 9.3 q/ha in 1976 - 79. Hence, it can be inferred that the encouragement of the agricultural sector by the adoption of an appropriate set of policy measures would increase agricultural production and productivity.

It must, however, be emphasised that food intake of the country does not depend only on the availability of food but also on the capacity of the population to grow its own food or buy food from the market. It is in this context that employment becomes important. It has already been seen that neither the self-managed sector, nor the cooperative sector created by the Agrarian Revolution really catered to the needs of the rural poor, mainly concerning employment. Capital intensive nature of industrialisation could not have created adequate employment opportunities for the rapidly rising population and the labour force.

2.4.3- Population, Urbanisation and Employment.

Algerian population has increased, on average, by an annual rate of 3.3 per cent during 1962-83 period. It doubled in 21 years from 10.2 million in 1962 to about 20.5 million in 1983, (and to about 23 million in 1987).[75] It will be about 34.5 million by the end of 1999.[76] Since the rural sector could not absorb the increasing number of people, the

country experienced a continuing exodus from the rural areas. Urban population, which formed 25 per cent of total population in 1962, has increased to 51 per cent in 1987, with a rate of increase of more than 6 per cent a year during the 1962 - 87 period. The rural migration is likely to continue throughout the end of this century; i.e. by the end of 1999, urban population is expected to represent 65 per cent of the total population; (table 2.24).

Table 2.24: Rural & urban population in % of total 1962 - 99.

	1962	1967	1977	1980	1983	1987*	1989	1999
Rural	75	69	59	57	55	51	49	35
Urban	25	31	41	43	45	49	51	65
Total	100	100	100	100	100	100	100	100

*) According population census of March - April 1987.
Source: 1962 - 1983: *Annuaire Stratistiques de l'Algérie.* 1989 - 1999: *Rapport Général du Deuxième Plan Quinquennal 1985 - 1989.* January 1985. p. 27.

In fact, this high rate of rural/urban migration created serious social and economic problems, among them, acute housing shortages, and serious over crowding in the urban areas. The average number of persons per a housing unit increased from 4.2 persons in 1966 to 7 persons in 1977,[77] and to 7.8 in 1988.[78] The development of peripheral bidon-villes (shanty-towns) which lack most elementary facilities, and not to mention the problem of education, health, and unemployment, constitute a great obstacle facing the Algerian economy in its drive towards raising the standard of living of the masses.

2.4.3.1- Pattern of Employment.

Full employment was one of the main objectives of Algeria's long term strategy that was established in 1966. As suggested earlier, the industrialisation policy which was thought to act as a propellant to significant downstream job creation, failed to achieve the stated objective, mainly as a consequence of its type of capital intensive technology. Job creation in general, during the period of 1967-73, was rather limited. It increased on average by a rate of 3.8 per cent per annum (table 2.25), which was below the 4% rate of

Table 2.25: Evolution of employment by sector(in 1000) & average increase in %, (1967 - 1984).

Sector	1967	1973	1979	1984	annual rate of increase 1967-73	1973-79	1979-84
Agriculture	874	873	969	960	...*	1.7	...*
Industry	123	245	401	495	12.2	8.5	4.3
C. & P. Works	71	190	437	655	17.8	14.9	8.5
Services	374	440	600	760	2.7	5.3	4.8
Administration	306	434	615	845	6.0	6.0	6.6
Non-agriculture	874	1,309	2,053	2,755	7.0	7.8	6.1
Total/Average	1,748	2,182	3,022	3,715	3.8	5.6	4.2

*) Close to zero growth rate.

Source: Constructed from: *Synthèse du Bilan Economique et Social.* op cit.; and from *Statistiques,* Revue of O.N.S., Nº 15 April-June 1987, p. 11.

increase in the labour force, while there was a stagnation of employment in the agricultural sector during the same period. Consequently, unemployment increased from 23.1 per cent of total labour force in 1967 to 23.5 per cent in 1973;

(see table 2.26).

Table 2.26: Employment and Unemployment 1967 - 83, ('000) of labour.

	1967	1969	1973	1978	1979	1983
1- Active population	2,273	2,458	2,854	3,490	3,612	4,206
2- Employed population	1,748	1,893	2,182	2,830	3,018	3,576
3- Unemployed population	525	563	672	660	594	630
4- Unemployment rate: 3/1	23.1	23	23.5	19	16.5	15

Source: For 1967 - 1978, *Synthèse du Bilan Economique et Social.* op cit. p. 136. For 1979 - 1983. *Planification et Developpement, Tome 1.* op cit. pp. 14 - 6.

In early 1974, the government launched a scheme of massive job opportunities. There was a rapid increase in employment in non-agricultural activities (mainly in urban areas[79]) from 1,309 thousands of workers in 1973 to 2,053 thousands in 1979. This suggests that employment in non-agricultural sector increased on average by a rate of 7.8 per cent per annum during 1974 - 1979 period. On the other hand, employment in agriculture increased only by 1.7% per annum during the same period. However, at the national level, employment during that period increased by an average rate of 5.6% per annum; (see table 2.25 above). With such a rapid increase in job opportunities, unemployment decreased from 23.5% of total labour in 1973 to 16.5% in 1979; (see table 2.26).

During the 1979 - 1984 period, the rate of employment creation slowed down. It increased by a rate of 4.2%, but was high enough to generate a continuous decline in the rate of unemployment, which reached 15% of total labour force in

1983. The structure of employment changed considerably as agriculture's share in total employment decreased from 50% in 1967 to 32% in 1979 and to about 26% in 1984.[80] This decreasing trend was due to the fact that the overall increase in employment during 1967 - 84 period (about 2 million) was mainly generated in the non-agricultural sector with a share of about 96% of total employment creation, (see table 2.27 below).[81] Such a sectoral concentration of employment creation reveals the orientation of the Algerian development strategy.

However, if the apparent increase in employment in non-agricultural activities was impressive in absolute and in relative terms, it was less so when set against the high level of investment in the sector. For instance, the cost of creating a job, i.e. the marginal capital labour ratio (gross investment per job) in industry increased (in constant dinars)[82] from AD483,966 during 1968 - 69 to 842,121 during the second four year plan (1974-77), to 930,949 in 1978,[83] and to AD1,404,545 during the first five year plan (1980 - 84).[84] In fact, such a rapid increase in employment was not only accompanied by an increasing cost (in terms of marginal capital labour ratio), which can be partly explained by the type of capital intensive nature of investment, but it was also accompanied by a considerable decline in labour productivity, (as shown above). Employment was seen by the government as an end in itself; the objective was partly for redistributive justice and partly for political reasons; (unemployed frustrated young people may create unrest, as

was the case during October 1988). Employment, in this respect, was taken as a way to redistribute the earnings from oil and gas in order to increase social welfare which could be shared more by a greater number of the population. This state of affairs raises the question of whether or not this apparent increase in employment opportunities can be sustained over the 1980s and the years to come. Such a question leads us to examine first the nature of job creation during the 1967 - 1984 period. Examining the structure of employment creation by industry during that period shows that the most important employment generating branch in the national economy was the public works construction sector. It witnessed the most rapid increase; its share in total job creation accounted for about 30%, while the share of industry in total job creation accounted only for about 19% during the same period; (see table 2.27).

Table 2.27: Employment creation by industry during 1967-84 in (1,000).

Sector	1967-73		1973-79		1979-84		1967-84	
	Nr	%	Nr	%	Nr	%	Nr	%
Agriculture[a]	-1	...	96	11.4	-9	-1.3	67	4.4
Industry*	122	28	156	18.6	94	13.5	372	18.9
C. P. W.@	119	27.4	247	29.4	218	31.5	584	29.7
Services#	66	15.2	160	19.1	160	23.1	389	19.6
Administration	128	29.4	181	21.5	230	33.2	539	27.4
Non-agriculture	435	100.0	744	88.6	702	101.3	1881	95.6
Total/Average	434	100.0	840	100.0	693	100.0	1533	100.0

a) The negative figures denote the fall in employment, either in absolute or in relative terms.
*) including hydrocarbons.
#) and communications
@) Stands for the construction & public works.
Source: *Constructed from Synthèse de la Décennie 1967 - 78.* op cit., and from: *Statistiques,* Revue of O.N.S. N°15 April - June 1987, p. 11.

Moreover, while the share of the public works construction sector in total job creation increased from 27 per cent during 1967 - 73 to 29 per cent during 1973 - 79 and to about 32 per cent during 1979 - 84, the share of the industrial sector, which absorbed the highest proportion of total investments, decreased from 28 per cent to 19 per cent and to less than 14 per cent respectively.

In fact, the public works construction sector appeared to be the leading sector in the Algerian economy, as far as employment is concerned. Such a leading role was the result of the implementation of the industrialisation programme strategy (involving the construction of industries), and of the vigorous residential building boom which mainly accompanied the oil boom. This suggests that any slowing down or stoppage either in the investment process and/or in the oil revenues would have serious consequences on the economy in general and on this sector in particular. As a matter of fact, owing on one hand to the recent collapse in oil prices, and on the other hand to the increasing burden of the foreign debt (the debt service ratio increased from 24.6% in 1981 to 51% in 1986[85] and to over 83% in 1988[86]), investments declined from an average annual rate of 48.6 per cent during 1980 - 84 to 31 per cent in 1986. Such a drop in the investment efforts with reductions in imports (of capital, intermediary and raw materials) generated a sluggishness in employment creation in the economy in general and in the construction sector in particular. The proportion of this sector in total job creation decreased

significantly from about 32 per cent during 1980 - 1984 (table 2.27) to 2.6 per cent in 1986 (table 2.28).

Table: 2.28: Structure of job creation by sector in 1986.

Sector	in Numbers	in %
Agriculture	9,976	8.6
Industry	17,052	14.7
C. & Public Building	3,016	2.6
Services	30,972	26.7
Administration	54,984	47.4
Total	116,000	100.0

Source: *Comité Interministerial de l'Emploi*. op cit. p. 27.

In fact, employment creation has been in continuous decline since 1984. It decreased, in relative and in absolute terms, from an annual average of about 150,000 jobs during 1980 - 84 to around 65,000 in 1988; far below the planned objective of 170,000 jobs as envisaged by the second five year plan (1985 - 89).

Moreover, 1986 alone has witnessed job losses amounting to 55,000 of which 44,000 were in the construction sector,[87] and a further 25,000 were lost during 1987 - 88. All in all, between 1985 and 1988 period 80,000 jobs were lost of which 64,000 i.e 80 per cent were in the construction sector.[88] Such job losses are believed likely to continue during the years to come as a result of the "fragility" and "vulnerability" of the situation in Algeria with regard to the production capacity of the Algerian economy.[89]

2.5- Summary.

The evolution of the Algerian economy during the last two decades, as shaped by the implementation of the development strategy, generated sectoral disequilibrium with a number of weaknesses and bottlenecks. Some of these are as follows:

1- Industrialisation did not result in a steady flow of products which the domestic market urgently needed. There have been serious bottlenecks and performance failures, leading to an inflationary situation with adverse income distribution implications for the poor. (See chapters 4 & 5).

2- The emphasis on heavy industry (including hydrocarbons) and the way plans were implemented resulted in a higher level of external indebtedness as well as debt service ratio.

3 - While the huge investment mainly in industry had led to the creation of a substantial number of new jobs, it was at the cost of high marginal capital labour ratio and the low level of productivity.

4 - The failure to put an equivalent amount of effort into agricultural development resulted in an increasing requirement for imported foodstuffs.

5 - The continuous drift of population from rural areas to the major towns put a very serious strain on the country's social infrastructure, particularly on housing and public services.

The implications of such a development strategy on employ-

ment, income distribution and poverty will be examined in the following chapters. It is this assessment which could show whether the objectives set by the planners in terms of social justice have materialised or not.

Notes to chapter 2.

1. Under this system, the landowner receives four-fifths of the harvest for providing land, seeds, oxen, plough, etc., and the *Khammes* receives one-fifth for his labour power.

2. Whereas the Melk land, mainly located on marginal mountain sides, was unsuited to colonist commercial farming and remained largely in native hands.

3. While many Algerians were pushed to remote and poor areas, and to be dwellers in urban areas, others were forced to seek refuge in neighbouring countries.

4. The colon, the European settlers and the French are used interchangeably.

5. See Y.A. Sayigh: *The Economy of the Arab World*. Croom Helm - London, 1978. p. 525.

6. Moreover, the French disregarded the local traditions and value systems, and saw them as symptoms of backwardness. European value systems, French education and institutional arrangements were imposed on the Algerians. The introduction of vineyards in a Muslim society, to meet the requirements of Europeans and for export, was on land previously cultivated cereals - the main staple food in Algeria. The vineyard acreage more than doubled between 1900 and 1954 (representing about 5 per cent of total available land, and constituting the most fertile land).

7. See Nouchi André, in: *La Croissance du Nationalisme Algérien (1914 - 54)*. Edition de Minuit, Paris 1962. pp. 97 - 124.

8. This meant that the per capita availability of arable land was 11.2 hectares for the Europeans and only 0.7 hectare for the Algerians.

9. See the composition and distribution of the population in Algeria, table A2.3 in Appendix 2.

10. See Tami Tidafi, in: *L'Agriculture Algériènne et ses Perspective de Dévelppement*. François Maspéro, Paris 1969. p. 28.

11. Samir Amin: *The Maghreb in the Modern World. Algeria, Tunisia, Morocco*. Chivers, Penguin edition 1970. pp. 70-72.

12. There was no available data to make comparable figures for 1951.

13. Of whom about 15.5 per cent gained their living engaged in towns and cities or as emigrants to France; only 59.2 per cent gained their livelihood directly from agricultural activities. See *Emploi et Sous Emploi*. S.E.P. 1965.

14. It has to be borne in mind, as stressed above, that European land was the most fertile.

15. The overall Gini coefficient was much higher than each of the corresponding Gini coefficients of the two communities because of the "between inequalities". For further explanation of this, see chapter 3 and appendix 3.

16. See A. Henni: *La Colonisation Agraire et le Sous-Développement en Algérie*. S.N.E.D. Algiers. 1982. p. 201.

17. Of these Algerian students most came from the privileged class, the upper class within the Algerian population.

18. See Sayigh: *The Economoics of the Arab World*. op cit.

p. 524. See J. Joachim, in: *The New Algeria*. Follett Publishing Company. Chicago, 1964. p. 201.

19. L'Organisation de l'Armée Secrète was created in February 1961 by extreme right-wing French officers, using terorism to prevent the French government from signing the cease-fire agreement.

20. It must be admitted that the colonial era did generate some positive effects - the setting up of some industries mainly of food processing and of other consumer goods, some infrastructure: roads, railways, dams, ports, airports, schools, hospitals, a modern agricultural sector, and the explanation and exploitation of oil and gas. For further elaboration of this point, see for instance, René Gendarme: *L'Economie de l'Algérie: Sous Développement et Politique de Croissance*. Library Arnand Colin, Paris 1959. pp. 149 - 64.

21. See William H. Lewis: "Algeria Changes its Course", in *Africa Report*. Washington D.C. Monthly Review. Nov 1965. p. 12.

22. For more information on this point, see for instance: A. Marill et al, in: *Essais sur l'Economie de l'Algérie Nouvelle*. Paris 1965.

23. Management committees were also set up on about 1,000 industrial and commercial firms. See Ian Clegg: Workers Self-Management in Algeria. Allen Lane, the Penguin Press. London, 1971. p. 60.

24. Moreover, there were 12 factories under construction: 6 in food, 3 textiles, 1 iron smelting, 1 petrochemicals and 1 *compostage*. See l'Industrialisation en 1967. op cit.

25. In this respect, it is neither the dependency model of Samir Amin (export sector-luxury consumption sector) nor the model of the import substitution industries as initiated by some Latin American countries (consumption goods industries, at first stage, then towards capital goods industries at later stage).

26. See G. de Bernis: "Industries Industrialisantes et Contenu d'une Politique d'Intégration Régional", in: *Economie Appliquée*. Tome xix Nº 3-4. P.U.F. Paris 1966.

27. See Albert Hirschman, in: *A Bias for hope. Essays on Development and Latin America*. New Haven. London. Yale University Press 1971.

28. See Richard I. Lawless, "Algeria: The Contradictions of Rapid Industrialisation", in: R.I. Lawless and Allan Findlay. eds., *North Africa: Contemporary Politics and Economic Development*. London. Croom Helm; New York; St Martin's Press 1984. pp. 161 - 163.

29. See "The Tripoli Progamme", in: *l'Annuaire de l'Afrique du Nord 1962*, C.N.R.E.S. Paris 1972.

30. See *Plan Quadriennal (1970 - 73), Rapport Général*. Préambule. S.E.P. Algiers - 1970. p. 4.

31. See J.A. Paul, "Algeria's hydrocarbon sector", in: *OPEC and the Middle East*, (ed) Russell A. Stone. p. 242.

32. See *World Development Report*, July 1983, World Bank, p. 157.

33. See Francis Giles. *The Financial Times*. London 1st Sept 1983.

34. See *World Debt Tables 1988/89*, World Bank; vol iii. p. 26, and vol ii. p. 4.

35. See Kara Mustapha, in: *Problems of Development Financing in Algeria*, Unpublished Ph D. University of Pittsburg, 1978.

36. While industry increased by an average rate of 6.2% per annum, agriculture increased only by 2.6%.

37. See *Rapport Général du Plan Quinquennal (1980 - 84)*. M.P.A.T. January 1980. p. 49. Whether the plan's pattern of investment has been fulfilled as planned and whether the implementation of the plan has been successful in achieving the planned targets; these need to be examined; so far, owing to the lack of information, these cannot be carried out.

38. Calculated from *Statistiques,* revue of O.N.S. Nº 15 April - June 1987, p. 72.

39. See *Synthèse du Bilan Economic et Social de la Décennie 1967 - 1978*. Algiers, May 1980. p. 63.

40. See *Rapport Général du Plan Quinquennal 1980 - 84*. op cit. p. ii.

41. The rate of absenteeism was estimated at 30% in the public sector and 5% in the private sector. See Misska: *Le Monde Diplomatique*, Dec 1982. Paris. p. 25.

42. See for instance See A. Bouzidi: "Emploi et chômage en Algérie, 1967 - 1983", in: *Revue du C.R.E.A.* Nº 2, 2ème Trimesttre 1984. p. 65.

43. See *Synthèse du Bilan Economic et Social de la Décennie 1967 - 1978*. op cit. p. xiii.

44. See C. Bernard: "Les Résistances ouvrières dans l'Algérie en voie d'Industrialisation", in: *Annuaire de l'Afrique du Nord 1982*. Paris 1983. p. 138. See also Misska: "l'Algérie du Privilège au Droit", in *Le Monde*

Diplomatique. Paris, Décember 1982.

45. See Patrice Robineau: "Interdependence and Development in Algeria." in Christian Caméliau (editor): *Interpedendence and Patterns of Development*. O.E.C.D. 1985. Paris. p. 161.

46. According to the 1985 - 89 Plan, skilled manpower increased from 34 per cent in 1980 to 42.1 per cent in 1985, and expected to be 51.7 per cent by the end of 1989. See *Rapport Général du Deuxième Plan Quinquenal 1985 - 1989*. Ministry of Planning. Jan. 1985. pp. 17 - 18.

47. See *Enquête Main d'oeuvre et Démographie 1982*. M.P.A.T. - 2 - *Emploi et Mobilité Professionnelle*, serie Statistique Sociale, Avril 1984, table 2. p. 12.

48. It was also due to the type of the employed labour. In 1981-82, more than 65 percent of total workers in non-agricultural activities were unskilled labour, with probably negligible productivity. That is, the predominance of unskilled labour tends to lower the average skills of the labour force, and as a result to slow down the rate of productivity growth.

49. From the Discourse of the Algerian President at the opening of the 6th Congress of the FLN party, on 27th November 1988. See *El-Moudjahid* (daily newspaper) 29th November 1988, p.4.

50. See *El-Moudjahid* (daily newspaper) 29th Nov 1988, p.4.

51. In fact, the "Agrarian Revolution", originally scheduled to begin in 1966, was delayed, till 1971.

52. See the *Agrarian Revolution Charter*. pp. 9 - 10.

53. It aimed as well at increasing livestock production in

the steppe areas where about 20 million ha of postnage, mostly in southern Algeria, grazes by animals of nomadic herdsmen, have been nationalised. The 8 million grazing animals have been redistributed and grouped into settled cooperatives.

54. The question of whether these aims were achieved or not, will be discussed below.

55. The beneficiaries, meanwhile, are two kinds, those who have benefited from land redistribution on individual basis (family farm), and those in form of cooperative production; both kinds do not have to pay for the land.

56. The land ceiling takes into account the balance between fertile and infertile land.

57. Anyone who wants to sell his farm land, he has to sell it only to the state.

58. The third phase stated November 1975, aimed at increasing livestock production in the steppe areas where aout 20 million ha of pasture, grazed by animals of nomadic herdsmen, have been nationalised. The herds were limited to 105 animals by herdsman; the exceeding numbers were nationalised and distributed to small herdsmen grouped into settled cooperatives.

59. Indeed, owing to bureaucratic, logistical and other problems, production and earnings of the co-operatives fell far short of expectations. It was pointed out that Algeria's low productivity was not due solely to logistic difficulties. Machinery and chemical products were in many cases clearly ill-suited to the prevailing agricultural, technological, and social conditions of production. See Patrice Robineau: "Interdependence and Development in Algeria." op cit. p. 158.

60. As cited in *African Research Bulletin, Economic Series,* volume 22 Nº 1 Feb 1985. p. 7594.

61. Average production, meanwhile, of cereals during 1949 - 59 amounted to 21 million quintals. See Revue *Débats et Critique* Nº 3/4 1980. CE.N.E.A.P.

62. The government too often interferes in the management of these cooperatives.

63. In fact, the stagnation of agricultural production, is due to many factors, and not only to this factor; meanwhile, as it can be taken as another factor, fallow land, for instance in 1977 represented about 48 per cent of total arable land. See Haoues El Kenz: "Approach du Problème de la Jachère", in Revue *Débats et Critique*. Nº 3/4 CE.N.E.A.P. 1980. P.31. Some problems, however, were stemming from the predominantly rural settlement pattern which often resulted in excessive distances between place of residence and the new place of work at the cooperatives. However, according to the A.A.R.D.E.S. study, it was found that 26.3 per cent of the beneficiaries lived within one km from their new place of work, 46.5 percent lived between 1-5 km, and 25.5 per cent lived more than 5 km away from their place of work. See A.A.R.A.D.E.S., *Etudes sue les Villages Socialistes de la Révolution Agraire*. Algiers, 1978.

64. See *Planning and Development, Tome 1,* an internal document. p. cit. p. 73.

65. See G. Muttin, in: *La Mitidja, Décolonisation et Espace Géographique*. Thèse de Doctorat. Algiers 1974. p. 536.

66. That is from about 650 ha/per tractor in 1967 to about 140 hectares per tractor in 1982. See "l'Evolution de l'Agriculture Algériènne." op cit. p. 48.

67. See for instance, Patrice Robineau: "Interdependence and Development in Algeria." op cit. p. 158.

68. See Patrice Robineau: "Interdependence and Development in Algeria." op cit.

69. See *African Research Bulletin*, August 15 September 14th 1983. p. 6972.

70. See *African Research Bulletin*, May 15 June 14th 1984. p. 7292.

71. See *Financial Times Survey*, Algeria 10 Dec 1986. p. 3.

72. See Entellis, J.P: *Algeria: A Revolution Institutionalised.* Croom Helm, London. 1986. p. 133.

73. See *Ordonnance Nº 71 - 73* of November 1971, declaring "Agrarian Revolution."

74. The increase in production can also be envisaged by the decrease in the fallow land which accounted about 40 per cent of the total arable land.

75. According to the General Population Census of 20th March - 4 April 1987.

76. *Rapport Général du Deuxième Plan Quinquennal 1985 - 1989.* Ministry of Planning. January 1985. p. 27.

77. See *Recencement Général de la Population et de l'Habitat de 1966 et de 1977.* S.E.P. Direction des Statistiques. Algiers.

78. See *African Research Bulletin*, vol 25 Nº 11 Dec 31st 1988. p. 9355.

79. For example, 45 per cent of total employment in light industries were in the four biggest urban areas -

Algiers, Oran, Constantine, and Annaba. See A. Bouzidi: "Emploi et chômage en Algérie, 1967 - 83", in: *Revue du CREA* Nº 2, 2ème Trimesttre 1984, footnote, p. 65.

80. Calculated from table 2.27, p. 105.

81. This was also partly the reason for high rural-urban migration.

82. Of 1980 prices, using GDP deflator as given in *International Financial Statistics Year book 1987*. IMF 1987, pp. 184/5.

83. Calculated from *Synthèse du Bilan Economic et Social de la Décennie 1967 - 1978*. op cit.

84. Calculated from table 2.15. p. 84, and table 2.27. p. 105.

85. See World Debt Tables, 1988-89 edition, volume ii. p. 5.

86. See A. Brahim Bounab: "La Dette et son Service," in: *Algérie-Actualité*, Nº 1222 Semaine du 16 - 22 Mars 1989. p. 5.

87. See *Algérie - Actualité* March 14th - 20th 1987.

88. See *Algérie-Actualité* Nº 1207 Semaine du 1 - 7 Dec 1988. p. 17. More loans are likely in the future, especially if the oil prices remain at their recent levels (of $15-18 a barrel). In fact, the state railways have announced lay-offs of 6,000 out of 21,000 workers. See *African Research Bulletin*, Economic Series, vol 25 Nº 9 Oct 1988, pp. 9287-8.

89. See for instance, *Actualité de l'Emigration*, Organe de l'Amicale des Algériens en Europe. Nº 7. op cit. p. 28.

Chapter III

Economic Growth & Income Inequality in the Algerian Economy.

The review of literature in chapter one has already shown that development strategy in a developing country will have important implications for both the income distribution and poverty. But it also came out that the history, tradition, and nature of the state determine income inequality and incidence of poverty. As such, the present chapter will look into the implications of the Algerian development strategy for the distribution of income.

Carrying out such a study involves two complementary tasks. Firstly, it focuses on the measurement of income distribution from many perspectives: by factor shares, overall, urban, and rural.[1] Capturing each of these inequalities is necessary for determining how the overall inequality is changed over the years in the Algerian economy. In other words, an inquiry into the nature and magnitude of changes in these distributions form the central theme of the first task and paves the way to the second task which consists in dealing with the main determinants of inequality. This, in turn, highlights areas of policy interventions which may have implications for the distribution of income. In the process of dealing with the first task in this chapter, it will be necessary to touch on the second task, but it will

be dealt with comprehensively in subsequent chapters.

Inequality can be examined on the income as well as on the expenditure side. As consumption is a function of income, it implies that income distribution in its turn determines to a considerable extent the level of the consumption pattern.[2] However, before discussing inequalities in the size distribution of personal income and consumer expenditure in Algeria, it is useful to review the data source and the method used.

3.1- Note on data collection and method:

The data used are derived from various sources, published and unpublished studies, allowing us to construct a picture of income distribution in Algeria at two different points in time. These data concern mainly:

1) The study of income disparities and purchasing power in Algeria between 1968-1979 (henceforth the income study), carried out by the national Institute of Studies and Analyses for Planning (I.N.E.A.P.)[3] which is under the tutelage of the Ministry of Planning as a research department. It was based mainly on:

- The national survey of income and consumption carried in 1966-67 for greater Algiers, and 1967-68 for the rest of the country.

- The study on employment and salaries carried out between 1975 and 1976 in urban areas.

- The study on the elements of employment and revenues in the main towns of Algeria in 1979.

- Different studies on private agriculture carried out as part of the national census on agriculture in 1973.

To avoid the problem of under-reporting of income in general, the I.N.E.A.P. assumed a rate of underestimation of income of 15% for the salaried and 30% for the non-salaried.[4] The justification of these rates was based, as reported by I.N.E.A.P. on "observation and experience."[5]

On the definition of income, household income was taken from five main sources:

1- Employment (wage and salaries and non salary revenues).

2- Public transfers (retirements, pensions, scholarships, family benefits).

3- Property income, rents from commercial property and houses, etc.

4- Self-consumption (income in kind of a consumable nature).

5- Private transfers (money orders, etc).

Income, however, did not include:

a) income in kind of durable nature (e.g., domestic equipment).

b) fringe benefits, ranging from subsidized housing to free

foreign travel and holiday subsidies, enjoyed by a certain category of paid groups mainly party and state officials (army officers and managers of state firms). These are probably more unequally distributed than money incomes, which would have a considerable influence on the distribution of income mainly in widening the income gap between the highest paid and the lowest groups.

c) realised capital gains from durable goods such as cars, lorries, machines, and etc, brought through the public sector or from abroad and sold at higher prices.[6] It did not also include capital gains from ownership of houses, apartments, and commercial shops. These may be taken as part of the distribution of wealth rather than of income.

Nevertheless, even within covered income sources there are some limitations, for instance, self consumption and non-monetary income render the estimation of income in part conjectural and raise complex problems of evaluation.

- The retained product for home consumption and unpaid family labour.

- The tendency of the farmer to understate yields partly for cultural values[7] and partly for fear of tax revenue collection. Another problem is the choice of prices for faluation of income in kind: constant or current prices, harvest prices, wholesale prices, retail prices or procurement prices. In short, it is difficult to measure income, particularly at the upper and lower ends of the scale. There is a likelihood that the highest income groups deliberately

understate their income for fear of incurring a tax liability. At the other end, it is difficult to value own consumption and investment in the rural subsistence sector.

There are other limitations not overcome by the income study. One of them is that the urban population in the area covered by the data of 1966-68 was not exactly the same in the statistics of the 1970's. The urban income data for 1979 did not represent the whole urban population as it did for 1968. In an attempt to make these studies consistent and comparable, the I.N.E.A.P. carried out a certain analysis ending with the conclusion that the average urban income of the study on "Elements of Employment and incomes in the main towns of Algeria in 1979" was about 10% higher than the average overall urban income in Algeria.[8] In fact, such a conclusion points to some weaknesses one has come to expect from data on income. However, these are the only available data on income distribution in Algeria, which tend to cover only the "primary income distribution."[9]

The second source of data is the Algerian household consumption expenditure survey of 1979-80 which was carried out between March 1979 and March 1980 by the National Office of Statistics (O.N.S.). It was based on a national household survey with a sample of 8,208 households and it mainly aimed to:

- Provide a basis for the social and economic planning in determining the needs and objectives.

- Evaluate the food situation, nutrition and the minimum dietary requirement of households.

- Shed light on income distribution from the structure of household consumption expenditure.[10]

The sample results were extrapolated to the whole of Algerian household consumption expenditure. The validity of this extrapolation would, of course, depend upon a number of conditions among them: the sampling method which enables the whole population to be represented, the attitude of respondents, and the accuracy of the information. Nonetheless, it is worth questioning some of the assumptions and the method adopted in the survey and indeed of the conclusions. In view of this, one has to examine the sampling procedures and the method used. The survey was carried out in the following way:

- The general population census of 1977 was used as a frame for the selection of the sample survey. The Algerian population was divided into six housing sectors as stratified by population density areas in a descending order; i.e. from high (relative) population density areas to low density areas, distributed among five ecological geographic zones. These zones were stratified by the type of land area; i.e. fertile, semi-arid, hilly (mountainous), arid, steppe and saharian.

The population stratified by either housing sectors or by ecological geographic zones, and divided into districts each containing 120 households. 228 districts were selected from

this matrix, and a random sample of 36 households was taken from each district, as sample units, and another 18 households for replacements. However, what is interesting to note is that the distribution of the chosen districts, either among the different housing sectors or among ecological geographic zones, was apparently not based on any reliable sampling method. There was no mention at all of how the 228 districts were selected from the 22 sub-strata.[11] (See tables 3.1, and 3.2).

Table 3.1: Distribution of sample units among different housing sector.

Housing sector	Districts	Nr of household	% of household
Sector 1: Greater Algiers	30	1,080	13.2
Sector 2: Metropolitan Region	39	1,404	17.1
Sector 3: Medium Towns	42	1,512	18.4
Sector 4: Villages	42	1,512	18.4
Sector 5: Rural agglomerate	41	1.476	18.0
Sector 6: Scattered rural	34	1,224	14.9
TOTAL	228	8,208	100.0

Source: *Constructed from Dépence de Consommation des Ménages Algériens, 1979/80.* I.N.E.A.P. op cit. p. 15.

Table 3.2: Distribution of sample units by housing sector and geographic zones

Sector	Zone I	Zone II	Zone III	Zone VI	Zone V	Total
Sector 1	1,080					1,080
Sector 2	1,404					1,404
Sector 3	288	324	288	288	324	1,512
Sector 4	288	288	288	324	324	1,512
Sector 5	180	324	324	324	324	1,476
Sector 6	180	324	324	288	108	1,224
Total	3,420	1,260	1,224	1,224	1.080	8,208

Source: *Dépense de Consommation des Ménages Algériens, 1979/80.* I.N.E.A.P. op. cit. p. 16.

In the survey, under the heading of distribution and mode of selecting (drawing) the sample, it was stated that "in the first phase, districts are selected randomly with unequal probabilities",[12] which may mean that probability sampling procedures have been used in selecting the sample units. This, however, has not been the case, as is seen from what follows.

Firstly, it has to be noted that in sampling surveys the aim is to use sampling procedures which avoid biases in the selection of a sample in order to achieve the maximum accuracy in representing the whole population. For the survey in question, the appropriate procedure in selecting the sample units is to select the districts in accordance with a probability proportional to size. In other words, the probability of districts being selected from a housing sector or from an ecological geographic zone is equal to the proportional size

of the housing sector or the geographic zone in the overall population. Then, with simple random sampling, one would select the number of households within each district. The number of households to be assigned in each housing sector of the country would be determined by the percentage of the households living in each housing sector, or geographic zone, (see table 3.3). For instance, sector 6 has a popula-

Table 3.3: Distribution of Algeria's household by housing sector.

	Setor 1	Sector 2	Sector 3	Sector 4	Sector 5	Sector 6	Total
Household	221749	169190	473782	176416	190540	1260610	2491287
in %	8.9	6.8	19.0	7.0	7.7	50.6	100

Source: *Dépense de Consommation des Ménages Algériens, 1979/80.* I.N.E.A.P. op. cit. p. 22.

tion number five times as large in sector 1; so it is expected that the sample units in sector 6 have to be given five times the chance of being selected as the ones from sector 1. This means that the number of sample units in sector 6 would be more than five times as large as the sample units in sector 1. It follows that the distribution of sample units which would guarantee proper coverage and representation of each housing sector, should have been as shown in table 3.4. Accordingly, the expected distribution of the sample units among the 22 sub-strata would be as shown in table 3.5. Such a sampling distribution would have ensured not only that housing sector households would be correctly represented in the sample, but also would tend to increase the precision of the results as well.

Table 3.4: The expected distribution of the sample size by housing sector.

Housing sector	Districts	Nº of household	% of household
Sector 1: Greater Algiers	21	756	9.2
Sector 2: Metropolitan Region	15	540	6.6
Sector 3: Medium Towns	43	1548	18.9
Sector 4: Villages	16	576	7.0
Sector 5: Rural agglomerate	18	648	7.9
Sector 6: Scattered rural	115	4140	50.4
TOTAL	228	8,208	100.0

Source: Constructed from the above tables - 3.1 and 3.3.

Table 3.5: Expected distribution of sample units among the 22 sub-strata.

Sector	Zone I	Zone II	Zone III	Zone VI	Zone V	Total
Sector 1	756					756
Sector 2	540					540
Sector 3	648	180	108	324	288	1,548
Sector 4	144	72	72	108	180	576
Sector 5	180	72	180	108	108	648
Sector 6	826	504	1,512	612	684	4,140
Total	3,096	826	1,872	1,152	1,260	8,208

Source: Constructed from the above tables - 3.1, 3.3 and 3.4.

From the two sampling distributions of tables 3.1 and 3.4, i.e. the observed and the expected one, it appears that only sector 3 (the medium towns) had a number of sample units more or less proportional to its size, as its share in the observed distribution sample was almost the same as in the expected one. Sectors 1, 2, 4, and 5, were over-represented in the sample, whereas sector 6 which, forms the scattered rural population with more than 50 per cent of total

households, was marginally represented, as its share was only about 15 per cent of the sample units. This could well mean that under-representing people living in scattered rural areas, whose consumption levels are lower than the ones of other areas, would bias average national consumption upwards, and may, consequently, understate the level of inequality and of poverty. However, the non-sampling errors implied are very significant in depicting inaccurate results. They are different from what the statisticians may call sampling errors[13] which arise mainly from trying to represent a population with a sample and which are usually not significant.

In fact, there is a very significant difference between the observed sampling distribution and the expected sampling distribution. Such a conclusion is reached on the basis of a statistical analysis, using χ^2 technique as a test of hypothesis. In this respect, the sample value of $\chi^2 = 74.99$ is clearly very significant[14] since the critical value at 1% level of $\chi^2_{.01} = 15.09$ (with 5 degrees of freedom), which clearly enables us to establish that the sample data do not come from the specified population. This suggests that the national sample survey (N.S.S.) on consumption expenditure does not cover properly the entire population, as the sample is unrepresentative of the household population. A further indication of the unrepresentativeness of the sample is the under-estimation of the numbers and proportion of small households and families in remote areas, and in unstable places. For instance, nomad households, and those living in

hotels because of the housing crisis, were excluded altogether from the survey.[15]

Moreover, besides the replacement sample which represented 50 per cent of the total sample units, there was 1.3 per cent[16] of non-response among the sample size. We don't know whether the replacement sample had been used to replace a certain category of income class or not, because we don't know the distribution of the non-respondents among the income classes. Not knowing the distribution of non-respondents, (i.e. which groups were replaced), there may be a selectivity bias towards those who choose to respond. This would certainly affect the representativeness of the sample.[17] Nevertheless, the data of this survey are going to be used with some reservations because other sources are not available.

3.2- Income Distribution during 1962 - 1980 period.

The distribution of income in the process of economic development in independent Algeria can be examined at two main different points in time, in 1967/68 and in 1979/80. The 12 years period between these two points in time covered the three year plan (1967 - 69), the first four year plan (1970 - 73), and the second four year plan (1974 - 77). This period also coincided with the rapid increase in oil prices of 1973/74 and of 1979. The average annual economic growth rate during this period was about 7.2 per cent[18] (in constant prices of 1978). So, it is interesting to see how income

distribution changed during this period. At the beginning of such a period, the distribution of income showed that 70 per cent of the population got only 35.5 per cent of total income; whereas the top 5 per cent of the population got 28 per cent. The concentration of income, as reflected in the Gini coefficient, was 0.46. (See table 3.6).

Table 3.6: Distribution of income in 1967/68.

Population in %	Income in %
58	23.0
12	12.5
21	26.5
4	10.0
4	18.0
1	10.0
100	100.0
Gini coefficient 0.46*	

*) Calculated by the author.
Source: A.A.R.D.E.S.: Family Budget Survey 1967/68.

Economic growth prior to 1967/68, (i.e. between 1962/63 - 1967/68), was on average about 2 per cent per annum. At the end of the period in question, i.e. in 1979/80, distribution of household consumption expenditure, (keeping in mind the limitations, and the deficiencies of the data, as discussed above), showed a low inequality index of a Gini coefficient of 0.35. (See table 3.7).

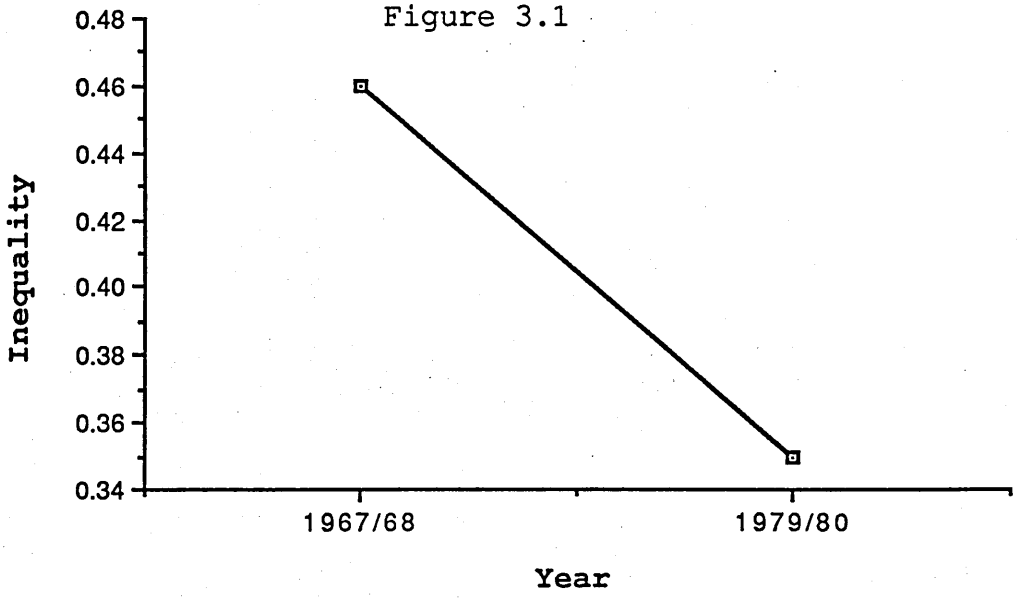
Table 3.7: Distribution of Consumption Expenditure in 1979/80.

Expenditure brackets in AD	per caput expenditure (average)	population in %	expenditure in %
less than 800	518	3.8	0.8
800 - 1,000	860	3.2	0.9
1,000 - 1,200	1,133	4.4	1.5
1,200 - 1,500	1,371	7.3	3.2
1,500 - 2,000	1,826	18.6	10.7
2,000 - 2,500	2,344	13.5	10.1
2,500 - 3,000	2,856	11.0	10.0
3,000 - 3,500	3,337	9.3	10.0
3,500 - 4,000	3,838	6.8	8.3
4,000 - 4,500	4,335	5.1	7.0
4,500 - 5,000	4,826	4.2	6.5
5,000 - 5,500	5,322	3.1	5.4
5,500 - 6,000	5,842	1.9	3.6
6,000 - 6,500	6,338	1.4	2.9
6,500 - 7,000	6,862	1.6	3.5
7,000 - 7,500	7,350	1.0	2.4
7,500 and over	10,767	3.8	13.2
Average/or total	3,298	100.0	100.0
Gini coefficient	0.35*		

*) Calculated by the author.
Source: *Dépense de consommation des Ménages Algériens*. op cit.

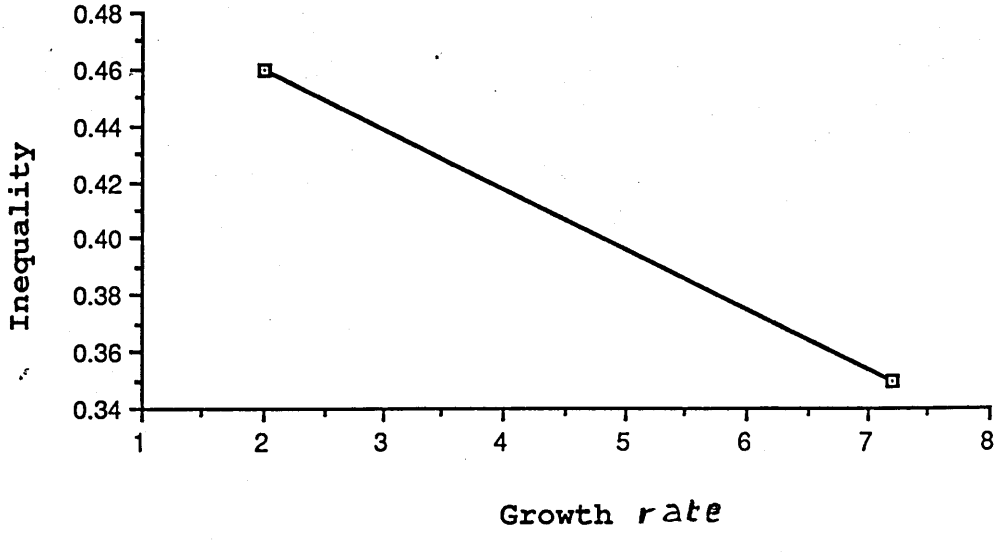
Nevertheless, what is the likely trend of income inequality which accompanied the process of economic development in Algeria during the 1967/68 - 1979/80 period? From the changes in income inequality between the two points in time, it can be inferred that there was a clear trend throughout the period in question; see figure 3.1. Income distribution

Figure 3.1



did improve during the 1967/68 - 1979/80 period, as portrayed by the decrease in the index of Gini coefficient from 0.46 in 1967/68 to 0.35 in 1979/80.[19] In this respect, it seems that inequality continued to decrease while economic growth rate continued to be rapid, which is contrary to the Kuznets hypothesis, see figure 3.2. Such a pattern was also noticed in other countries.[20]

Figure 3.2



However, the decrease in the trend of income inequalities does not portray which groups of the population gained most, and which groups did not. The trend in income inequalities should be, therefore, supplemented by a more detailed examination of income by sources, its generation, and its trend during the period in question. Such an examination would capture the forces which generate that particular distribution of income, and how growth did spread its benefits and costs among different socio-economic groups. Accordingly, it will enable us to single out the positive and the negative elements in shaping the distribution of income; i.e. to determine the features that manifest better income distribution than others in order to provide a clear picture of its trend over a particular period. As far as the Algerian economy is concerned, and given the limitations of the data, such an examination can be carried out between the income of different socio-economic groups over 1968 - 1979 period in urban and in rural areas.

3.3- Income Distribution in Urban Areas.

Algeria has become, as shown above, an increasingly urbanised country. According to the population census of 1987, 51 per cent of the population live in urban areas of 10,000 people or more. By the end of 1999, more than 65 per cent[21] of the population will be living in urban areas, which will represent a major turn in the history of urbanisation in Algeria. In 1981, the urban areas accounted for 68 per cent of total industrial workers, 70 per cent of commerce and 57

per cent of services. Employment and income have been growing rapidly in urban areas, a process usually referred to as urbanisation. The available data on income distribution in urban areas permit to show its evolution between two different points in time, in 1968 and in 1979. In 1968 the size distribution per head showed that the top 5 per cent of the population got about 21 per cent of total income, whereas the lower 32.5 per cent got only 8.6 per cent, i.e. with an inequality index of 0.44. (See table 3.8).

Table 3.8: Distribution of income per head in urban areas 1968.

Income brackets in AD	population in %	income in %
less than 400	32.5	8.6
400 - 800	31.6	22.6
800 - 1200	16.2	19.6
1200 - 1800	11.0	19.7
1800 - 2400	4.2	11.0
2400 - 3000	2.0	6.2
3000 - 4000	1.2	5.1
4000 and over	1.3	7.2
Total	100.0	100.0
Gini coefficient 0.44*		

*) Calculated by the author.
Source: *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979*, I.N.E.A.P. Février 1981, p. 65.

In 1979, urban income inequality (per head) decreased to an index of 0.40, (see table 3.9 on the next page), and the distribution of consumption expenditure showed an even more equal distribution with a Gini coefficient of 0.31; (see table 3.10).

Table 3.9: Distribution of income per head in urban areas 1979.

Income brackets in AD	population in %	income in %
less than 2500	35.9	14.5
2500 - 3500	23.8	16.6
3500 - 4500	12.8	12.0
4500 - 6000	11.5	13.9
6000 - 9000	8.5	14.5
9000 - 17500	5.8	16.8
17500 - 30000	1.3	6.7
30000 and over	0.4	5.0
	100.0	100.0

Gini coefficient 0.40

Source: Constructed from *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979.* I.N.E.A.P. Février 1981.

Table 3.10: Distribution of expenditure per head in urban areas 1979/80.

Expenditure brackets	population in %	expenditure in %
less than 800	1.2	0.2
800 - 1,000	0.9	0.2
1,000 - 1,200	1.5	0.5
1,200 - 1,500	4.0	1.4
1,500 - 2,000	12.0	5.6
2,000 - 2,500	12.3	7.4
2,500 - 3,000	12.9	9.4
3,000 - 3,500	11.6	9.3
3,500 - 4,000	8.8	8.7
4,000 - 4,500	7.3	8.1
4,500 - 5,000	6.2	7.6
5,000 - 5,500	4.6	6.2
5,500 - 6,000	3.6	5.4
6,000 - 6,500	2.2	3.6
6,500 - 7,000	2.3	4.0
7,000 - 7,500	1.6	3.1
7,500 and over	7.0	19.3
Average/or total	100.0	100.0

Gini coefficient 0.31*

*) Calculated by the author.

Source: *Dépense de consommation des Ménages Algériens.* op cit.

The fact that the size distribution of consumption expenditure was more equal than the size distribution of income tends to be the general case because savings (one of the component of income) tend to be distributed more unequally than consumption (the other component of income).[22] It follows that income is more equally distributed than savings, and is less equally distributed than consumption expenditure. In fact, this is the case in many countries where most of the savings in the country are attributed to the upper ordinal groups whose propensity to consume is the lowest. In other words, the more the income inequality is, i.e. the greater the share of the upper income group that this implies, the more skewed the distribution of savings is in the country.

Nonetheless, there is a change in income inequality index in urban areas from a Gini index of 0.44 in 1967/68 to 0.40 in 1979/90, see tables 3.8 and 3.9. It may be interesting to see how such a change in income inequalities between these two points in time was brought about. In view of this, the trend in income of different socio-economic groups over 1968 - 1979 period is worth examining. The two main socio-economic groups are the non-salaried and the salaried labour ones, as they form the bulk of the population.

3.3.1.- Trends in Income of the Non-Salaried Households.

The trend in the evolution of income within the non-salaried

(or property) household groups[23] between 1968 and 1979 reveals that while the per capita income of the craftsmen and tradesmen households (the lowest income category among this group) witnessed slight changes of less than 1 per cent in real terms between 1968 and 1979, the per capita income of the employer (the higher income category) increased in real terms by an annual rate of 3.4 per cent during the same period. (See table 3.11).

Table 3.11: Trend in income per head of non-salaried households.

Household head occupation	1968 income in AD	1979 income in AD	Annual growth rate* nominal	real
Craftsmen	1511	4291	9.1	+ 0.9
Tradesmen	1765	4301	7.7	- 0.5
Employer	4676	17468	11.6	+ 3.4
Average	1892	5589	9.4	+ 1.2

* As deflated by the average annual increase in the index of prices which was 8.2 per cent between 1967/68 and 1979/80, see price index at average income levels, in table 4.10 (chapter 4). p. 197.
Source: Constructed from *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979*. I.N.E.A.P. op. cit.

Accordingly, the income disparities between the two categories increased considerably. The income disparity ratio between the two increased from 1 : 2.8 in 1968 to 1 : 4.1 in 1979. As a result, inequality in income distribution among these household categories increased considerably. The Gini coefficient rose from 0.11 in 1968 to 0.23 in 1979; (see table 3.12).

Table 3.12: Income distribution among non-salaried household groups.

	1968		1979	
	population	income	population	income
Craftsmen*	24.3	19.7	7.8	5.8
Tradesmen	70.2	66.5	80.8	60.3
Employers	5.5	13.8	11.4	33.9
Total	100.0	100.0	100.0	100.0
Gini coefficient#	0.11		0.23	

* The definition of craftsmen between the two periods, may not be strictly the same.[24] #) Calculated by the author.
Source: Constructed from I.N.E.A.P. op. cit.

3.3.2- Trends of income in the salaried labour.

The evolution of income of the salaried labour group may be better examined in two sub-groups, the manual and the professional salaried workers.

3.3.2.1- The manual salaried workers.

The manual salaried workers comprise three main categories: the unskilled manual workers in service industries, in manufacturing and construction, and the skilled workers. The gap between their household income per head narrowed in 1979 from what it was in 1968. The per head income of the lowest income category, i.e. the unskilled workers in manufacturing and construction, increased more rapidly than the other two income categories. There was also a considerable decrease in the population share of the lowest income category; (see table 3.13). This may suggest that there was an improvement

Table 3.13: Trend of income per head of manual salaried households.

Socio-economic group	1968 population in %	1968 income in AD	1979 populat° in %	1979 income in AD	Annual growth nominal rate	Annual growth real rate#
Unskilled in services	65.8	1090	26.4	2826	8.3	...*
Unskilled (manuf/const°)		791		2880	11.4	+3.2
Skilled workers	34.2	1250	73.6	3479	8.9	+0.7
Total / or average	100.0	1020	100.0	3180	9.9	+1.7

*) less than half per cent.
#) As deflated by the average annual increase in the index of prices which was 8.2% between 1967/68 and 1979/80, see price index at average income levels, in table 4.10 (chapter 4). p. 197.
Source: Constructed from I.N.E.A.P. op. cit.

in the distribution amongst the manual workers. Such an improvement can be said to be mainly due to the higher increase in the wage rate of the unskilled salary workers, (see below table 3.27), which resulted in reducing the skilled/unskilled income differentials.

3.3.2.2- The Professional salaried workers.

In the socio-economic group category of professional salaried workers, there had been an increasing income disparity between the different household categories of this group. Income inequality among this household socio-economic group increased considerably as portrayed in the rise of the Gini coefficient from 0.11 in 1968 to 0.21 in 1979. Such an increasing disparity was mainly as a result of the fact that the per capita income of the employee household, (the lowest income category within the group), witnessed a deterioration

in real terms, while the per capita income of the middle executive (the middle income category), and of the executive (the upper income category) remained constant in real terms during the same period; (see table 3.14).

Table 3.14: Trend of income per head of household professional workers.

Household head occupation	1968 population in %	1968 income in AD	1979 populat° in %	1979 income in AD	Annual growth nominal rate	Annual growth real rate*
Employee	73.2	1750	63.8	3617	6.2	- 2.0
Middle Executive	18.7	2465	28.2	6152	7.9	- 0.3
Executive, L.P.#	8.1	5192	8.0	12880	7.9	- 0.3
Total, average	100.0	2134	100.0	5104	7.5	- 0.7

#) L.P. stands for liberal profession.
*) As deflated by the average annual increase in the index of prices which was 8.2% between 1967/68 and 1979/80, see price index at average income levels, in table 4.10 (chapter 4). p. 197.
Source: Constructed from I.N.E.A.P. op. cit.

Taking all the salaried people (wage earners) as a group, it appears clearly that income differentials did decrease. The average income ratio between the manual (the lower income group) and the professional workers (the upper income group) decreased from 1 : 2.1 in 1968 to 1 : 1.6 in 1979. In fact, the decrease in income disparities among wage earners is portrayed by the decrease in the index of the Gini coefficient from 0.25 in 1968 to 0.19 in 1979. It is certainly these substantial declines which are behind the improvement in the distribution of income in the urban areas.

However, the examination of overall trend in per capita

income disparities between different household categories, as presented in table 3.15, not only permits us to single out which household income groups lost and gained in relative terms, but also to obtain a more precise picture of such changes in income distribution. The following conclusions can be drawn:

Table 3.15: Evolution of income per head by household head occupation in urban areas.

Socio-economic group (by household head occupation)	1968 populatº in %	1968 income in AD	1979 populatº in %	1979 income in AD	Annual growth nominal rate	Annual growth real rate*
Non-salaried	15.8	1892	13.6	5589	9.4	+ 1.2
- Craftsmen	3.8	1511	1.1	4291	9.1	+ 0.9
- Tradesmen	11.1	1765	11.8	4301	7.7	- 0.5
- Employer	0.9	4676	0.7	17468	11.6	+ 3.4
Professional salaried	19.8	2134	43.7	5104	7.5	- 0.7
- Employee	14.5	1750	27.9	3617	6.2	- 2.0
- Middle executive	3.7	2465	12.3	6152	7.9	- 0.3
- Executive & L. profesº	1.6	5192	3.5	12880	7.7	- 0.5
Manual salaried	38.6	1020	33.4	3180	9.9	+ 1.7
- Unskilled(in services)	9.3	1090	8.8	2826	8.3	+ 0.1
- Unskill. (manu/const	16.1	791		2880	11.4	+ 3.2
- Skilled workers	13.2	1250	24.6	3479	8.9	+ 0.7
Agricultural activities	12.6	565	5.3	2830	14.4	+ 6.2
- Agricultural farmers	2.9	870	1.2	3992	13.5	+ 5.3
- Agricultural workers	9.7	474	4.1	2480	14.8	+ 6.6
Unoccupied	13.2	722	4.0	904	1.9	- 6.3
-Inactive#	(11.3)	758	-	-	-	-
-Unemployed#	(1.9)	510	-	-	-	-
Total / or average	100.0	1304	100.0	4229	10.3	+ 2.1

* As deflated by the average annual increase in the index of prices which was 8.2% between 1967/68 and 1979/80, see price index at average income levels, in table 4.10 (chapter 4). p. 197.

#) From Analyse Nutritionnelle, U.N.D.P./F.A.O. op cit.

Source: Constructed from *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979.* I.N.E.A.P. op. cit.

a) The per capita income of the unoccupied (i.e. the inactive and the unemployed) household head categories deteriorated significantly in relative and in absolute real terms between 1968 and 1979. This might suggest that the development strategy of Algeria failed to raise the income of these groups either through employment opportunities for the unemployed[25] or through increasing and/or directing the appropriate public transfer to this socio-economic group.

b) Although the per capita income of households in agricultural activities increased considerably between 1968 and 1979, it remained in 1979 22 per cent less than the average per capita income of the manual salaried households. This, however, reveals the existence of a segmented labour market in Algeria,[26] which may explain partly the agricultural w0rkers desire to leave agricultural activities to seek work in non-agricultural activities.

c) The lower wage income earners whether in agriculture or in non-agricultural activities had a more substantial increase in their per capita incomes than the higher wage earners, namely the professional wage earners whose per capita income decreased in real terms; (see table 3.15). In fact, it is this that made wage income more equally distributed in 1979.

d) Although the per capita income of the employer's household group - the highest income receivers - witnessed a higher increase than that of other socio-economic groups in non-agricultural activities, it did not have any effect on

the overall income disparities because it was over-compensated by other positive factors operating towards a more equal distribution of personal income.

The conclusion is that the improvement in the distribution of income in the urban areas during the period in question was generated by first the increasing share of wage income - the more equally distributed and the main component of household income - from 66.1% in 1968 to 80.9% in 1979, and second the decreasing share of the non-wage income mainly of property income - the less equally distributed component of household income - from 24.9 per cent to 19.1 per cent, which generated the improvement in the distribution of income in urban areas during the period in question. It can be stressed that any change in favour of the share of wage income in total household income, *ceteris paribus*, would necessarily improve the distribution of income. Not surprisingly, it has been the result of the massive increase in wage employment in urban areas as discussed in chapter 2.

3.4- Income Distribution in Rural Areas.

The analysis of income distribution in rural areas, as far as the availability of data is concerned, can be carried out between and within socio-economic groups in general and in the agricultural sector in particular.

In examining the trend in the per capita income of various socio-economic groups during the 1967/68 - 1979/80 period it seems that the high and the middle income groups have been

able to increase their per capita income at a higher rate than the lower income groups, (see table 3.16).

Table 3.16: Evolution of income per head in rural areas (1968 -1979).

Socio-economic group (by household head occupation)	1968 populat° in %	1968 income in AD	1979 populat° in %	1979 income in AD	Annual growth nominal rate	Annual growth real rate*
Non-wage earners:						
- Agricultural farmers	28.6	561	25.1	2500	13.5	5.2
Craftsmen and tradesmen	9.5	919	4.1	2117	7.2	-1.1
Employers	0.1	1640	0.2	5512	10.6	2.3
	38.2	643	29.4	2467	11.9	3.6
Wage earners:						
Permanent agri workers	7.0	623	11.2	1490	7.5	-0.8
Seasonal // //	22.2	304	12.6	896	9.4	1.1
Permanent non-agr //	3.5	742	4.3	2490	10.6	2.3
Seasonal // //	6.6	332	3.5	1080	10.3	2.0
Skilled workers	3.9	775	7.6	2683	10.9	2.6
Employee	1.9	1054	4.7	2680	8.1	-0.2
Middle executive	1.03	1339	1.9	4563	10.8	2.5
Executive & L. profession	0.04	3239	0.3	11730	11.3	3.0
	46.17	486	46.1	1901	12.0	3.7
Unoccupied:						
- Inactive	14.0	572				
			24.5	1222	7.6	-0.7
- Unemployed	2.2	270				
	16.2	509	24.5	1222	7.6	-0.7
Total / or average	100.0	598	100.0	2091	11.0	+2.7

* As deflated by the average annual increase in the index of prices which was 8.3% between 1967/68 and 1979/80, see price index at average income levels, in table 4.10 (chapter 4). p. 197.

Source: Constructed from *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979.* I.N.E.A.P. op. cit.

In fact, some of the lower income groups - the inactive and the unemployed - have seen their real per capita income

stagnating or even decreasing during the period in question. Table 3.17 summarises such a trend.

Table 3.17: Income Distribution by socio-economic groups in rural areas.

Socio-economic group (by household head occupation)	1968 populat° in %	1968 income in AD	1979 populat° in %	1979 income in AD	Annual growth nominal rate	Annual growth real rate*
Non-wage earners	38	643	29.4	2467	11.8	3.6
Wage earners	46	486	46.1	1901	12.0	3.7
Inactive, unoccupied	16	509	24.5	1222	7.6	-0.7
Total / or average	100	598	100.0	2091	11.0	+ 2.7

Source: Constructed from table 3.16.

As a result, inequality in the distribution of income did increase during the same period. The Gini coefficient increased from 0.21 in 1967/68 to 0.23 in 1979/80. With such an increase in income inequality, it is important to examine the distribution of income between and within the different socio-economic groups in order to gauge the main forces behind the increase in income inequalities in the rural areas.

3.4.1- Income Distribution in the Agricultural Sector.

Before the launching of the 'Agrarian Revolution' programme in 1971/72, the agricultural sector in Algeria comprised two sub-sectors, the self-managed (the socialist sector), and the traditional private sector. The first offered improving living conditions to about one million people; it contrasted

clearly with the impoverished 6 million people of the traditional private sector. Average per capita income for the traditional sector was AD250 (£25) against AD550 (£55) for the socialist sector, with a ratio of 1 : 2.2 respectively.[27] Inequality prevailed also within these sub-sectors, as will be shown in what follows.

3.4.1.1- Income Disparities Within the Public Agricultural Sector.

After the implementation of the so-called 'Agrarian Revolution', the public agricultural sector came to comprise two sub-sectors, the Agrarian Revolution sector, i.e. the cooperative sector, and the self-management sector. Income disparities, per household and per person between and within these two sub-sectors could be examined in four main agricultural regions, following the type of agriculture by region - as shown in table 3.18. Income levels, whether per household or per person in the "Agrarian Revolution" sector are lower than those of the self-managed sector in each agricultural region. It seems, however, that income disparity between the two sub-sectors within the same region reaches a ratio of 1 to 2.6, as in mixed farming;[28] (see table 3.18). This type of income disparity between the two sub-sectors within the same region is the outcome of the lack of a global policy concerning the public agricultural sector. Income disparities within each sub-sector among the four agricultural regions are revealed in table 3.18. Further indication of within income disparities in the

public agricultural sector is given for the agrarian revolution sector, as there existed some information.

Table 3.18: Income distribution in public agriculture by region in 1977.

Type of sector	income in AD	cereal region	mixed farming	intensive culture	steppe region	average
1-A.Revolution	per household	5,040	4,160	6,790	5,160	5,380
	per person	716	580	920	686	736
2- S. Managed	per household	7,340	9,930	9,020	_	9,000
	per person	876	1,496	1,546	_	1,372
per head income ratio 2/1		1.2	2.6	1.7	_	1.9

Source: *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979*. I.N.E.A.P. Algiers 1981.

According to the agrarian revolution ordinance, the minimum yearly income in 1977 was AD5,000, but the bulk of the beneficiaries (about 62 per cent) had an income below that level; whereas 9.6 per cent of the beneficiaries received more than twice such a minimum income level, with a share of 19.7 per cent of total beneficiary incomes; (see table 3.19).

Table 3.19: Distribution of household income in the Agrarian Revolution sector, in 1977.

Income brackets in AD	population in %	income in %
1000 - 2000	0.7	0.2
2000 - 3000	30.0	19.8
3000 - 4000	11.4	10.2
4000 - 5000	18.5	8.8
5000 - 6000	12.9	17.4
6000 - 7000	4.2	5.6
7000 - 8000	3.7	5.2
8000 - 9000	4.2	4.6
9000 - 10000	4.8	8.5
10,000 and over	9.6	19.7
	100.0	100.0

with an average income of AD5,380.

Source: *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979,* I.N.E.A.P. Février 1981.

3.4.1.2- Income Disparities in the Private Agricultural sector.

Despite the low-income in the traditional sector, inequalities in income distribution prevailed. Such inequalities could be revealed and explained to some extent by the inequality in land ownership. Excluding the half million landless peasants, the degree of inequality of land ownership, as reflected by a Gini coefficient, was 0.61 in 1964/65, (table 3.20); (it would had been 0.75 if the landless peasants were included).

Table 3.20: Private land distribution in 1964/65.

Range of Farm size	average farm	Landowners in Numbers	Landowners in %	Land Area in Numbers	Land Area in %
less than 1 ha	0.44	134,780	22.9	59,180	1.0
1 ha 5 ha	4.37	174,215	29.7	456,080	7.8
5 ha 10 ha	7.03	114,275	19.5	802,865	13.8
10 ha 50 ha	20.18	147,043	25.1	2,967,545	50.8
50 ha 100 ha	64.52	11,865	2.0	765,585	13.1
over 100 ha	169.05	4,655	0.8	786,905	13.5
Total/ or average	9.95	586,843	100.0	5,838,160	100.0

Source: Constructed from *Statistique Agricole*, Nº 5, Juin 1968; and from l'*Algérie en Quelques Chiffres* 1972. S.E.P. p. 3.

There was a much greater inequality in the ownership of other means of production such as machinery, animals, fertilizers, irrigation equipment, etc. Mechanical traction, for instance, was used only on 26 per cent of private land, that of large private farms of more than 50 hectares. Commercial agricultural production may itself be considered as an indicator of inequality in income. In 1968, 25% of private farm units could be classified as commercial; i.e. selling more than 70% of their output on the market. Another 31% of private farms were selling between 30 and 70% of their output; and the rest, i.e. 44% were almost in subsistence, selling less than 30% of their output.[29] This shows not only the commercially-oriented character of some private farms, but also their disproportionately large share of total output. This may provide a picture of the unequal revenues resulting from the concentration of land and other means of production.

In 1973, on the eve of the implementation of the Agrarian Revolution regulations on private landholdings, the private land distribution pattern was much more skewed than it was in 1964/65. Land concentration index increased to more than 0.62 in 1973. In fact, such a deterioration in land distribution is also revealed by the trend in the average farm size and in the corresponding number of landowners. The number of small landowners of farm size of less than 10 hectares increased in absolute and in relative terms; it increased by about 37% during 1965 - 73 period. Consequently their average farm size decreased from 3.1 to 2.8 hectares during the same period. While the number of farms of size 50 - 100 hectares and the number of over 100 hectares decreased by 16 per cent and 26% respectively, their corresponding average farm size increased slightly for farm size of 50 - 100 hectares, and significantly for farms over 100 hectares, i.e. increasing from 169 to 183 hectares in the latter; (see tables 3.20 and 3.21). One would also expect that the number of landless peasants and inequality in the distribution of other means of production increased as well.

Table 3.21: Private land distribution in 1973.

Range of Farm size	average farm	Landowners in Numbers	Landowners in %	Land Area in Numbers	Land Area in %
less than 10 ha	2.8	578,888	79.2	1,640,870	29.6
10 ha 50 ha	18.9	138,528	18.9	2,619,503	47.3
50 ha 100 ha	65.4	10,007	1.4	654,794	11.8
over 100 ha	182.9	3,439	0.5	628,978	11.3
Total/ or average	7.6	730,862	100.0	5,544,145	100.0
Gini coefficient	0.62*				

*) Calculated by the author.
Source: *Tableaux de l'Economie Algérienne 1975.*

However, as the source of household income in the private agricultural sector was diversified, it is interesting to examine the household income in this sector, not only from farm land, but from non-agricultural activities as well. This would gauge the changes in the trends of the distribution of total income within the private agricultural sector.[29] Examining the household income from operational land (farm income) in this sector, it seems that 57 per cent of households (the lower strata) got about 11% of total farm income, while the top decile got about 55 per cent. This created high inequality in the distribution of farm income, as reflected by a Gini coefficient of 0.63; (table 3.22).

Table 3.22: Distribution of household income (in AD) by source in 1977.

average farm (ha)	households in %	farm income	% farm income	wages & incidentals	Total income of households	share of wages	overall income(%)
2.1	57	1884	11.1	8289	10173	82.0	34.2
5.5	18	6728	12.5	7116	13844	51.4	14.7
10.0	11	12415	14.2	6144	18559	33.0	12.1
13.6	04	18285	07.6	5572	23857	23.0	05.6
35.3	10	52685	54.6	3854	56539	09.0	33.4
Total/average	100	09650	100.0	7290	16940	43.0	100.0

Gini coefficient of household income from farm land 0.63*

Gini coefficient of total household income 0.32*

*) Calculated by the author.

Source: Constructed from: *Disparités des Revenus et pouvoir d'Achat en Algérie. 1968 - 1979.* I.N.E.A.P. Février 1981.

A significant part of private farm household income was supplemented, as noted earlier, by a quite large proportion of income from non-farm activities, mainly from wages and salaries. The proportion of farm income in total private farm household income decreased on average from 64 per cent in 1968 to 57 per cent in 1977, while the share of wages increased from 7 per cent to 43 per cent during the same period. (See table 3.23).

Table 3.23: Structure of income in the private agricultural sector, 1977 in percentages.

Source of income	1968	1977
Income from agricultural farming	64	57
Income from wages	7	43
Public transfers	5	—
Private transfers	11	—
Others	13	—
Total	100	100

Source: Compiled from: *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968 - 1979.* I.N.E.A.P. Février 1981.

However, the importance of the share of wage income to households depends upon farm size. For the tiny landholders - those with an average farm size of 2 hectares, and who formed 57 per cent of private cultivators - wage income represented 82 per cent of their total earnings. For the large landowners - the top decile (those with an average farm size of 35 hectares)- wage income accounted only 9 per cent of their total income; (see table 3.22). In other words, the lower the average farm size, and the resultant

lower farm income, the bigger the proportion of additional income from other sources, mainly from wages. In fact, such a situation has been the case in many developing countries, as the tiny farm landowners are forced to supplement their meagre income in order to subsist.

Moreover, it shows that wage employment was very important, mainly for the marginal farmers, i.e. families with an average holding of 2 hectares. The income from farming (AD1,884) in this case was far below what was sufficient to provide a subsistence income of about AD4,500 for an average household of 6.9 members.[30] These peasant households could subsist only by supplementing their farm income by other sources, mainly by selling their labour power.

In this respect, it can be said that this supplementary income, mainly from wages, compensated for the adverse effect of inequalities of income generated from farming, making the overall income distribution among households of the private agricultural sector more equally distributed. This is confirmed by the lower value of the Gini coefficient of 0.32, see table 3.22. Such a situation, one would presume, will continue as long as employment is maintained mainly for the tiny and small farm size[31] households. Meanwhile, it has to be noted that with a rapidly growing population, marginal farmers would be forced off the land, and have to compete with landless labourers for employment opportunities elsewhere. Thus, when employment opportunities are very limited, it is the 'semi-proletariat' peasants -

the tiny landholders - who are going to be much more affected. This would generate an increase in income inequality because it is only at the bottom of the scale, as far as peasants are concerned, that wage income assumes a dominant influence on income levels. Accordingly, in the absence of appropriate policies to maintain and increase job opportunities income inequalities would increase among the rural populations.

A further indication of an increase in income inequality among the agricultural populations is seen in the distribution of income among the private landowners and seasonal agricultural workers, as Gini coefficient increased from 0.50 in 1968 to 0.54 in 1979. Such an increase in income inequality can also be portrayed by the trend in the income shares of the bottom and upper decile of this population. While the income share of the lowest decile decreased from one per cent in 1968 to 0.6 per cent in 1979, the income share of the top decile increased from 42.5 per cent to 46 per cent during the same period. The income disparity ratio between the bottom decile and the upper decile increased from 1:43 to 1:77. (See table 3.24).

Table 3.24: Distribution of Income among private land owners and seasonal agricultural workers.

population in %	Income share in %	
	1968	1979
10	1.0	0.6
20	5.0	2.8
20	8.5	8.5
40	43.0	42.1
10	42.5	46.0
100	100.0	100.0
Gini coefficient	0.50	0.54

Source: Constructed from: *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968-1979.* I.N.E.A.P. february 1981. p. 90.

Meanwhile, the question that may arise is how income inequality increased in the rural sector, which provided living for more than 58 per cent of the population, while it decreased significantly at the national level during the same period. The explanation for such a dichotomy will be given through the decomposability analysis of income inequality which permits us to determine the components of the overall income inequality; i.e. the intra-sectoral and inter-sectoral effects. Accordingly, such a decomposability analysis would enable us to identify the component effects which contributed to the apparent decrease in the overall income inequality between 1967/68 and 1979/80.

3.5- DECOMPOSITION OF THE OVERALL INCOME INEQUALITY.

According to economic literature, overall inequality in the

size, distribution of income or consumption expenditure, depends on disparities within (intra) sectors or groups, and between (inter) sectors or groups. Not all income inequality measures can be decomposable. So far, it is only the variance of logs, the Theil index, and the coefficient of variation which fulfill the properties of decomposability in income inequalities.[33] Wouter Van Ginneken decomposed the Theil index in a two sector model for a number of developing countries. While Subramanian Swamy[34] decomposed the coefficient of variation in the two sectors - rural and urban, the decomposition was extended to (n) sectors by Ranis, Fei and Kuo.[35] However, using a two sector model, agricultural and non-agricultural,[36] the square of the coefficient of variation can be decomposed as follows:[37]

$$3.1\quad C_n^2 = W_a(\mu_a/\mu_n)^2 C_a^2 + W_u(\mu_u/\mu_n)^2 C_u^2 + W_a[(\mu_a-\mu_n)/\mu_n]^2 + W_u[(\mu_u-\mu_n)/\mu_n]^2$$

where: W_a and W_u are respectively the proportion of recipient units in agricultural and non-agricultural sectors; where $W_a + W_u = 1$.

C_n, C_a and C_u are respectively coefficients of variation in the national economy, in agriculture, and in non-agricultural sector. μ_a, μ_u and μ_n are respectively the mean income in agriculture, non-agriculture, and overall economy.

$$3.1.1\quad [(\mu_a-\mu_n)/\mu_n]^2 = [1-(\mu_a/\mu_n)]^2 = (1-\sigma_a)^2;\ \text{where}\ \mu_a/\mu_n = \sigma_a$$

$$3.1.1\quad [(\mu_u-\mu_n)/\mu_n]^2 = [1-(\mu_u/\mu_n)]^2 = (1-\sigma_u)^2;\ \text{where}\ \mu_u/\mu_n = \sigma_u$$

Then substituting these definitions in equation 3.1 gives:

$$3.2: \quad C_n^2 = W_a \sigma_a^2 C_a^2 + W_u \sigma_u^2 C_u^2 + W_a(1- \sigma_a)^2 + W_u(1- \sigma_u)^2$$

The first two terms on the right hand side of the above equation are called within sector components of inequality or intra-sector effects. The second two terms constitute the between sector component of inequality or inter-sectoral effects. They constitute the variance of all income recipients, both in agriculture and non-agriculture, when each recipient receives the mean income of the sector (agriculture or non-agriculture). In a word, each of the agricultural and non-agricultural incomes is assumed to be redistributed in such a way that every individual (within the sector) receives the average income of the sector.[38] In fact, the inter-sectoral effects are composed of recipient weight effects (or population effects), i.e. W_a and W_u; and of income disparity effects, i.e. $(1-\sigma_a)^2$ and $(1- \sigma_u)^2$.[39] In other words, the inter-sectoral effects are caused by changes in the proportion of the recipient units in the i-th sector, and by changes in the sectoral mean income; whereas, the intra-sectoral effects are caused by changes in the inequality of income within each sector.[40] It follows that the changes in the overall inequality depend on the sum of these effects (inter- and intra-sectoral effects), and cannot be explained by any single one. Moreover, the overall inequality would generally be larger than each of the intra-sectoral inequalities because it comprises intra-sector and inter-sector inequalities. However, such a decomposition of inequality by economic sectors (agriculture vs non-agriculture) would permit to understand the structure of

inequality and inequality changes over time. As a consequence, it would permit to identify the sector which contributed most to the reduction (or increase) in the overall income inequality.

The decomposition analysis of income inequalities shows that there was a decrease in both "within" and "between" income inequalities. While the within inequalities decreased from a squared index coefficient of variation of 0.331 in 1967/68 to 0.308 in 1979/80, the between inequalities decreased from 0.159 in 1967/68 to 0.125 in 1979/80. As a consequence, the overall squared coefficient of variation decreased from 0.490 to 0.433 during the same period. In a word, the overall coefficient of variation decreased from 0.701 to 0.658; (see table 3.25).

Table 3.25: Decomposition analysis of inequality by sector.

	1967/68	1979/80
Sector's coefficient:		
Agricultural coefficient = C_a	0.344	0.459
Non-agricultural coefficient = C_u	0.600	0.544
Sector's population weights:		
Agricultural = W_a	0.680	0.581
Non-agricultural = W_u	0.320	0.419
Sector's income disparity:		
$\mu_a/\mu_n = \sigma_a$	0.726	0.700
$\mu_u/\mu_n = \sigma_u$	1.583	1.416
Non-agricultural/Agricultural = μ_u/μ_a	2.18	2.02
Sector's coefficient weights:		
$W_a(\mu_a/\mu_n)^2 = W_a \sigma_u^2$	0.075	0.090
$W_u(\mu_u/\mu_n)^2 = W_u \sigma_u^2$	0.340	0.173
$[1-(\mu_a/\mu_n)]^2 = (1 - \sigma_a)^2$	0.358	0.285
$[1-(\mu_u/\mu_n)]^2 = (1 - \sigma_u)^2$	0.8020	0.840
Inequality components:		
within inequalities	0.331	0.308
between inequalities	0.159	0.125
overall squared coefficient of variation.	0.491	0.433
overall coefficient of variation (C_n)	0.701	0.658

Source: calculated from tables 3.15 and 3.16 above.

In this respect, the question which ought to be asked is how much of the overall decrease in income inequality was attributed to a decrease in inequality within sectors, and how much was attributed to a decrease in inequality between sectors (agriculture and non-agriculture). A partial differentiation of the transformed decomposability equation (3.2)[41] shows that the apparent improvement in the overall income distribution was almost brought about by the within

component sectors which contributed up to 82 per cent of the overall decrease in income inequalities between 1967/68 and 1979/80. Therefore the decrease in total income inequality attributable to the between (inter) sectors components was only 18 per cent; (see table 3.26).

Table 3.26: Determinants of the changes in the overall income inequality.

Sector's Component	intra-sectors effects	Inter-sectors effects	
		population effect	income disparity effect
Agricultural	+ 0.0232	+ 0.0504	-0.0128
Non-agricultural	- 0.0395	- 0.0184	-0.0227
Total	- 0.0163	+0.0320	-0.0355

- 0.0198	=	(-0.0163)	+	(-0.0035)
in 100%	=	82.3	+	17.7

Source : Calculated from table 3.25 above.

It has to be noted that the negative values in the table 3.26 represent the effects which contributed to the decrease in the overall income inequality, whereas the positive values (the adverse effects) represent the effects which contributed to the increase in income inequality. This being the case, it can be inferred that most of the inequality in the Algerian society was due to substantial intra sectoral inequalities both within the agriculture and the non-agricultural sectors.

The above results, meanwhile, are not different from other studies carried out for various developing countries. They

indicate without exception that variations within sectors or regions are far more important in accounting for inequality than variations between sectors. Within inequalities account for 80 to 90 per cent of overall inequality,[42] indicating that the role or the effect of inter-sectors (between agriculture/non-agriculture or rural/urban) income inequalities are not decisive.[43]

The decrease, however, in the intersectoral inequalities in Algeria was due to a decrease in agriculture/non-agricultural income disparity effects which over-compensated for the population effects. Average per capita income in the agricultural sector increased in real terms during 1967/68 - 1979/80 period by a higher rate (3% per annum) than the one in the urban populations (2.3% per annum);[44] (see tables 3.15 and 3.16). Such a decrease was mainly due to the closing gap between the statutory minimum wage rate in the agricultural sector (S.M.A.G.) and in the non-agricultural sector (S.M.I.G.). While the former increased in real terms by 4.6 per cent per annum between 1967/68 and January 1980,[45] the latter increased only by 2.3 per cent per annum during the same period,[46] (see table 3.27).

Table 3.27: Minimum daily wages in current & in constant AD. 1967 - 1980.

Period	daily wages current AD		daily wages constant AD		price indices (c)	
	S.M.I.G	S.M.A.G	S.M.I.G	S.M.A.G	Urban	Rural
1967/1968	10.88-9.04	7.54	10.88-9.04	7.54	100.0	100.0
June 1972	13.84	9.80	10.75	7.54	128.7	130.0
Jan 1974	16.64	12.25	11.89	8.68	139.9	141.1
Jan 1976	19.20	15.30	11.44	9.16	167.8	167.1
Oct 1977	25.28	20.00	12.96	10.22	195.1	195.8
May 1978	29.52	24.00	13.13	10.56	224.9	227.3
Nov 1978	33.66	28.00	14.97	12.32	224.9	227.3
Jan 1980	33.68	33.00	12.82	12.55	262.8	263.0
Annual growth rate	10.69	13.0	2.3	4.6	8.4	8.4

Source: Constructed from: *L'Algérie en Quelques Chiffres 1982.* M.P.A.T. p. 19; and *Indice du Cout de la Vie en Algérie 1966 - 76.*

However, it has to be noted that with economic growth and population migration, the weight of the rural sector declines in favour of the urban sector. This process, known as the migration factor, and denoted by the population effects in table 3.26, had an adverse effect on the overall income distribution; i.e. creating greater inequality, which is consistent with Kuznets' findings. Meanwhile, when it comes to its effects on sectoral income inequalities, it had dual effects. It had positive effects (a decrease) in income inequality in the non-agricultural sector, and adverse effects (an increase) in income inequality in the agricultural sector.[47] In fact, such dual effects are clearly seen in table 3.26.

3.6- Summary.

The decrease in the overall inequality between 1967/68 and 1979/80 was attributed mainly to within components. The within components (intra-sectoral effects) are in their turn mainly brought about by the non-agricultural sector. The consequences of changes in the non-agricultural sector over-compensated for the adverse effect of the increase in income inequality in the agricultural sector. Accordingly, the decrease of income inequality in the non-agricultural sector has been the main determinant of the apparent decrease in the overall income inequalities.[48] Such a decrease has been due to:

a) The increasing share of the labour income - the main source and more equally distributed component of household income during the same period.

b) The income of the lower income groups did increase, in general faster than that of the upper income groups.

All these did over-compensate for the adverse effects observed in the agricultural sector, and of the population effects (the migration factor). Such adverse effects of the agricultural sector can be said to be due to:

a) The increase in income disparities between different socio-economic groups. The income of the upper income groups in this sector increased faster than that of the lower income groups.

b) The prevalence of unequal distribution of landownership, which still characterises rural Algeria, resulted in a highly unequal distribution of farm income among private landowners, and between the latter and the agricultural workers.

The population effects, known in the literature by the migration factor, did generate adverse effects on the overall distribution of income, which is consistent with Kuznets'findings in its cross-country analysis, but such adverse effects were overcome by the decrease in the income disparity effects - the other component of the intra-sectoral effects.

Notes to chapter 3.

1. Such a decomposition is very interesting because it provides both within group and between group income inequality. Unfortunately due to lack of data, decomposition has been attempted only for within and between rural and urban areas.

2. On the basis of Friedman's permanent income theory, consumption is usually made a function of permanent (not current) real income.

3. I.N.E.A.P. was ex-l'Association Algérienne pour la Recherche Démografique, Economic & Social, (A.A.R.D.E.S.) - prior to changing its title in the late 1970s to I.N.E.A.P., which itself has changed again in 1984 to CE.N.E.A.P. Centre National des Etudes et d'Analyses pour la Planification.

4. The 15% rate of under-estimation for the wage income earners provides a rate of saving of 5-7%, which was said to be the most likely situation. As far as non-wage earners are concerned, matters were less clear; it seems that the 30% under-reporting of income was not consistent with what the I.N.E.A.P advanced. On the one hand, it advanced that under-estimation of income of the non-wage earner group may vary between 20 and 80%; on the other hand, it pointed out that this situation concerns only large and very large business, trade and industry. It seems to me that as it differentiates between the large and the very large of the non-wage earners on the one hand and the rest, i.e. the medium and the small ones on the other, it could accordingly have adopted two different rates, rather than just one

single rate for this socio-economic group (the non-salaried group).

5. See *Disparitiés des Revenus et Pouvoir d'Achat en Algérie. 1968 - 1979.* I.N.E.A.P. p. 9.

6. Moreover, favourable terms of access to credit. The private sector, in general, borrows money at a rate of 6 per cent per annum, whereas the rate of inflation (the official one) was 12 per cent.

7. The farmer usually under-estimates his produce in order to avoid himself being a reference as a higher producer.

8. See *Disparités des Revenus et Pouvoir d'Achat en Algérie 1968- 1979.* op cit. p. 10.

9. The primary income distribution is the distribution of gross earnings and property income. The secondary income distribution is the primary income distribution corrected for taxes and transfer payments. The 'tertiary income distribution' is the 'secondary income distribution' corrected for income in kind from the state (for example subsidised housing and free medical care, holidays...etc). See Michael Ellman in: *Collectivasation, Convergence and Capitalism; Political Economy in a divided world.* Academic Press - London 1974. p. 110.

10. See *Dépence de Consommation des Ménages Algériens. Premiers Resultats et Analyse Globale,* issue de l'Enquête menée auprés des Ménages Mars 1979 - Mars 1980. M.P.A.T., Office National des Statistiques. Juillet 1983. p.

11. Probably arbitrary assumptions were used.

12. See *Dépence de Consommation des Ménages Algériens. Mars 1979 - Mars 1980.* op cit. p. 14.

13. Errors arising in the process of interviewing, response… etc, which are usually not significant.

14. Using $\chi^2 = \sum (O - E)^2/E$ where (O) represents the observed data from the sampling distribution (table 3.1), and (E) represents the expected data from the sampling distribution (table 3.5).

15. Ibid. p. 13. Furthermore, no estimates of standard errors were presented.

16. Ibid. p. 14.

17. In a word, when the sample is not fully representative, any estimates or generalisation based upon it should be handled with great caution. These estimates may be very inaccurate and cast doubt upon the validity of the conclusion as a whole.

18. The average economic growth rate was about 6,3% during 1970-73, 5.5% during 1974-77, and 10% during 1978 - 1979/80.

19. Inequalities in the distribution of income are expected to be higher than this level. In other words, inequalities in the distribution of income are usually higher than the inequalities in the consumption expenditure because inequalities in the distribution of savings are much higher than the inequalities in consumption expenditure. See for instance, Subramanian Swamy, in: "Structural Changes and the distribution of income by size, the case of India." *Review of Income and Wealth*. Nº 13 - 1967.

20. For instance, Van Ginneken's study of Mexico concluded that the trend in income inequality "does not follow the pattern which is predicted by the Kuznets hypothesis".

See Van Ginneken: *Socio-Economic Groups and Income Distribution in Mexico*. Croom Helm, 1980. p. 146.

21. See M.P.A.T. Rapport Général du Deuxième Plan Quiquennal (1985-89). January 1985. p. 27.

22. See for instance, Subramanian Swamy, in: *Economic Growth and Income Distribution in a developing nation*. Unpublished Ph. D. Harvard University. Jan 1965.

23. Their share in total population, meanwhile, decreased from 15.8% in 1968 to 13.6% in 1979. (See table 3.16).

24. Its decline can be partly attributed to the development of small scale industries and also could be attributed in part, to the movement of some craftsmen to the wage earning sector.

25. Of course, this suggest that the rate of growth of employment has not been fast enough to absorb all the pool of surplus labour.

26. It is only in January 1980 that the minimum wage rate in agriculture was aligned with that of non-agricultural activities. See Decree Nº 79 - 302 of Dec 31st; or see *Annuaire Statistique de l'Algérie 1981*. p. 347.

27. It was, in fact, this inequality that made having a job in the socialist sector a privilege.

28. This kind of serious inequality of income within the same agricultural region was a source of divisiveness and grievance among the workers of the public agricultural sector. See Keith Sutton, in Algeria's Socialist Villages - A Reassessment. op cit. p. 21.

29. See Pfeifer Ann Karen: *Agrarian Reform and the Development of Capitalist Agriculture in Algeria*. Ph.D. Thesis, 1981. The American University. U.S.A. p. 61.

30. Regional Analysis for the private Agricultural Sector cannot be carried out owing to the lack of information.

31. Calculated on the basis of the poverty line in 1977, see the poverty line in rural areas chapter 4.

32. Tiny and small farm size households are respectively those having on average a farm size of 2 hectares and of about 5.5 hectares, and whose wage employment accounts respectively 82% and 51% of their total income. See table 3.22 above. It may be noted that the bulk of income of the tiny land cultivators is subject to a considerable instability and insecurity, as it is derived from wages which may be brought through seasonal and part time work, whereas the bulk of income for the upper group is derived from a more secure source of income, (from land).

33. See S.M. Ravi Kanbur: "The Measurement and Decomposability of Inequality and Poverty.", in *Mathematical Methods in Economics*, (ed): F. van der Ploeg. John Wiley and Sons, New York, 1984. pp. 419 - 420.

34. See Wouter Van Ginneken: *Rural and Urban Income Inequalities in Indonesia, Mexico, Pakistan, Tanzania and Tunisia*. W.E.P. Study, I.L.O. Geneva 1976.

35. See Ranis, Fei and Kuo: *Growth with Equity: The Taiwan Case*. op cit.

36. As a proxy for rural and urban areas.

37. See S.M. Ravi Kanbur: The Measurement and Decomposability... op cit. p. 420; and for further elaboration on the decomposition equation, see for instance, Ranis, Fei and Kuo: *Growth with Equity...* op cit.

38. While in reality, there exist large differences within

each group or sector.

39. When the differences between $\mu_{i\text{-}th}$ and μ_n in: $[(\mu_{a,u}-\mu_n)/\mu_n]^2 = (1-\sigma_{a,u})^2$ in absolute value increases, *ceteris paribus*, inter-sector's inequality will widen, mainly through the higher weight of the sector whose income (consumer expenditure) is the highest. Hence, when the difference is null, i.e., $\mu_{a,\,u} = \mu_n$, inter-sector's inequality will be null.

40. One has to notice that the weights of C_a^2 and C_u^2 do not sum to one; and in fact, the weight of C_u^2 (of the non agriculture) is greater than the one of the agriculture, owing to the fact that (μ_u/μ_n) is greater than unity, whereas (μ_a/μ_n) is less than unity; as the mean income (consumer expenditure) in non-agricultural sector is higher than in the agricultural one.

41. See the partial differentiation of equation 3.2 in appendix 3. pp. 266 - 271.

42. See G.S. Fields, in: *Poverty, Inequality and Development*. Cambridge University Press. Cambridge. London. New York, 1980. pp. 114 - 121.

43. For instance, in Puerto Rico, it was found that the inter-sectoral inequalities were not at all significant contributors to total inequality, see "Within and Between Set Income inequalities in a Developing Country." F.M. Andic and A.J. Mann, in: *International Journal of Social Economics*, vol 5 Nº 1 - 1978; and also in Taiwan, it was found that the intrasectoral effects were the most decisive element in the decrease in the overall income inequalities, despite the adverse effect of the inter-sectoral effects; the magnitude of these adverse effects (of inter-sectoral), expressed as a per-

centage of the absolute value of the total change was 18.1%. See Ranis, Fei and Kuo, *Growth with Equity…* op cit.

44. This does not by any means indicate that all socio-economic groups witnessed a real rate of increase; for instance about 36 percent of rural population - the lower income groups had their per capita income decreased in real terms, see table 3.4.

45. In fact, the subsequent rise in the S.M.A.G. is due to the decision of its alignment with the S.M.I.G. in January 1980; since then, there has been a uniform national wage rate called S.N.M.G.

46. In fact, the SMIG was under wage freeze during November 1978 - December 1980 period, see table 3.27.

47. This happened mainly as people moved from rural areas where income inequality increased to urban areas where income inequality decreased.

48. Inter-sectoral effects are mainly brought about by the income disparity effects, which offset the negative population weight effects, see table 3.26.

Chapter IV

Income Distribution, Consumption pattern and absolute Poverty.

We have seen in the previous chapter that an important proportion of population falls in the lowest income bracket. Clearly, one has to find out whether these people have enough to live on or not. As a matter of fact, relative income inequality by itself does not say much about the incidence of poverty. The latter depends on the level of income - a level below which subsistence needs of a person cannot be procured. Yet the role of relative income cannot be easily ignored. With a highly skewed income distribution where the major proportion of income is appropriated by a small section of the community, it is almost inevitable that large sections of the community may not have enough for their minimum subsistence. Similarly, a more egalitarian society is more likely to have a lower incidence of absolute poverty, except of course if the society is so poor that an egalitarian distribution of income may leave every one below subsistence. It may also be emphasised that the 'absolute' and 'relative' incomes may not necessarily move in the same direction. Relative inequality can be substantially reduced with a redistribution of income among the middle and upper income groups while leaving the poor unaffected. On the other hand, absolute poverty can be drastically reduced by

state subsidised welfare measures with small or no impact on richer sections of the population.

Absolute poverty is concerned with finding out whether or not all the social strata of the population are securing at least a minimum income to obtain a certain minimum level of living. This minimum level of income then becomes the cut-off point, known as the 'poverty line' income. Anyone not having this minimum income is considered to be suffering from absolute poverty. In countries committed to elimination or reduction of poverty, the estimates of the incidence of poverty has become very important. A quantitative estimate of the incidence of poverty and the characteristics of the poor enables the planners and the policy-makers to formulate and implement appropriate policies and monitor their progress over times. It must, however, be stressed that measurement of poverty is not as easy as it is often assumed Some of the problems confronted in this connection are discussed below.

4.1- The Notion of Poverty.

Rowntree[1] one of the leading pioneers in the field, in attempting to establish an absolute poverty line, defined 'primary poverty' as "earnings,… insufficient to obtain the minimum necessities for the maintenance of merely physical efficiency"; while 'secondary poverty' was the case when people had a more than adequate income but did not spend it on satisfying their basic biological necessities'.[2] This definition, as we can see, is clearly based on nutritional

standards which themselves raise many conceptual and data problems.

Individuals vary in their nutritional needs both on a day to day basis and over longer periods of time. Furthermore, there is an adaptation of biological needs to food availability. In other words, if the intake is either above or below the requirement, a change in body energy stores is to be expected unless energy expenditure is correspondingly altered. This means that energy store will increase when the intake exceeds requirement, and decrease when it is below requirement. Accordingly when energy intake is less than the requirement the body wastes less; thus using the intake with greater efficiency; and when the intake increases, wastage also increases. This suggests that energy is used with decreased efficiency.[3] This represents one of the characteristics of human metabolism to adapt and survive in apparently difficult conditions. It must be borne in mind that such a survival may be accompanied with some consequences regarding working efficiency, and of physical and mental development particularly for children. On the other hand, nutritional levels can be met by different combinations of available foods. Therefore the estimation of a balanced diet on a national average level invariably ignores the problem of interpersonal difference arising from difference in body-weight or in activity rates. In fact, even for the same person, the nutritional requirement may vary significantly between the peak and the slack seasons because of varying degrees of the intensity of work, and the available

employment particularly in the case of agricultural activities.

Defining a poverty line, in terms of nutritional adequacy alone, may not be sufficient because, at very low levels of income, people tend to subsist on rootcrops or 'inferior' cereals such as maize and millets. Meanwhile, with an increase in income people's food habits change. They now prefer 'superior' grains such as wheat or rice and subsequently meat, fish, and other livestock food. Therefore to estimate the poverty level income, a subjective decision is made to choose foods of the 'inferior' type.

The non-food expenditures which constitute the remaining part of the minimum standard of living also pose a number of conceptual issues, some of which have not yet been satisfactorily resolved,[4] and some of them may even be difficult to quantify. For instance, what is a minimum acceptable standard for housing, sanitation, health, education... etc? Most conventional definitions of 'basic needs' and essential minimum standards indicate that the very poor lack adequate housing, sanitation, nourishment, medical care and others.[5] These forms of deprivation reduce working capacity and lifespan; thus helping to perpetuate poverty and income inequality, and to create a vicious circle.

However, the poverty line is used as a criterion in the distinction between acceptable and unacceptable qualities of life. This led others to argue that poverty is essentially a

relative phenomenon, defined on the basis of what individuals have as compared to a socially acceptable minimum or average. Relative poverty exists if people feel deprived of items they regard as necessary for a proper and acceptable life in their communities. Thus defining a poverty line helps to depict not only absolute poverty at a point in time, but it portrays relative deprivation as well. Therefore it changes as the characteristics of the society concerned change.[6] In this respect, the poor are those who feel deprived of what are enjoyed by ordinary people in the society which they consider themselves to be a part of.

Meanwhile, it is the degree of poverty and its resultant deprivation that other economists have paid attention to. A major contribution, in this respect, is by Sen who advanced the idea of combining 'absolute' and relative factors in establishing a poverty indicator which has come to be known as Sen's Index of Poverty. This index measures the extent of the shortfall of income of the poor from the poverty line, and is sensitive to the pattern of the distribution of income among the poor.[7] In fact, Sen's index, by taking into account inequality among the poor, tries to distinguish between the degree of relative deprivation of various poverty groups from obtaining (in Rowntree's terms) the minimum necessities in the consumption of goods and services. This means that the bigger the shortfall from the poverty line, the greater should be the weight per unit of that shortfall from the poverty measure.[8] In other words, the estimation of absolute deprivation *vis à vis* the

poverty line also involves implicitly some considerations of relative deprivation. In this respect, although poverty has an 'absolute' core, the sense of deprivation among the poor would be more acute in cases where there were big differences in their incomes. Clearly, Sen's measure represents a better index of poverty, but it is more subjective because it is based on the idea of assigning different weights to different groups of the poor. While the Rowntree's type of absolute poverty' has a physiological base and therefore more measurable, Sen's weights are difficult to assess.

Nevertheless, there is no generally accepted definition of poverty. Definitions of poverty are just as value-based as definitions of development or underdevelopment. Being value based means that no one definition of poverty commands universal support. An O.E.C.D. report concluded that "there cannot be any definition of poverty which is free from value judgements."[9] All that can be said is that the definition of poverty reflects social perspectives and targets, and it is at least partly relative, although absolute considerations may influence the recommended levels chosen. At best, what one can hope for is a working definition. Based on this kind of a working definition an attempt is made below to estimate the poverty incidence in Algeria.

4.2- Consumption patterns.

Under any working definition of poverty line one has to start with estimating the minimum cost of a consumption basket which in its turn starts with costing the food

consumption basket. As Engel's law indicates, the proportion of total expenditure allocated to food may be as high as 80 per cent for the lower income groups. Therefore concentration on food expenditure in the estimation of 'poverty line' is perfectly justifiable. Among the food items, cereals in Algeria are the most important items in food intakes, as will be shown below.

A F.A.O. study on nutritional analysis was conducted in 1967 - 68 although not published until 1978. This was based on the national household budget and consumption survey in Algeria.[10] The distribution of household per capita consumption was given for 18 socio-economic groups, each has its own diet with its equivalent in calorie intake. From these diets of the different socio-economic groups, one can notice the difference in daily per caput supply of calories and proteins between the different socio-economic groups; (see table 4.1).

Table 4.1: Per capita consumption expenditure and energy supply* 1967/68.

Socio-economic group	population in %	per capita# expenditure	Calorie intake	Proteins intake
Unemployed	2.3	311	2,116	64.3
Unskilled workers temp. employed	7.1	371	2,330	68.7
Seasonal Agri workers	16.8	373	3,054	93.8
Unskilled employed in petty jobs	0.7	392	2,466	73.1
Independent farmers	20.0	415	3,288	103.6
Retired.	13.0	632	2,958	86.9
Permanent Agricultural workers	6.7	633	2,840	81.7
Craftsmen & crafts workers	4.1	645	2,593	77.0
Unskilled workers Perm. employed	4.7	732	2,589	76.0
Unskilled workers in services	3.8	823	2,287	65.0
Retail traders.	7.2	877	2,371	68.0
Rentiers	0.4	927	2,503	73.3
Qualified workers.	6.3	947	2,516	73.0
Clerks.	3.3	1,191	2,426	65.4
Law & security workers.	1.2	1,360	2,659	74.1
Middle executive	1.7	1,400	2,725	77.6
Employers, wholesale traders	0.3	1,663	2,727	78.3
Top Executive & Lib. Professionals	0.2	3,182	2,584	69.6
Total / Average	100.0	630	2,817	84.2
Nutritional requirement	_	_	2,400	60.0

*) All Algeria excluding Greater Algiers.

#) in Algerian Dinars.

Source: Constructed from *Analyse Nutritionelle*. U.N.P.D./FAO. op cit. (from pp.96, 99 and 129).

The F.A.O. study did not specify the requirement levels for each of the given socio-economic groups. It gave a single overall average nutritional requirement level, i.e. a national average requirement level of 2400k calories applicable to all groups and areas. Therefore one cannot clearly see the shortfalls of each group's diet from its nutritional

requirement. It is inadequate to define the calorie gap as the difference between actual intake and some average requirement of the population as a whole, making no distinction whatever between the different requirements of different people; and thus giving, to some extent, an unrealistic assessment of the extent of calorie shortfall and of undernourishment of the various socio-economic groups. Different socio-economic groups, however, have different energy requirements because of the differences in the nature of the activity (e.g. a hard manual job versus a desk job), bodyweight, age, sex, etc. As a matter of fact, the problem of investigating the number of persons who lack adequate food (in energy equivalent) has been a matter of debate for many years partly because energy requirement is a dynamic concept which varies from day to day, and it is not the same for every one.[11]

In fact, there is a wide inter and intra-individual variation in daily calorie intake as it differs, for instance, from working days (hours) to days off (hours).[12] Therefore information is needed not only about the magnitude of variability between individuals but also about the variability of requirement in the same individuals at different points in time. This variability is of great importance for the practical application of requirement estimates. As a number of studies in industrialised countries suggest, the coefficient of variation of daily energy intake in the same individual is about 25 per cent of the mean.[13] Therefore inferences cannot be made about the situations of indivi-

duals, from the knowledge of intake and requirement at the national average level. In fact, determining the average requirement level for each socio-economic group - for estimating nutrition deficiency (of the incidence of under-nutrition)[14], involves important conceptual and information problems.[15] Moreover, it has now been established that the choice of any figure as a cut-off will involve errors of misclassification. People whose intakes are less than the cut-off point may be wrongly classified as nutritionally deficient, since their individual requirements may be even less than their intakes, thus leading to a risk of over-estimation. On the other hand, others whose intakes are greater than the cut off point will be wrongly classified in the adequate category although their own requirements may be larger than their intakes, thus implying a risk of under-estimation.[16]

Nevertheless, due to the absence of the required availability of information concerning the adequate energy requirement for every socio-economic group, the use of 2400K calories as a cut-off point was retained in this study as a rough estimate of requirement level across the different socio-economic groups in order to have a broad global estimate of the numbers afflicted by calorie deficits.[17] As a broad approximation, the people whose energy intake was apparently below the cut-off point, belong to four socio-economic groups: the unemployed - the unskilled workers temporary employed, the unskilled workers in services, and the retail tradesmen. These socio-economic groups, including

their families, form 20.4 per cent of the Algerian population; (see table 4.1). We have to bear in mind that some people in each socio-economic group may have an intake more than 2400K calories, while some of them may have less, as it is implied in an aggregate average. In this respect, some people in two other socio-economic groups, i.e. the clerks and the unskilled self-employed in petty jobs, had respectively an energy supply of 2426 and 2466 calories;[18] many of them might have had below the requirement level.[19] As mentioned earlier, the requirements vary according to individuals, nature of work, body-weight etc. Therefore a standard requirement of 2,400K calories is not enough to reach a conclusive judgement.

However, it is interesting to note that not all the above four socio-economic groups whose energy supply was below the requirement level belonged to the lower income categories. In fact, it was only the first two groups, i.e. the unemployed and the unskilled workers temporarily employed, that were the poorest of all. The remaining two groups, i.e. the unskilled workers in services and the retail tradesmen belonged somehow to the middle income groups as their consumption expenditures accounted for 2.6 - 2.8 times the one of the inactive socio-economic group, and represented 31 - 39 per cent higher than the national average of consumption expenditures; (see table 4.1). They may fall into what Rowntree[20] may call 'secondary poverty' where people have more than adequate income, but do not spend it on satisfying the minimum physiological needs.[21] Therefore, it cannot be

claimed that people with calorie deficiency are only the lowest income groups, other groups can be as well;[22] and the explanation can be sought in the structure of their consumption pattern. For instance, they consume less cereals which contain high energy and protein intakes.

Meanwhile, the lower income groups tend to consume much more on cereals, owing to its low cost per calorie, which is a rational behaviour, and which is the more likely situation in other developing countries. Studies in India and Tunisia, for instance, found that even among the poorest income groups, some households can satisfy their dietary energy better than others by reconciling food preferences with income through the purchase of cheaper food.[23] In this case, differences are mainly due to the differences in diet intake.[24] However, as consumption patterns differ from one region to another (mainly between urban and rural areas which is the main focus here), it is important to examine such patterns in order to highlight the corresponding urban and rural minimum consumption diets on which the poverty line will be based.

4.2.1- Consumption diet per Region.

The average daily diet per capita in different regions of Algeria, as shown in table 4.2, varies significantly from one region to another. In fact, each region had its own pattern of food intakes. The pattern of food intake in Greater Algiers was characterised on one hand by the lowest cereal

Table 4.2 Average daily diet per Region, Kg/person/year, 1966 - 68.

Product	North Algeria				Southern Algeria	Algeria excluding G. Algiers	All Algeria
	G. Algiers	Urban*	peri-urban	Rural Areas			
cereals	110	160.6	233	252	127.7	217.7	208
potatoes	41	30	19.9	16.8	15.7	20.3	22
Pulses	16.6	8	7.1	6.0	4.9	6.5	7.2
Vegetables	66.1	45.3	30.0	21.6	53.5	30.9	33.6
Sugar	15	14.2	12.8	13.6	15.3	13.9	14.0
Fruits	53.7	29.5	27.5	20.8	56.0	26.6	28.8
Meat, eggs	15.9	12.9	9.6	9.1	12.1	10.2	10.7
Milk	71.6	33.0	25.9	24.9	18.7	34.0	34.0
Fish	3.3	2.9	1.2	0.6	0.2	1.2	1.3
Fat	13.1	11.4	9.5	9.4	9.9	9.9	10.2
Sub- total#	92.9	60.2	46.2	43.0	40.9	55.3	56.2

#) sub-total of Animal and fats.

*) Urban areas excluding Greater Algiers.

Source: Constructed from *Analyse Nutritionelle*. U.N.P.D./ FAO. op. cit.

intake (110kg), and on the other hand by the highest intake for the so-called "superior" foods: meat (72kg), vegetables (66kg), fruits (54kg), milk (72kg), potatoes (41kg), fish (3,3kg), and fats (13kg). The pattern of food intake in the urban region had the same characteristics as the one of Greater Algiers; i.e. with lower cereal intake, and higher intake for the "superior" foods (meat, vegetables, fruits, milk, and fats). The pattern of food intake in Southern Algeria was based on a relatively low cereal intake with the lowest intake concerning potatoes (16kg), milk (5kg), and fish (0.2kg), but with the highest intake for fruits (56kg) mainly of dried fruits (dates), and for sugar (15.3kg). In the rural region, food intake was characterised

on one hand by the highest cereal intake (252kg), and on the other hand by the lowest intake for "superior" foods: meat (9kg, fruits (21kg), and fats (9kg). From the calorie and protein equivalents of these diets, it appears that the rural region, with the highest consumption of cereals coupled with the lowest consumption expenditure, had the highest average calorie and protein intakes. (See table 4.3). This suggests that low income people spend more on

Table 4.3: Structure of energy and nutrients supply by region 1966 - 68.

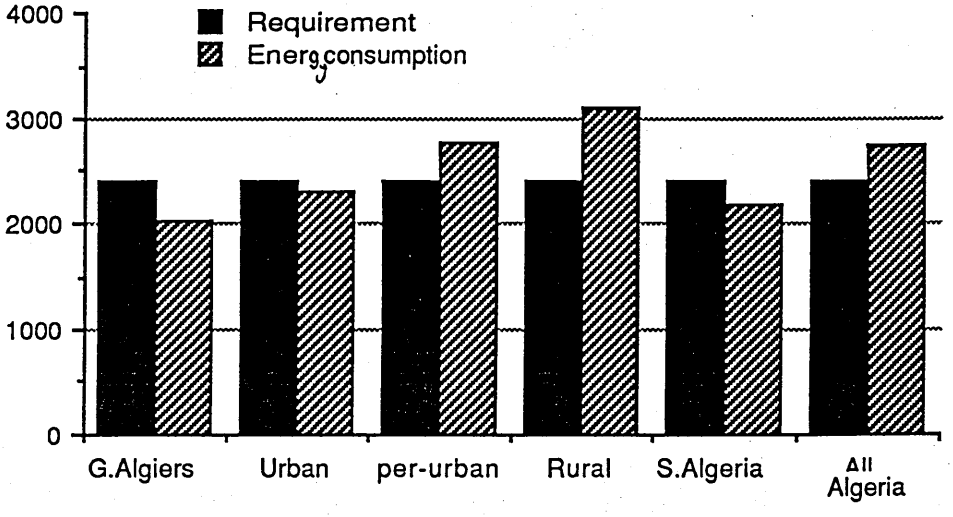
Energy and Nutrients Supply.	North G. Algiers	Algeria Urban* Areas	Algeria peri-urban	Algeria Rural Areas	Southern Algeria	Algeria excluding G. Algiers	All Algeria
Total calories	2,015	2,311	2,782	3,104	2,190	2,817	2,756
Vegetable //	1,767	2,117	2,636	2,943	2,022	2,649	2,581
Vegetable // %	86.6	91.6	94.7	94.8	92.3	94.0	93.6
Cereal calories	1,067	1,570	2106	2,479	1,211	2,131	2,048
Cereal // in %	52.9	67.9	75.6	79.9	55.2	75.6	74.0
Total Proteins	56.2	65.7	84.3	95.7	55.4	84.2	82.1
Animal // (g)	14.8	9.1	6.9	6.4	7.5	7.2	7.8
Animal // (%)	26.6	13.9	8.1	6.7	13.5	8.6	9.2
Vegetable //(g)	41.3	56.6	77.4	89.3	47.9	77.0	74.0
Vegetable //(%)	73.4	86.1	91.9	93.3	86.5	91.4	90.8
Calcium (500)*	n.a	38.3	414	376	400	377	n.a
Lipid (40.6)*	54.5	44.8	41.5	41.8	38.3	42.1	43.1
Iron (12.20)*	n.a	10.4	14.1	13.1	11.6	12.3	n.a
Expenditure#	1,629	920	n.a	503	n.a	630	708.1

*) average requirement; whereas average protein requirement is 60 g.
#) per capita consumption expenditure in AD.
Source: Constructed from: *Analyse Nutritionelle*. op.cit.

cereals in trying to meet their energy requirements than on any other food items. This was so because of the relatively low and stable prices of cereals which have been the main

subsidised food products. Consequently, the rural areas with the lowest average income had the highest calorie intakes,[25] mainly of cereal origin. This suggests that the poor people are going to be found among the socio-economic groups whose diet is based mainly on cereals. In short, figure 4.A captures the "calorie gap" which is based on the differences between the requirement and the intake. It appears that the rural households are clustered above the range of requirement, whereas urban households are below it.

Figure 4 A



As far as animal proteins are concerned, whether in relative or absolute terms, it can be noticed that the higher the average consumer expenditure of the region the higher the animal protein intake. In rural areas, animal protein intakes were the lowest with 6.4 g, representing about 7 per cent of total proteins. In urban areas, animal protein intakes were 9g, contributing 14 per cent to total protein intakes. In Greater Algiers, animal proteins were the highest with about 15g, representing 27 per cent of total

protein intakes. In the Southern region, the proportions of animal proteins were situated between those of the rural areas and those of the urban areas; (table 4.3). Again this is not a conclusive judgement because in the case of self-produced foods, particularly slaughtering of animals and birds at home prevents an accurate estimation.

Certainly the level of income determines to some extent the structure of food intakes. As income increases, the proportion of cereal calories in total calorie intakes decreases, while the proportion of animal calories as well as of animal proteins increases. This was the case whether in urban or in rural areas, but the trend was much steeper in the urban than in the rural areas; see tables 4.4 and 4.5. The food

Table 4.4: Structure of calorie & protein intakes by income level (in AD) in urban areas, 1968.

	0-200	201-400	401-800	801-1800	1801-3000	3000 +	Average
Total calories	2,169	2,161	2,219	2,417	2,678	3,162	2,300
Cereal calories (%)	81	74	70	62	52	41	67
Animal calories (%)	4	5	6	10	14	27	8
Total Proteins (g)	66	63	63	69	75	96	67
Cereal // (%)	89	84	81	71	59	42	67
Animal // (%)	5	7	9	17	25	46	14

Source: Constructed from: *Analyse Nutritionelle*. op.cit.

Table 4.5: Structure of calorie & protein intakes by income level (in AD) in rural areas, 1968.

	0-200	201-400	401-800	801-1800	1801-3000	3000 +	Average
Total calories	2,882	3,040	3,418	3,570	3,828	4,244	3,100
Cereal calories (%)	84	81	75	72	67	67	79
Animal calories (%)	4	4	5	7	7	8	5
Total Proteins (g)	91	95	100	109	124	129	96
Cereal // (%)	90	89	86	81	70	77	88
Animal // (%)	5	5	7	11	14	16	6

Source: Constructed from: Analyse Nutritional. U.N.P.D./FAO. op.cit.

intake of the lowest income groups was based mainly on cereal intakes which constituted more than 80% of total calories, and about 90% of total proteins. Such a diet was poor in terms of non-cereal intakes, particularly in animal products which contributed only 4% to total calorie intakes, and 5% to total protein intakes; (this was whether in urban or in rural areas). On the other hand, the food intake of the upper income groups was based less on cereals (contributing only with 41% in total calorie intakes, and with 42% in total protein intakes), but more on non-cereal products, particularly on animal products which had a share of 27 per cent in total calorie intakes, and 46 per cent in total protein intakes. This was the case in the urban areas. The proportions, meanwhile, were much less in the rural areas, but portraying the same trend as in the urban areas. See tables 4.4 and 4.5. It goes without saying that the food diet of the upper income groups was more varied and balanced, particularly in terms of vitamins and amino-acids;

see tables A4.3 - 7 in Appendix 4. It has also to be noted that a high calorie and protein intake does not exclude the fact that the diet might be unbalanced, in the sense that it lacks some necessary nutrients and vitamins (mainly among the lower income groups); (see tables A4.3, A4.4, A4.5, A4.6 and A4.7 in appendix 4). All these may suggest that there is a higher frequency of nutritional deficiencies (under[26] and malnutrition) within and between the various socio-economic group. In this respect, it has to be borne in mind that a diet with insufficient calories to meet energy needed may lead to a deficiency in proteins because some of the protein intake would be used as a source of energy. As a consequence the diet may be deficient in both energy and protein requirements.

It should be emphasised that calorie intake while ensuring the renewal of a person's energy does not compensate for a certain minimum of protein intake which is necessary as a preventive nutrient without which the body may be vulnerable to diseases and/or other drawbacks. For instance, a dietary intake may be sufficient to cover energy requirements but, on a qualitative basis, may lack, as stated earlier, some necessary nutrients and vitamins (which is the case mainly among the lower income groups). This, I suppose, has to be taken into consideration in the estimation of the minimum consumption diet within a region.

Energy supply and its structure for the same economic group differs considerably from one area to another; tables in appendix 4 reveal the nutritional vulnerability among the 18

socio-economic groups. They show that while the bulk of the socio-economic groups in the rural and in the peri-rural areas had energy supply in excess of the requirement,[27] whereas in the urban areas and in the southern region only a few of the socio-economic groups were above the requirement, all those remaining were below it. It follows that the lower income consumer group in rural areas would not be as poor, in nutritional terms, as the urban ones. This would be the case because the low income (consumer expenditure) groups in urban areas have less access to food produced in the household for direct consumption than is the case for the rural ones. Furthermore, food consumption in urban areas is much more unequally distributed than in rural areas - the respective Gini coefficient[28] was 0.16 and 0.13. Thus, in the absence of regular and adequate income needed to purchase sufficient food, lower income groups in general and those of urban areas in particular are more vulnerable to malnutrition.[29] Such outcomes are partly due to the fact that food prices are usually higher in urban areas than in rural areas, and they increase faster than the ones of non-food products, see below.

The extent of rural dependence on self-produced food can be observed from the A.A.R.D.E.S. and M.A.R.A. studies which indicated that part of the calorie supply is derived from home-produced food. The proportion of self-consumption in 1967/68 represented 25 to 70 per cent for cereals and meat, 25 per cent for potatoes, less than 20 per cent for vegetables, 72 per cent for eggs, 85 per cent for milk, 80 per

cent for butter and 50 per cent for olive oil. In 1976/77, home-produced represented 11 per cent for cereals, 8 per cent for fruits, 4 per cent for vegetables and milk, 14 per cent for olive oil, and nil for other goods.[30] It had decreased substantially, following the substantial decrease in the share of agriculture in GDP, as seen in chapter 2.

4.3- Trend in consumption expenditure 1967/68-1979/80.

Between 1967/78 and 1979/80 there was a change in the food intake in Algeria. The consumption of cereals (the main source of calorie supply) decreased,[31] while the consumption of non-cereal products increased. The structure of the average food consumption is revealing, as shown in table 4.6.

Table 4.6: Evolution of national average consumption (Kg/person/year).

food products	1967/68	1979/80	changes 1967/68 - 79/80 (in kg/person/year).
Cereals	250	200	- 50.0
Dry vegetables	3.4	6.1	+ 2.7
Fresh vegetables	55.6	57.8	+ 2.2
Dry fruits	-	9.1	+ 9.0
Fresh fruits	28.8	44.4	+ 15.6
Olive oil + veg. oil	-	0.35	+ 0.35
Sugar	14.3	23.3	+ 9.0
Fats	10.2	15.1	+ 4.9
Meat	10.2	12.2	+ 2.0
Eggs	0.17	2.0	+ 1.8
Milk	34.0	52.0	+ 18.0
Honey	-	0.12	+ 0.12

Source: Constructed from: Sliman Badrani: "La Dépendence sur les Plans Alimentaire Agricole: Le Cas de l'Algérie", in: *l'Evolution de la Consommation Alimentaire en Afrique: Le Cas de l'Algérie*. I.I.E.S. Geneva 1982. p. 83.

It appears clearly that the diet in Algeria improved quantitatively and qualitatively, particularly among the "superior" foods. Such an improvement was as a result of the real increase in the national average per capita income, as reflected in the increase of the average per capita consumption expenditure of more than 4.6 per cent per annum (in real terms) during 1967/68-1979/80 period. Meanwhile, the highest increase was noticed in the rural areas; (see table 4.7).

Table 4.7: Structure of per capita expenditure in constant prices.

	Urban areas			Rural areas			National		
Product	1967/8 (a)	1979/80 (b)	rate*	1967/8 (a)	1979/80 (b)	rate*	1967/8	1979/80 (b)	rate*
Food.	503.45	705.45	2.86	286.71	532.1	5.29	376.0	610.6	4.1
Non-food	570.06	876.96	3.65	216.29	446.6	6.23	332.1	605.7	5.1
Total	1100.51	1582.92	3.07	503.00	978.7	5.7	708.1	1216.3	4.6

(a) comprises only areas of Northern Algeria which accounts more than 92 per cent of total population.
(b): deflated by the corresponding consumer price index (table 4.10 below).
*) per annum real rate of increase.
Source: constructed from: A.A.R.D.E.S. *Enquête sur la Consommation et les Budgets Familiaux 1967/68;* and *Dépence de la Consommation des Ménages Algériens Premies Résultats et Analyse Globale issue de l'Enquête menée auprés des Ménages. Mars 1979 - Mars 1980.* M.P.A.T. July 1983.

Accordingly, the trends in the structure of household consumption expenditure confirm Engel's law. As average per capita income and consumption increased, the share of food consumption in overall consumption expenditure declined in

all areas. For instance, at the national level, it declined in real terms from 53.1% in 1967/68 to 50.2 per cent in 1979/80; (see table 4.8).

Table 4.8: Evolution of expenditure structure (in real terms).

	Urban		Rural		National	
product	1967/68	1979/80	1967/68	1979/80	1967/68	1979/80
Food	45.8	44.6	57	54.4	53.1	50.2
Services	54.2	55.4	43	45.6	46.9	49.8
Total	100.0	100.0	100	100.0	100.0	100.0

Source: constructed from table 4.7.

In fact, the changes in the Algerian diet pattern (as shown in table 4.6) suggest that the consumption pattern is moving towards the so-called European (or Western) diet which is characterised by the predominance of animal products[32] and less cereals. Such a pattern was overtaking the traditional one which was mainly based on plant products in general, and on cereals in particular, (as shown above). Such changes in food habits were mainly met through imports of foodstuffs,[33] as mentioned in chapter 2.

The above improvement in the average consumption expenditure does not by any means indicates that all socio-economic groups have had their diet ameliorated. As was noted earlier, the consumption pattern of the lowest income groups did not change in any significant way between 1967/1968 and 1976.[34] It was possibly due to the fact that their real per capita income did not increase substantially enough during

the period in question, (see tables 3.17 and 3.18 above pp. 147 - 149). Expenditure on food accounts for about 68 per cent of total expenditure for the bottom decile consumer expenditure groups, compared with 45 per cent for the upper decile consumer expenditure groups. The average for the population as a whole was about 56 per cent; (see table 4.9).

Table 4.9: Distribution of consumption expenditure by brackets in % 1979/80.

Expenditure brackets	Food	Clothes	Housing heating	Furni-ture	Health	Transport & comm.	Education &leisure	others	Total
less > 800	67.7	11.3	3.5	4.1	2.1	2.1	1.7	7.5	100
800 -1000	68.2	9.5	3.6	4.9	4.0	2.0	2.0	5.8	100
1000-1200	67.4	10.3	3.4	5.0	2.7	2.2	2.3	6.7	100
1200-1500	66.3	11.4	3.5	4.0	3.2	2.9	2.1	5.8	100
1500-2000	63.1	10.3	4.2	5.1	3.2	3.8	2.8	7.5	100
2000-2500	60.2	10.0	5.0	6.0	3.3	4.4	2.7	8.4	100
2500-3000	61.0	9.9	5.0	5.5	2.9	3.8	3.3	8.6	100
3000-3500	59.6	9.7	4.9	6.6	3.1	4.8	3.6	7.8	100
3500-4000	59.6	9.3	4.5	6.0	3.4	5.7	3.3	8.2	100
4000-4500	55.5	9.1	5.8	6.9	3.3	7.3	3.1	9.0	100
4500-5000	53.6	9.4	6.1	7.4	3.2	5.9	3.9	9.9	100
5000-5500	53.3	8.1	6.6	6.0	3.2	7.8	4.0	10.2	100
5500-6000	50.5	8.7	7.2	7.4	3.7	9.3	3.6	19.0	100
6000-6500	47.6	9.9	6.0	7.0	3.1	7.3	3.2	15.9	100
6500-7000	45.6	8.1	6.5	7.4	2.8	12.0	4.6	13.0	100
7000-7500	50.3	7.8	5.6	6.0	2.6	9.9	5.4	12.4	100
7500 & over	40.3	6.6	7.0	7.8	2.3	13.2	4.1	18.7	100

Source: *Dépence de Consommation des Ménages Algériens. Premies Résultats et Analyse Globale issue de l'Enquête menée auprès des Ménages. Mars 1979 - Mars 1880.* M.P.A.T. July 1983. Algiers. p. 54.

The increase in food prices was the highest of all consumption items. In 1979/80 the consumption price indices

of food and non-food products were respectively 305.3 per cent and 202.1 per cent in urban areas and 270.1 per cent and 247.6 per cent in rural areas (1967/68 = 100)[34] (see table 4.10). This, in fact, tends to be the general phenomenon which usually accompanies economic growth in developing countries, with manufacturing goods or non-food products becoming relatively cheaper in comparison with food items particularly in urban areas.

Table 4.10: Price indices at average income levels in 1979/80, (1967/68 =100)

Consumption items	Urban		Rural		National		Annual rate of increase		
	weight	prices	weight	prices	weight	prices	urban	rural	national
Food	54.9	305.3	56.5	270.1	55.7	284.8	9.75	8.63	9.10
Non-food	45.1	202.1	43.5	247.6	44.3	228.5	6.04	7.85	7.13
T/average	100	258.7	100	260.3	100	259.8	8.2	8.30	8.3

Source: Weights were constructed from *Dépence de Consommation des Ménages Algériens…* op. cit p. 48. Prices were constructed from: (a) *l'Indice du Coût de la Vie, chez les Divers Groupes Sociaux en Algérie 1966 - 1976* M.P.A.T. October, 1981; (b) *l'Indice des Prix a la Consommation 1977*. M.P.A.T. April, 1979; (c) *L'Algérie en Quelques Chiffres 1979-1980*.

However, from the apparent trends in the consumer price indices of the lower and upper income groups, it can clearly be seen that there is a relatively higher general consumer price index for the lower income groups in comparison with the one for the upper income groups, respectively, 258.5 per cent against 247.2 per cent in urban areas, and 261.8 per cent against 258.3 per cent in rural areas; see tables 4.11

and 4.12.

Table 4.11: Price indices at low income level* 1979/80 (1967/68=100).

Consumption items	Urban Areas Weight@	prices	Rural Areas Weight@	prices	Annual rate Urban	Rural
Food	55.1	305.3	63.3	270.1	9.75	8.63
Non-food	44.9	201.1	36.7	247.6	6.04	7.85
Total/Average	100.0	258.5	100.0	261.8	8.2	8.3

*) at the poverty line.
@) weight is at the poverty line level (see below).
Source: Compiled from table 4.10 above, p. 197.

Table 4.12: Price indices at high income levels 1979/80 (1967/68 = 100).

Consumption items	Urban Areas weight*	prices	Rural Areas weight#	prices	Annual rate Urban	Rural
Food	43.7	305.3	47.5	270.1	9.8	8.6
Non-food	56.3	202.1	52.5	247.6	6.1	7.9
Total/average	100.0	247.2	100.0	258.3	7.7	8.2

*) taken from the consumption pattern of the upper 4.7 per cent of the urban population, from table A4.1 in Appendix 4.
#) taken from the consumption pattern of the upper ordinal 10.3 per cent of the rural population, from table A4.2 in Appendix 4.
Source: Compiled from table 4.10 above, p. 197.

As prices have moved against lower income groups,[35] inequality in the size distribution of income or consumption expenditure is greater than what has been revealed by current price data. In other words, the distribution of income or consumption expenditure among groups is more equal than the distribution of their levels of living, because

general consumer prices are higher at low levels of income or expenditure. Inflation, which has been regressive in its distributional effects, can be taken as one of the factors limiting the narrowing trend in inequality. It would act, *ceteris paribus*, as an inequitable rationing device in depressing further the relative position of the lower income groups with regard to the other ordinal groups.

With the increase in food prices, higher than in non-food products, the lower income groups may find themselves in a position unable to meet their needs, not only of non-food items but also to reduce the consumption of non-crop food products, especially meat, vegetables and fruits - to what are called "superior" foods. The prices of such "superior" foods have recorded the highest increase of all food components. For instance, between 1967/68 and 1976, prices in urban areas rose by 249 per cent for fresh vegetables prices, 221 per cent for meat, 195 per cent for fresh and dried fruits; (the average for all food products in urban areas was about 100%). The same trend was noticed in the rural areas during the same period. Prices for fresh vegetables rose by 274 per cent, 230 per cent for meat, 208 per cent for fresh and dried fruits; (the average increase for all food products in rural areas was about 77%).[36] These price increases would not only have a negative effect on inequality[37] but would also limit or deprive the economically weaker sections, as mentioned earlier, from the access to what it is called "superior" foods. This is what leads the poor trying to satisfy their nutritional requirements

through the consumption of crop foods (of "inferior" foods), those of cheaper cost per calorie.

In fact, what is more important is the situation where the lower income groups lack enough resources to meet a certain minimum level of living, as represented by a poverty line. Accordingly, an attempt is made to examine the extent of the shortfall of income of some groups from an estimated poverty line, and to see whether or not there has been some amelioration of the conditions of the poor during the recent development efforts. This would show the extent to which the poor have (or have not) shared in the fruits of development. It goes without saying, that both for methodological as well as for data limitations, estimates of poverty line, and of people or households below such a line, have to be a broad approximation. This also means that some of the conclusions reached in this context will also remain speculative.

4.4- Profile of Absolute Poverty.

An important way to assess economic development in a country during a certain period of time is to see what has happened to poverty during that period. Such an assessment requires us first to determine who is considered to be poor. However, it was suggested, as noted earlier, that anyone whose income is below a certain "poverty line" level is considered to be suffering from poverty. It was also noted that there were some methodological and definitional difficulties in determining what a "poverty line" should consist of. Owing to this, an accurate estimation of the magnitude of poverty is

difficult to obtain. The limited data and information in Algeria are another constraint for such an estimation. Thus broad estimations are attempted here in this study. Such broad estimations start with determining the cost of a relevant consumption basket (a cut-off diet) based on the F.A.O. recommendations of 2400K calories per person; and to this, is added the costs of non-food items. In this respect, the observed consumption patterns of various socio-economic groups, as presented by the F.A.O. study, constitute the basis upon which the cut-off diet as well as its cost, and the costs of non-food items are determined. This, by no means, suggests that this method has no drawbacks. In fact, determining the cut-off diet from the consumption patterns of the 18 socio-economic groups still raises certain limitations. A cut-off diet which, generates 2400k calories can always be brought about by the consumption of various combination of different food items. As pointed out earlier, some poor people may meet their energy requirements better than others by reconciling food preferences with income through the purchase of cheaper food. This means that some poor people may manage to meet their energy requirements with the consumption of "inferior" foods, those of low cost per calorie. This represents, as emphasised above one of the limitations which make the setting-up of a "poverty line" a difficult matter.

However, from examining the food consumption structure of the 18 socio-economic groups, and in the absence of a vigorous standard, the consumption pattern of the retired

socio-economic group has been taken as the cut-off diet in urban areas, as their calorie intake is 2376K calories, just below the requirement level of 2400K calories. This cut-off diet, represents clearly a poor man's diet with cereals contributing more than 72 per cent of total energy intake, and animal proteins, at only 6.6g, accounting for only 9.6 per cent of total proteins, which is far below the required level of 15g.[38]

As far as the rural population is concerned, the identification of the socio-economic group whose energy consumption can be said to represent the cut-off diet turned out to be more difficult because, as stated in the first section of this chapter, most of the socio-economic groups were able to meet their energy requirements, even at low levels of food consumption expenditures. So how are we to determine the cut-off diet in the rural areas?

The examination, however, of the structure of the diets and the corresponding food expenditures of the different socio-economic groups can highlight the poor diet from the adequate one. It shows, for instance, that while the food consumption expenditure of the clerk socio-economic group (AD434) was far above the average rural food consumption expenditure (AD285), its energy consumption (2469K calories) represented just over the requirement level. On the other hand, the food consumption expenditure of the 'unskilled self-employed in petty jobs' socio-economic group (the unskilled group henceforth) (AD265), despite being less than

the overall average, and representing only 61 per cent of that of the clerk group, had a higher energy consumption than of the clerk socio-economic group. Meanwhile, the diet of the clerk group contains more of qualitative nutrients of animal proteins and vitamins (vit A and vit C) than the one of the unskilled group; see tables A4.6 and A4.7 in Appendix 4. In taking into account these considerations, the diet of the clerk group cannot be taken as the cut-off diet. It is rather the diet of the unskilled group, which can be taken as the plausible cut-off diet for the rural populations. Such a diet can be said to represent a poor man's diet. It portrays the predominance of food consumption expenditure which represented more than 63 per cent of total consumption expenditure,[39] with cereals contributing to 84 per cent of total calorie intakes, and with only 3.8g of animal proteins, (representing just 4 per cent of total protein intakes).[40]

The costs of the cut-off diet can be taken correspondingly from the observed structure of consumption expenditure of the socio-economic group - representing the cut-off diets. These costs, in 1967/68, were AD336.5 in urban areas and AD265.4 in rural areas; (see tables A4.1 and A4.2 in Appendix 4). In taking the costs of non-food expenditures of the socio-economic group that represents the cut-off point, the poverty line income in 1967/68 is estimated at AD610.5 per person in urban areas and AD419.5 in rural areas; (see table 4.13).

Table 4.13: Estimates of poverty line in urban & rural areas, in AD.

goods and service	Urban Areas 1967/68 Income	Urban Areas 1967/68 weight	Urban Areas 1979/80 Income	Urban Areas 1979/80 Weight	Rural Areas 1967/68 Income	Rural Areas 1967/68 Weight	Rural Areas 1979/80 Income	Rural Areas 1979/80 Weight
Food	336.5	55.1	1,028	65.1	265.4	63.3	717.5	65.2
Non-food	274.0	44.9	552	34.9	154.1	36.7	382.5	34.8
Total	610.5	100.0	1,580	100.0	419.5	100.0	1,100.0	100.0

Source: Constructed from (a) *l'Enquête de la Consommation des Ménages 1967/68*, A.A.R.D.E.S.; *Tableaux de l'Economie Algérienne, 1973;* Secrétariat d'Etat au Plan, Direction des Statistiques. pp. 241-46. (b) Consumer price indices from table 4.10 above, p. 197.

With the aim of seeing the effects of economic growth on absolute poverty between at least two points in time, allowance has to be made for the changes in the composition of the reference consumption basket, and in its nominal prices. In fact, the composition of the consumption basket of the poor has remained, as stated above, more or less unchanged over the 1967/68 - 1979/80 period. In 1979/80, consumer price indices were about 259 per cent in urban areas, and about 262 per cent in the rural areas; (1967/68 = 100); see table 4.11 above. Thus, once such price allowances were made, the poverty income level per person in 1979/80 would be estimated at AD1,580 in the urban areas, and at AD1,100 in the rural areas, (see table 4.13).

However, concerning the incidence of absolute poverty in urban and in rural areas, it seems that substantial progress towards the alleviation of absolute poverty did occur between 1967/68 and 1979/80, as its percentage (head count

method) decreased considerably between the two periods from 11.6 per cent to 4 per cent, in the urban areas, and from 31 per cent to 19.5 per cent in the rural areas.

These estimates clearly show that big changes were noticed in urban as well as in rural poverty. During a period of 12 years, poverty decreased by 60 per cent in urban areas, and by 36 per cent in rural areas. As the most significant decline was noticed in urban areas, the proportion of the rural poor in the overall Algerian poor increased from 85 per cent in 1967/68 to more than 87 per cent in 1979/80; the summary in table 4.14 is revealing.

Table 4.14: Structure of population in absolute poverty (1967/68 - 1979/80).

Period	Urban poor in % urban pop	T. poor	Rural Poor in % rural pop	T. poor	Overall Poor in % Algerian populat°
1967/68	11.6	15.0	31.0	85.0	24.8
1979/80	4.0	12.9	19.5	87.1	13.0

Source: Constructed from table 4.15; and from population structure.

Poverty can be said to be a disproportionately rural phenomenon; its incidence in rural areas was almost five times higher than in urban areas. One can plausibly argue that this outcome was the result of the Algerian development strategy which, as stated above, has been urban-biased.

Moreover, the characteristics of the rural poor did not apparently change between 1967/68 and 1979/80, the change was rather in their total numbers in relative and in

absolute terms. The incidence of poverty in rural areas was predominantly confined to: seasonal workers in agricultural and in non-agricultural activities, and to the unemployed people; (see table 4.15).

Table 4.15: Socio-economic groups in poverty 1967/68 - 1979/80.

Socio-economic group	1967/68 per capita	1967/68 population	1979/80 per capita	1979/80 population
Poverty line (Rural Areas)	419.50[a]	31.0	1,100	19.5
-seasonal agr. workers	304.0	(22.2)	896	(12.6)
-seasonal non-agri //	332.0	(6.6)	1,080	(3.4)
-unemployed	270.2	(2.3)	686.2	(3.5)
Poverty line (Urban Areas)	610.5[a]	11.6	1,580	4
-agricultural workers	474.0	(9.7)	2,480	n.c*
-unemployed	510.0	(1.9)	905	(4)

a) poverty line income level.
*) not concerned.
Source: Constructed from tables: 4.13, 3.15, and 3.16.

Meanwhile, in 1979/80 the poor seasonal workers in the agricultural sector formed the largest proportion of the total rural poor, numbering about 65 per cent, and representing more than 56 per cent of all the country's poor. This means that the highest incidence of poverty in the country is found in the rural areas in general and in the agricultural sector in particular. This, however, comes as no surprise as it tends to be the general prevailing situation in developing countries.[41] However, for the rural poor, the poverty gap index, i.e. the amount by which the income of these poor populations falls short of the specified poverty

line, amounted to AD131.1 per head per year in 1967/68, and AD332.7 in 1979/80, representing respectively 31.3 per cent, and 30.2 per cent of the rural poverty line.

In the urban areas, the range in the status of the poor narrowed significantly between the two periods. While in 1967/68, the poor consisted of the agricultural workers, and of the unemployed; in 1979/80, only those who fell within the socio-economic group of the unemployed category were poor; (see table 4.15). The average poverty gap was AD130.6 per head in 1967/68, i.e. representing 21.4 per cent of the poverty line; and AD676 in 1979/80, i.e. 42.8 per cent of the poverty line.

Sen's Poverty index, which permits determination of the poverty gap as a fraction of the total rural income needed to bring up every one of the rural poor to the poverty level, decreased from 10 per cent in 1967/68 to 6.8 per cent in 1979/80; (see table 4.16). This means that in 1979/80, only 6.8 per cent of rural income[42] was needed to close the poverty gap. On the other hand it has to be noted that while poverty decreased in relative and in absolute terms, its degree among the poor in 1979/80 increased, as income inequality among the rural poor increased from a Gini coefficient of 0.012 in 1967/68 to 0.065 in 1979/80); (see table 4.16).

Table 4.16: Estimates of poverty index in rural Algeria 1967/68 - 1979/80.

Period	Head account index	poverty gap index	Gini coefficient among the poor	Sen's index
1967/68	0.310	0.313	0.012	0.100
1979/80	0.195	0.302	0.065	0.068

Source: constructed from table 4.14, and from the above findings.

For the urban poor, the poverty gap (according to Sen's poverty index), as a function of the total urban income needed to bring every one up to the poverty line level, decreased from 2.7 per cent in 1967/68 to 2.5 per cent in 1979/80; (see table 4.17).

Table 4.17: Estimates of poverty index in urban Algeria 1967/68 - 1979/80.

Period	Head count index	poverty gap index	Gini coefficient among the poor*	Sen's index
1967/68	0.116	0.214	0.017	0.027
1979/80	0.040	0.428	0.328	0.025

*) Calculated from the consumption expenditure data.
Source: constructed from table 4.14, and from the above findings.

Notwithstanding all the data and methodological limitations, it is plausible to argue that the incidence of poverty in Algeria stands at 4 per cent in urban areas, and 19.5 per cent in rural areas. This would suggest that 13 per cent of the Algerian population remained in absolute poverty in 1979/80; (see table 4.18).

Table 4.18: Estimates of population in poverty 1967/68-1979/80 in %.

Year	urban areas	rural areas	national
1967/68	11.6	31.0	24.8
1979/80	4.0	19.5	13.0

Source: for income data: compiled from table 4.14.

4.5- Summary.

This chapter began with pointing out that there are methodological limitations in estimating poverty lines, then it was followed by a broad estimation of the poverty line in Algeria both for the urban and the rural populations. Subsequently, estimates were made of the number of the poor in Algeria over two periods 1967/68 and 1979/80. This suggests that there was a decrease in the incidence of poverty in Algeria, both in urban and in rural areas, but the former witnessed the higher decrease. In consequence, poverty remained almost a rural phenomenon in general and in the agricultural sector in particular. In other words, the growth process seemed to have benefited the urban groups disproportionately. By the end of the period (in 1979/80), out of the total poor 87 per cent were found in rural areas. This has been the case for most LDCs, where the majority of the poor are to be found in rural areas. These results must be of particular interest to planners and to policy makers in formulating appropriate measures to combat poverty. However, before some substantive policy measures are suggested, it may be useful to have a look at some of the main determinants of poverty and income distribution in the Algerian economy.

Notes to chapter 4.

1. See B.S. Rowntree in: *Poverty, a Study of Town Life*. Macmillan. London. 1908. pp 86 - 87.

2. That is, income was sufficient but it was not allocated in such a way to attain poverty line consumption levels.

3. See P.V. Sukhatme in: "Newer Concepts", *in: Nutrition and their Implications for Policy*. (ed) P.V. Sukhatme. Maharastra Association for the cultivation of Science Research Institute; Pune 411 004 (India) 1982.

4. See for instance, Gary S. Fields (1980), op cit..

5. Equally important is the disadvantageous situation of the poor within the labour market: they tend to obtain the least remunerative and most precarious job opportunities, and tend to combine low average income with considerable instability and insecurity of employment.

6. See for instance, P. Townsend: "Measures and Explanations of Poverty in Higher Income Countries: The Problems of Operationalizing the Concepts of Development, Class and Poverty." in P. Townsend: *The Concept of Poverty*. London, Heinemann, 1970; and see also: "Poverty as Relative Deprivation: Resources and Style of living" in: D. Weddenburn: *Poverty, Inequality and Class Structure*. Cambridge University Press. 1974.

7. See A. Sen: "Poverty: An Ordinal approach to measurement." *Econometrica*. vol 44 Nº 2 March 1976. pp. 219 - 231; and see also A. K. Sen: Three Notes on the Concept of Poverty. ILO, Geneva 1978.

8. It is in relation to these characteristics that Sen's index can be seen as a more appropriate poverty index, owing to the fact that at any particular time, it provides a measure of poverty in terms of the income needed to support all the population at the poverty line level. In other words, it enables us, not only to assess the progress towards the alleviation of poverty, but also remind us of the resources needed for its alleviation. For these characteristics, this index is used whenever it is possible.

9. See *Public Expenditure on Income Maintenance Programmes*. O.E.C.D. 1976. Paris. p. 62.

10. See Analyse *Nutritionelle de l'Enquête Nationale sur la Consommation et les Budgets des Ménages*. Algérie. Evaluation de la Situation Alimentaire. U.N.P.D. / FAO. Rome 1978.

11. When energy intake is less than the requirement, the body wastes less, thus using the intake with greater efficiency. See "Newer Concepts", in: *Nutrition and their Implications for policy* (ed) P.V. Sukhatme. op cit. p. 38.

12. The energy needed varies, as stated earlier according to age, sex, body weight and nature of activity or occupation. Since, however, the observed intakes vary among individuals, it is accepted that requirements can also vary even among apparently identical individuals (depending on the nature of their activity). See: the *Fifth World Food Survey*. FAO. Rome 1985. p. 98.

13. See for instance, Edholm et al: "Food Intake and Energy Expenditure of Army Recruits." *British journal of Nutrition* Nº 24. 1970.

14. See the *Fifth World Food Survey*. FAO, Rome 1985. p. 18.

15. Undernutrition, according to the *Fifth World Food Survey*, is defined as describing the extent to which people have dietary energy intakes below certain minimum requirement levels. See the *Fifth World Food Survey*. op cit. p. 18.

16. The problems involved, however, in estimating requirements have been recognised mainly in developing countries - where the necessary information are not only lacking but what is available, is of a doubtful accuracy.

17. In this respect the symmetry assumptions in the distribution of requirements, that these two types of risks will be equal and the errors will largely cancel each other out, does not stand, because the distribution of requirements is not normally distributed.

18. See table 4.1 above.

19. This is, meanwhile, why it was argued earlier that one should go beyond these averages.

20. See, B.S. Rowntree in: *Poverty, Study of Town Life*. Macmillan. London 1908.

21. Or the shortfall in calorie intakes may be explained by the groups preference for "superior goods", such as meat and fruit, which are lower in calorie content but higher in other nutrients, particularly in terms of vitamins and amino-acids.

22. In fact, in regressing per capita consumption expenditure with calorie intake, it seems there is no correlation at all between the two.

23. See Shah C.H. ,"Food Preferences and Malnutrition, a Perspective on Poverty in Less Developed Countries", in; *Indian Journal of Agricultural Economics* 35, (1980)1; and see Perisse J. and Kamoun, A: 'The Price of Society. A Study of Household Consumption and Budget in Tunisia", *Food and Nutrition*, 7 (2) (1981): 3 as stated in the *Fifth World Food Survey*. FAO. Rome 1985. p. 34.

24. In this respect, it can be said that estimating the poverty line income on the basis of the relationship between income and calorie intake is not sufficient as well.

25. It has to be borne in mind that this may not be the case in other developing countries.

26. Undernutrition refers, meanwhile, to low intake itself. The implication of energy deficiency would appear as stated above in its potential effect on the physical and the mental development of the individual - mainly among and within the lower income groups.

27. Even in these groups where the average intake was above requirement, some may, as discussed above, have intakes lower than the requirement.

28. Calculated from tables A4.1 and A4.2 in Apendix 4.

29. This is somehow seen from the apparent differences in calorie intake between the rural and urban populations.

30. See *Analyse Nutritionelle…* U.N.D.P./FAO. op cit. p. 39.

31. It decreased to an average consumption of 200kg/person/ year which still can generate on its own a calorie supply of about 2050k calories.

32. That is, milk, eggs, fish, meat and offal, are important

items of staple food mainly in developed countries where they contributed about one-third of per caput calorie supplies, and more than half those of proteins. See *Forth World Food Survey*. FAO. Rome. p. 20.

33. See *l'Evolution de la Consommation Alimentaire en Afrique: Le Cas de l'Algérie*. op cit. p. 75.

34. Food prices were increasing faster in urban areas than in rural areas, while those of non-food items were increasing even faster in rural than in urban areas.

35. Involving a much greater reduction in their real incomes than for other income groups.

36. See *l'Indice du Coût de la Vie chez les Divers Groups Sociaux en Algérie. 1966 - 1976*. A.A.R.D.E.S. 1977. p. 21.

37. Because those who are going to benefit from these rising prices are the large and the relatively large landowners.

38. See *Analyse Nutritionelle...* FAO. op cit.

39. In fact, the consumption pattern of the poor in Algeria is typical of many third world countries with food accounting for over 63 per cent of total expenditure.

40. See *Analyse Nutritionelle...* FAO. op cit.

41. Such a general prevailing situation is supported by the available information on profiles of poverty in LDCs as presented by Gary S. Fields in: *Poverty, Inequality and Development*. op cit.

42. In other words, only 1.7 per cent of GNP, in 1979/80 was needed to close the poverty gap.

Chapter V

Determinants of the Pattern of Income Distribution and Poverty, and its likely trends in the 1980s.

In this chapter, an attempt is being made to determine the nature of forces which operated in Algeria after its independence in shaping the nature and incidence of poverty as well as of income inequality. It has already been conceded in chapter one that such an analysis is often based upon a macro-model which requires large and detailed data. Not only the lack of adequate data impedes the use of such econometric modelling, but also the methodological limitations stemming from dealing with a complex issue cast doubts about its findings. It was decided to have a more eclectic approach to the understanding of such forces in Algeria, after a brief review of literature. Some of the forces having a major impact on poverty and income distribution are often the same in most developing countries going through the process of economic development and structural change. Yet many of these forces can be moderated by social and political institutions and policy mixes. Hence it is important to analyse the role of these forces in a particular country. In this respect, every country represents a unique case for such an issue.

The review of literature in chapter one had broadly indicated that the development strategy of a country and the rela-

ting nature and pace of growth has a very important bearing on poverty and income distribution. Therefore, this chapter starts with an examination of the official documents underlying the Algerian development strategy vis à vis the distribution of income and the alleviation of poverty in order to see how they were perceived and how they were carried out. Such an examination would throw light on the forces that were the main determinants of the current nature and magnitude of poverty and income inequality but also provide insights for future policy making.

5.1- The distribution of income, alleviation of poverty and the Algerian development strategy

The planning in independent Algeria started with the explicit aim of creating an equitable and just society with a minimum of poverty and deprivation. In fact, the search for a 'just society' comes as a reaction to impoverishment of the people during the colonisation period. That concern was born during the long struggle for independence through which a permanent contact was created between the leadership and the masses. Such a struggle has had its effects on the overall ideological foundation spelled out in the Algerian official documents. In a word, the Algerian struggle for independence helped to account for much of the attention paid to equity with the view that the French exploited Algeria, impoverished its people and created inequality. Under the heading of the realisation of the social aspiration of the masses, the Tripoli programme saw the progres-

sive improvement in the living conditions of the masses and the eradication of unemployment as the main vehicle for stimulating the creative urge of the people and attaining rapid progress.[1] However, the Tripoli programme did not have a clear idea of how to translate this into reality. The Algiers charter which came later, was more explicit than the Tripoli programme. It stressed the need and the urgency for bringing about a more equal income distribution:

> "the party cannot accept, without cutting itself off from the masses, the disparity of incomes… The success of this struggle is linked with the elimination of the privileged strata from the front of the stage and, instead, the exercise of political responsibility and control by the toiling masses themselves."[2]

Thus the Algiers charter felt the need for some form of people's participation in the development process and the elimination of the privileged strata of the Algerian society. It aimed at:

> "the suppression of economic exploitation, the expropriation of dominant foreign capital, the agrarian revolution, the socialisation of the means of production, will all allow us to end economic anarchy and make it possible to plan effectively and harmoniously in the real interests of the community."[3]

The national charter in 1976, in its turn, also emphasised the aim of benefitting the whole population from the fruits of development, and establishing a better income distribution.[4] The same line of thought is found in the development plan documents. For instance, it was stressed in the general report of the first four year plan (1970-73) that:

> "The economic policy, in particular, would take care of the equitable distribution of income, to guarantee the poorest strata of the population an improved condition of living, allowing both, to increase their level of living, and to decrease the gap that separates them with those who have the chance to benefit from the most favorable economic conditions."[5]

The five year plan (1980 - 1984) was much more explicit in emphasising the concern about the satisfaction of social needs of the population and about closing the gap between social strata.

> "The whole of [the plan] axes are geared to the adequate satisfaction of social needs by the 1990's… this means, in social terms, the adjustment of development actions and their concentration on priority social requirement, a continuous control of growing inflation, shortages of goods and *the widening gap between social strata*"[6] (emphasis added).

By now it was becoming clear that things had not gone the way visualised by the earlier plans and, it was conceded that the gap between social classes was growing wider, although no statistical evidence was provided to support that statement. However, the recognition that something had gone wrong with plan priorities and implementation can be taken as a major step forward in official thinking. The 1980 - 84 plan was said to come to offset this trend of "the widening gap between social strata". Yet again whether this concern did materialise or not will be examined later in this chapter. Nevertheless, as the Algerian government has been the main investor and the leading agent in development, any government decision to use a particular policy affects the pattern of income distribution and poverty. In this

regard, examining some variables and government policies would throw light not only on the most important factors responsible for the existing pattern of income distribution and poverty, but also lead to an identification of the most effective policies for restructuring such a pattern. Of these policies, sectoral resource allocation, land reform, employment, wages, food subsidies, taxation, health and education have had the greatest effects on income distribution and poverty.

5.2- Sectoral Resource Allocation.

We have seen in chapter two that the bulk of national investment was devoted to heavy industries of a capital intensive nature. Such an investment was not only limited in generating employment opportunities but also required mainly skilled labour which had been in short supply. So the strategy had not seriously taken into account the problem of employment absorption in a country with a high surplus of labour. It has to be borne in mind that the alleviation and eradication of the surplus labour condition is *a sine qua non* for the generation of a sustainable improvement in the distribution of income and in the alleviation of poverty. In this respect, it was emphasised that "the only sure method of achieving a sustained improvement in equity lies in... the end of labour surplus condition."[7] In view of the limited employment creation, one would expect the Algerian development strategy to worsen the distribution of income within and between the different sectors of the economy. However,

this did not happen during the 1967 - 1980 period. So one might ask why? The answer to such a question is dealt with in the discussion of the employment policy below.

However, one of the detrimental effects of such sectoral resource allocation was the insufficiency of resources allocated to some sectors, affecting the growth of these sectors. For instance, agriculture which received only 11 per cent of total public investments, was stagnating both in terms of production and of employment. Such a stagnation, with a rapid increase in population, was responsible for the increase in income inequality in the rural areas, (as seen in chapter 3). Moreover, such an increase in income inequality occurred despite the implementation of a land reform programme - the so-called "Agrarian Revolution", which is worth examining as far as income distribution and poverty in rural areas are concerned.

5.3- Land Reform Policy.

In spite of the high hopes of the land reform programme, both the conceptualisation and implementation fell far short of expectations. For instance, according to the 'Agrarian Revolution' regulation, a private landowner was allowed to possess as much land as that which will yield him and his family (with two dependent children or more) a yearly net income up to an amount of AD13,500. Such an amount could be earned from a farm unit of an average size of about 45 hectares. Such an amount was set up on the basis that 10

hectares yield at least a yearly income of AD3,000 which is the minimum income set up by the agrarian revolution ordinance. Furthermore, the private landowner was allowed to have as much income from non-farm income, i.e. an additional income of AD13,500 per year. Therefore, on the whole, the private farm family income was allowed to reach the amount of AD27,000 per year, which is 6,5 times the household income in mixed farming (AD4,160) of the agrarian revolution sector, or more than 5 times the average household income of the "Agrarian Revolution" sector (AD5,380); (see tables 3.19 and 3.20 in chapter 3 pp. 150 - 151).

This shows clearly that from the very outset, the continuance of substantial income disparities is permitted by the 'agrarian revolution' regulations. Moreover, this can be taken only as the theoretical permitted income disparities. In practice, the apparent income disparities were even larger, as the private landowners' income (of the top decile) averages AD56,539 (see table 3.22), i.e. 13.6 times that of the mixed farming, or more than 10.5 times that of the average agrarian revolution sector.

Meanwhile, during the implementation of the agrarian reform, private proprietors, mainly the large ones, who knew expropriation was to happen, either took advantage of the system of non divided family land to register lands in the names of their extended family members and relatives, and/or made donations to the 'agrarian revolution' fund, often with the less fertile land, as they were allowed to choose which land to give away. In so doing, large land owners were able to

preserve their land and escape the agrarian revolution land expropriation and/or to keep the best land for themselves.

By 1977, however, only a total of 450,000 to 500,000 hectares had been expropriated from 21,826 private landowners. The bulk of these landowners, i.e. 15,271 were absentee, with an average expropriated land size not exceeding 10 hectares. Only 5,205 farmers were large landowners who on average lost about 60 hectares through expropriation. These large landowners, meanwhile, represented only 38 per cent of the total number of large landowners with a farm size of more than 50 hectares, (see table 3.21 in chapter 3. p. 152). Therefore, the majority of large landowners, i.e. 62 per cent of them, escaped expropriation in one way or another. This was also the case for the absentee landowners.

Moreover, the agrarian reform had by-passed in large measure the scattered subsistence farmers who form the bulk of the private landowners; i.e. 57% of all landowners still have on average an operational farm size of about 2 hectares, and account for only 16 per cent of total private arable land. In fact, 30 per cent of total operational landowners have on average a farm size of less than one hectare, i.e. about 0.8 hectares on average; representing a total area just slightly over 3 per cent of total private operational land. Without non-farm income, these petty peasants would have been in poverty.[8] In contrast, the upper decile of landowners had on average a farm size of more than 35 hectares, and controlled more than 48 per cent of total private operational land;

implying land differentials of the order of 1 to 44, (see table 5.1).

Table 5.1: Distribution of Private Operational Holdings in 1977.

Average farm size in ha	Landowners in %	Land area in %
0.8	30	3.3
3.5	27	12.9
5.5	18	13.4
10.0	11	14.9
13.6	4	7.4
35.3	10	48.1
7.34	100	100.0

Gini coefficient 0.58

Source: constructed from table 3.22 above. p. 153, which was compiled from: *Disparité des Revenus et Pouvoir d'Achat en Algérie*, I.N.E.A.P. op. cit.; and from: A. Bouzidi "Où en est l'Agriculture Algérièn ne", op cit. p. 41.

With such a situation of land distribution, the 'agrarian revolution' policy has not been able to address effectively the unequal distribution of land. It had no major effects upon the concentration of private land ownership. The Gini coefficient of land concentration decreased from 0.62 in 1973, (see table 3.21, chapter 3 p. 152) to 0.58 in 1977; (i.e. a mere decrease of 6%).[9] Land reform in Taiwan, for instance, generated a larger reduction in land concentration ownership; the Gini coefficient of land concentration fell from 0.62 in 1952 to 0.46 in 1960;[10] (i.e. a decrease of 26%).

However, land inequality in Algeria is one of the underlying causes of income inequality, mainly in the

agricultural sector. To show how such a distribution of land ownership generated such an income inequality, a regression of the logarithms of income from operational land against the logarithms of the operational land by farm size is carried out, using the observations from table 3.22. The fitted equation is as follows:

Log Y = 2,927 + 1,171 Log X , where (Y) represents income from operational land, (X) is the size of operational land; (r) coefficient of correlation = 0.998; R.S.D (residual standard deviation) = 0.026.

The above equation shows that the income elasticity with respect to the size of operational land is greater than unity, which means that as the average area of land owned increases, income from this land rises more than proportionally. This may be so, because of higher income per unit of land, which also resulted from the use of other productive inputs. The relatively high value of (r) which, is statistically highly significant at the 1 per cent confidence level, indicates that variations in the size of operational land could explain 99.8 per cent of the total variation of incomes from assets owned.

Generally speaking, the unequal distribution of operational land is accompanied by an unequal access to research information, purchased inputs, unequal use of socially scarce resources such as capital and market facilities, machinery, and so on.[11] It is invariably the case that inequality in the ownership of land is also accompanied by inequalities in

other means of production among private cultivators. Table 5.2 shows, for instance, that 53 per cent of landowners hold

Table 5.2: Distribution of Tractors in the Private Agricultural Sector.

Average farm size in ha	landowners in %	owned tractors in %
less than 5	53	6
5 - 20	35	28
over 20	12	66
	100	100
Gini coefficient 0.67*		

*) Calculated by the author.
Source: constructed from: A. Benachenhou, in: *L'exode rural en Algérie*. En. Ap. Algiers, February 1979.

6 per cent of total tractors, while the upper 12 per cent of total landowners hold 66 per cent of total tractors. This may suggest a Gini coefficient of 0.67. It is also believed that large landowners tend to benefit more from investment and incentives provided by government than smaller cultivators. The large landowners are better placed, both by virtue of their superior command over resources and their political power, to adopt improved techniques, and they get a disproportionately large share of the benefits of public investment and supporting services (credits, market facilities and so on). For instance the import price of a tractor was AD65,000 but sold to the farmer at AD28,000 i.e. at less than its half imported price. The difference is also large for other equipment and inputs: half the cost of production for fertilizer, and one-third less for petrol.[12]

In a similar fashion, the banking system encourages large private landowners, i.e. inequalities among farms are by no means redressed through the allocation of credit, on the contrary, they are reinforced. Farms which are better endowed to start with, and can demonstrate to the national bank either a history or a promise of profitability, have a better chance to receive credits and thus to improve their capital endowments further, and to become more profitable. The bank rate for lending, controlled by the government, was 6 per cent whereas the private money lenders were charging over 15 per cent; (this latter was mainly related to borrowing for consumption purposes). Therefore, the emphasis on profitability as a criterion of credit worthiness contributed further to inequality in the agricultural sector. All these are likely to increase the income of the landowners who are capable of effecting and undergoing transformation from traditional crops to the more profitable products like fruit and vegetables. It is more likely that it is mainly the larger landowners who underwent such a transformation as a response to the rapid increase in the relative price of these types of crops, as shown in chapter 4. It is also believed that such a transformation is the case in most countries. This, for instance, was the case in the colonial Algerian agriculture, where it was mainly the *colon* who were involved in cash-crops cultivation. It goes without saying that such a transformation would increase the income gap between large and small landowners.[13] Although, no data are available on the types of crops grown on different sizes of holdings, nonetheless one can convey an impression of

such changes from the overall data concerning the increase in the cultivated area of some vegetables and fruit, while the total arable land remained much the same. For instance, the cultivated area in dry vegetables (for example, beans and lentils) increased from 63,000 hectares in 1966/67 to 157,000 hectares in 1983 - 85. The area for market gardening increased from 83,000 hectares in 1966/67 to 249,000 hectares in 1984/85.[14]

Meanwhile, the household income in the private agricultural sector, as stated in chapter 3, is a combination of income from farm land (assets) and income from wages. In fact, on average, a relatively high proportion (43%) of total household income comes from wages. Furthermore, over half (57%) of total households of the private agricultural sector derive 82 per cent of their total income from non-farm income. They operate a very small size of land averaging 2 hectares, providing only 18 per cent of their total household income. Thus, the wage income for these household groups is an important component of their income and subsistence. Owing to their meagre income from land, their position is, to some extent, similar to that of landless wage labourers, selling their labour power in order to subsist. The overall effect of non-farm earnings has been to reduce the aggregate inequality resulting from farm income. The Gini coefficient for farm income was 0.63 compared to 0.32 with the addition of non-farm income. The failure to secure such a source of income, particularly for the small landowners, would have serious consequences not only on the

distribution of income but also on the incidence of poverty as well. Admittedly, asset redistribution would have considerably improved the distribution of income in Algeria by providing a sustainable income and a secured source of income. Since the implementation of land reform programme did not make a material difference for the rural poor, wage income has continued to remain important both for the incidence of poverty and for income inequality.

In a limited sense, the 'agrarian' programme did augment wage employment for the rural poor. The agrarian programme offered employment to about 100,000 people, most of them were already working in agriculture or elsewhere. The people who were supposed to be the main beneficiaries (the unemployed and the sharecropper) were less affected. In fact, according to a socio-economic study on the beneficiaries of the 'Agrarian Revolution', the distribution of the beneficiaries by their previous occupations shows clearly the low percentage of those who should have been targeted by the programme; (i.e. the sharecropper and the unemployed). This group of people formed only 6.1% of all beneficiaries, while 'other activities' category which comprises non-agricultural occupations such as government functionaries, commercial and services workers formed somewhat a higher proportion of more than 8%; (see table 5.3).

Table 5.3: Distribution of beneficiaries by their previous occupations.

Type of occupation	beneficiaries in %
Renters of land	26.5
Permanent wage workers	26.1
small peasants	17.2
temporary wage workers	15.8
Other activities	8.2
unemployed	5.1
Share croppers	1.1
total*	100.0

*) The total, meanwhile, may not be 100 because of the rounding.
Source: *Etude Socio-Economique sur les Attributaire de la Première Phase de la Révolution Agraire.* A.A.R.D.E.S. Algiers, 1975.

It may also be noted that a substantial proportion of the rural poor comprises seasonal workers in agriculture and in non-agricultural activities - own account and worker in the informal sector. For most of these poor, it is the lack of permanent employment opportunities and the unequal distribution of assets which are the primary cause of their poverty. The situation can only be effectively viewed as part of a 'total system' which still generates and reproduces such a situation for some of the population.[15]

In fact, the involvement of the peasants was ruled out throughout the process of the agrarian reform programme. The 'Agrarian Revolution' became bureaucratised, as it was the local government officials and executives who were charged to carry its implementation, and execution was the sole role assigned to peasants. As one economist commented, Algeria launched a peasant revolution in the absence of peasants.

Such a lack of effective participation on the part of the concerned people (the peasants) depicts their absence from an effective mass participation in the political process that safeguard their interests. These may explain, partly why some of the policies which were introduced with the explicit or implicit objectives of generating a more equitable distribution of income have not achieved their objectives for which they were primarily introduced. The "Agrarian Revolution" policy is a case in point.

All in all, it can be concluded that both in terms of the distribution of land and employment, the 'Agrarian Revolution' has neither substantially affected the structure of land-ownership, nor created employment opportunities for the targeted groups (mainly the unemployed and the share-cropper). As a consequence, it had only a marginal impact on the rural poor. It had also no major effects on agricultural production; stagnation has rather been the main feature, as mentioned in chapter 2. As such, the 'Agrarian Revolution', using Keith Sutton's words, "was revolutionary in name only".[16] In fact, since the fundamental forces at work, (i.e. concentration of land and lack of employment opportunities), are still prevailing, income inequality and poverty are still present. It is more likely that further impoverishment and marginalisation of some strata of the population will continue. Therefore, it may possibly be argued that rural poverty and income inequality, which to some extent stem from structural factors, cannot be influenced by policy intervention alone without altering the prevailing

structure of land ownership. There is some scope for redistributing assets (mainly land) in the Algerian agricultural sector, as portrayed by the concentration of land ownership.

Of course, the question of whether such a redistribution is politically feasible or not, is always there for any country. It is usually not easy to curb the entrenched power of the rural elite and their allies in government. The problem of poverty and its consequences needs radical solutions relating not only to the redistribution of land-ownership, but also to socio-political changes in power structure. As Kay rightly put it, "that land reform has to be analysed in the context of the class struggle for power."[17] When such a struggle for power is not pressed for from below, it is only the political will and determination from the part of the government that will make such a redistribution feasible, mainly if ther is genuine concern to improve the lot of the poor really matters.[18]

5.4- Employment Policies:

We have seen earlier that employment, as a source of income, is very important even for the small landowners to subsist. In view of this, employment policy in the Algerian economy constitutes one of the main factors in determining the distribution of income and alleviation of poverty.

However, as wage income is related to employment, the examination of its importance in household income, and its distribution among wage earners enable us to see how the

rapid increase in employment as well as the policy of narrowing the gap between wage rates of different occupations did generate a more equal distribution of income and a reduction of poverty.

5.4.1- Trend and Structure of Household Incomes.

Examining the structure of household incomes between 1968 and 1979, it appears that the main source of household incomes was wages and salaries. Such a source of household income had seen its share in total household income increasing from 59.4 per cent in 1968 to a far greater proportion of 68.4 per cent in 1979; i.e. an increase of over 15 per cent during 1968 - 1979 period. Income from property, which constituted the second largest source of household income, remained almost unchanged,[19] whereas other sources, i.e. family benefits, public and private transfers had seen their share decreasing significantly from 16.8 per cent to 7.1 per cent, during the same period; (see table 5.4).

Table 5.4: Structure of household income 1968 - 1979 (in %).

Source of household income	1968	1979	Changes in %
Wage and salaries	59.4	68.4	+ 15.2
Property income	23.8	24.5	+ 2.9
Family benefits	7.1	4.5	- 36.6
Pension	4.1	0.1	- 97.6
Money orders	2.6	2.5	- 55.4
Other incomes	3.0		
Total	100.0	100.0	_

Source: *Disparité des Revenus et Pouvoir d'Achat en Algérie, 1968 - 1979.* (I.N.E.A.P), Algiers. February 1981. p. 101.

Therefore, examining how this main source of household income (wages and salaries) was distributed among different socio-economic groups of wage earners may shed light on the main determinants conditioning the improvement of income distribution in the Algerian economy during 1968 - 1979 period. It would also throw light on how wage policies were used as a means of improving the distribution of income. Such findings can be explored through the distribution of wage income.

5.4.2.- DISTRIBUTION OF WAGE INCOME.

The investigation of wage income disparities between wage earners, which is an important element in explaining the trend in the overall income inequalities, can be better examined through the trend in the 'vertical' and 'horizontal' wage income[20] disparities between occupations. 'Vertical' wage disparities are meant to explore wage differentials among various categories of occupations. 'Horizontal' wage disparities are meant to explore wage differentials within categories of occupations among different enterprises, i.e. differentials for similar occupational or grade categories. It should be borne in mind that the wage data considered here have been drawn from the larger scale of organised sectors. Information is not available regarding wages and earnings in the so-called urban informal sector. The analysis explores the hypothesis that it is the policy of providing more jobs with more uniform wage rate across occupations, which has been mainly responsible for the improvement in the overall distribution of income. In this

respect, it is interesting to see whether or not the apparent overall decrease in income inequalities, brought about by the increase in employment opportunities, was, in fact, enhanced by a more equal distribution of wage income among wage earners.

5.4.2.1- TRENDS IN VERTICAL WAGE DISPARITIES.

The wage data are presented in the form of averages of six different occupational categories. These indicate that the gap between the higher remuneration grades and the lower grades decreased significantly between 1969 and 1980. The skilled[21]/unskilled ratio in non-agricultural activities decreased from 3.5 in 1969 to 2.6 in 1980. In fact, the decrease in the vertical wage disparities is manifested in the decreasing dispersion between wage grades' remuneration which can be clearly seen from, (in an ascending order from the top of the scale), the differences in their average annual rates of growth.[22] In other words, the lower the wage is the higher is the average annual rate of its growth, enabling then the gap between wage grades to narrow between 1969 and 1980; (see table 5.5).

Table 5.5: Evolution of monthly wages of different occupations (in Algerian Dinars)

Occupation /or grade	1969	1980	Annual growth rate
1- unskilled workers	498	1,184	8.2
2- personal help	614	1,347	8.2
3- qualified workers	783	1,543	6.4
4- Floor head&technical agents	935	1,800	6.2
5- Technician & middle executive	1,238	2,336	5.9
6- Top Executive & high technicians	1,765	3,061	5.1
Average	787	1,590	6.6

Source: Constructed from: *Annuaires Statistiques de l'Algérie, 1977 - 1981*. M.P.A.T. Algiers.

Furthermore, the narrowing gap between wage grades can be seen as well in the evolution of wage rate (wage per hour) of different occupations. For instance, while it increased from AD3.51 in 1969 to AD9.30 in 1981 (increasing by 165%) for executives, it increased from AD1.82 to AD5.80 (increasing by 219%) for unskilled workers during the same period.[23] Meanwhile, this decrease in vertical wage disparities wholly occurred in the public sector, whereas in the private sector, vertical wage disparities have increased during 1970-1980 period; (table 5.6).

Table 5.6: Sectoral evolution of monthly wages in AD.

Occupations or Grades*	public sector			private sector		
	1970	1980	growth rate	1970	1980	growth rate
1-unskilled	501	1,206	9.2	598	1,117	6.4
2- personal help	582	1,374	9.0	825	1,267	4.4
3- qualified	785	1,552	7.1	1,093	1,515	3.3
4- floor head &T. Agent	n.a	n.a	n.a	n.a	n.a	n.a
5-Technique & M. Execut	1,104	2,214	7.2	1,462	2,702	6.3
6-Top Execut. & H.Tech	1,871	2,770	4.0	2,064	3,935	6.7
Average	788	1,650	7.7	1,131	1,404	2.2

* Occupations and grades are as stated in table 3.47.
Source: For 1970: S.E.P., *Direction des Statistiques. La Situation de l'Emploi et des Salaires*, Décembre 1970. pp. 34-35. For 1980, *Annuaire Statistique de l'Algérie 1981*. M.P.A.T. p. 351.

The net overall decrease in vertical wage disparities, nonetheless, has been brought about by the public sector as a result of two principal factors:

1- The proportion of the public sector in total wage earners increased from 66% in 1970[24] to 75 per cent in 1980.[25]

2- The decrease in vertical wage disparities in the public sector, as measured by the skilled/unskilled ratio, was substantial. It decreased from 3.7 in 1970 to 2.3 in 1980, i.e. decreasing by about 38 per cent during the whole period. This was much higher than the slight increase in private sector vertical wage disparities, which moved from 3.4 in 1970 to 3.5 in 1980;[26] i.e. increasing by less than 3 per cent during the whole period. In other words, the decrease in vertical wage disparities that occurred in the

public sector was more than enough to compensate for the adverse effect occurring in the private sector.

5.4.2.2- TRENDS IN HORIZONTAL WAGE DISPARITIES

The trends in wage disparities in the remuneration of same category of job among different non-agricultural activities - i.e. horizontal wage disparities - are clearly seen from tables A5.1 and A5.4 in Appendix 5. These tables show that the substantial gap in horizontal wage disparities noticed in 1970 decreased significantly in 1980. The ratio between the higher remuneration and the lower one for the same occupation (grade) in different industries decreased from an average of 2.4 in 1970 to 1.3 in 1980.[27] This decrease which, was noticed in both the public and the private sector, was higher in the former than in the latter; see tables A5.2, A5.3, A5.5, and A5.6 in Appendix 5.

By and large, despite the apparent decrease, there are still substantial horizontal wage disparities, as they were seen in 1980, mainly within high occupation categories whether in the public or in the private sector. In the public sector, remuneration for the same occupation varies considerably from one enterprise to another, mainly between productive industries such as hydrocarbons, chemical, and steel industries on the one hand, administration, and financial institutions such as banks and insurance, on the other hand. Higher remuneration is found in the former while the lower remuneration is found in the latter. For instance, an executive employee in banks and insurance earns only about

57 per cent of what he would have earned in petroleum construction enterprise, (see table A5.5 in Appendix 5.). In the private sector, higher remuneration is found in commerce, divers industries, building & public construction, and steel industry, while the lower remuneration is in services, and in leather and shoe industries.[28]

In fact, the presence of such disparities implies a high movement of workers between industrial activities and services. For instance, in steel industry, labour turnover was estimated to have been 25%; i.e. a complete renewal of personnel every 4 years.[29] Such a movement of workers had certainly, as mentioned above, some negative effects on the efficiency of the economy.[30] This, in fact, can be said to be due to the absence of a national wage policy, and to a labour market characterised by scarce skilled labour, engendering high turnover with its likely negative effects.

All in all, it can be concluded that the apparent significant decrease in vertical and horizontal wage disparities between 1970 and 1980 contributed, to some extent, to the observed decline in income inequalities during the same period. In other words, the improvement in income distribution was not only associated with the increasing share of wage income in households income, but it has also been enhanced by the fact that this wage income has become more equally shared among its earners, as reflected by the declining gap in the vertical and horizontal wage disparities. This means that between 1970 and 1980 wage rates

became relatively more uniform across all occupations. Then, it seems sound from this analysis to conclude that a development strategy enhancing employment, leading to the resultant increase in labour's income share and rendering it more equally distributed,[31] would potentially be more effective in making personal income distribution more equitable.[32] This trend, meanwhile, was also noticed in other countries.[33] For instance, in Egypt when the share of wages (mainly through the increase of wage employment) increased steadily in GDP from 44.8 per cent in 1959/60 to 49.6 per cent in 1970/71 - 1974, the distribution of household consumption improved from a Gini coefficient of 0.42 in 1958/59 to 0.38 in 1974/75.[34]

5.5- Tax Policy.

Generally the use of tax is influenced by considerations both of economic growth (as a source of income), and of equity (as a means to reduce the disparities in the distribution of income). From the evolution of the Algerian tax structure between 1969 and 1980, one can clearly notice the increasing importance of petroleum taxes of which the share in total tax revenues increased from 28 per cent in 1969 to 65 per cent in 1980. This necessarily meant a decreasing share of other sources of taxes - turn-over and capital taxes, custom duties, tax on consumption, tax on wages, and other miscellaneous taxes; (see table 5.7).

Table 5.7: Structure of fiscal revenues 1969 - 1980, in %.

	1969	1980	annual changes 1969 - 1980
Direct taxes	19.6	8.3	- 8.1
of which wages	(6.0)	(4.5)	- 2.6
Petroleum	27.9	64.9	+ 8.0
I.R.V.M.	0.3	-	-
Turn-over/Capital	24.5	14.6	- 4.8
Consumption	17.6	7.1	- 8.6
Customs duties	10.1	5.1	- 6.4
Total	100.0	100.0	-

Source: Constructed from *Statistiques*, Revue of O.N.S. Nº 15 April - June 1987, Algiers, p. 58.

With the limited availability of data, the examination of how taxation affects various income classes cannot be depicted. An approximate idea can be sought in the trend of taxes on wages, turn-over and capital, and consumption. Such a trend shows that the share of taxes on wages - representing labour income - decreased less rapidly than the one of taxes on turn-over and capital - representing property income. The respective annual rate of decrease was 2.6 and 4.8 per cent. Such discrepancies in the rates of the decrease can be partly explained on one hand by the increasing importance of wage income in household income, and on the other hand by the relative stagnation in the share of capital income in total household income. However, it is also believed that the difference was also due to tax evasion and avoidance mainly from the part of personal businesses, commercial and non-commercial professions, and property owners. In fact, it has been reported that fraud

and tax evasion have become acute in Algeria.[35] This may virtually be the case because evasion and avoidance of tax in respect of capital is well known, whereas such evasion and avoidance cannot be the case for wages because taxes are deducted at source. This may suggest that tax incidence moved relatively toward wages *vis à vis* taxes on turn-over and capital. In a word, the disproportionate direct tax is borne mainly by wage earners, as taxes are deducted at source.

Concerning taxes on consumption - as indirect taxes - their share decreased even more rapidly than those of wages, and turn-over and capital, (table 5.7). Data on which goods these taxes are levied are not available, which do not permit to see the incidence of these type of taxes on different income brackets. In view of this, one may just accept the general view that indirect taxes are regressive, tending to be more on the lower income strata of the population than the other strata.

However, although taxes on wages are progressive, the avoidance and evasion on the part of property earners, and the regressivity of indirect taxes may compensate for that of wage tax. This is mainly why the distribution of income before and after taxes is believed to be approximately the same in most developing countries. For instance, in Colombia, Berry and Urritia[36] found that the Gini coefficient of concentration decreases only from 0.58 to 0.57 when we pass from pre-tax to post-tax income.[37] In

fact, with the lack of efficient administrative institutions and the deficiencies in developing countries, "it is difficult to bring about a major shift in tax burden on income distribution. The primary emphasis in any such effort must lie on the expenditure side of budget policy and on the overall strategy of development planning."[38] Therefore, it is important to examine the impact of public expenditures, such as food subsidies, education, and health on the distribution of income and poverty.

5.6- Food Subsidies.

The improvement in poverty alleviation during 1968 - 1980 period was also induced by the policy of subsidising the prices of some necessary goods of large consumption such as cereals, semolina, sugar, oil cooking, milk, coffee and dry vegetables. The amount of such subsidies increased form AD280 million in 1969 to AD3,800 million in 1982 (in current prices). In constant prices (after noticing a decrease in 1976-80),[39] they increased from AD832 million to AD2990 million; (see table 5.8).

Table 5.8: Food Subsidies in millions of dinars, 1969 - 1982.

Year	1969	1974	1976	1980	1981	1982
Current prices	280	2,301	2,188	1,920	2,280	3,800
Constant prices*	832	5,096	3,789	1,920	1,927	2,990

*) In 1980 prices, as deflated by food consumer price index (Revue Statistique, O.N.S., Nº 15 April/June 1987, p. 15.
Source: Constructed from *Journal Officiel de la République Algérienne Démocratique et Populaire*, of different years.

In 1979/80, the benefits received from the subsidised cereals, semolina and its by-products, as a share of total food expenditure was 37.5 per cent for the lowest decile group and 12.6 per cent for the upper decile group.[40] However, in absolute terms, the proportion of such subsidies accounted only 6.7 per cent for the lowest decile group, while it accounted for 14.1 per cent for the upper decile group. On per capita basis, this means that while the lowest decile group received a subsidy of AD1, the upper decile group received AD2.10.[41] These findings, however, are similar to what has happened in other developing countries. For instance, in Colombia, Urritia Montoya and Sandoval found that the effective benefit as a share of income was 57.6 per cent for the lowest income class families while it was 4.5 per cent for the highest income class. In reality, however, the rich group of families on average was estimated to receive col$910 in benefits, while the poor group received only col$302.[42] In this case, it can be said that such subsidies contribute to the alleviation poverty as they have allowed the lower income groups to get access to such food items which form a major share in their food basket, and which constitute a large share in their total consumption expenditures. However, such benefits from subsidies are not believed to have contributed to the generation of a more equal distribution of income. For the latter aim, the subsidies have to be targeted to the poor rather than dispersed across the entire population. Meanwhile, targeting food subsidies is costly and often administratively difficult to run.

5.7- Education and Health.

It must be admitted as well that significant progress was made in terms of social indicators such as education and health. The main feature of Algerian education is its rapid extension to a greater number of people since 1962. Adult literacy rate increased from 10 per cent in 1960 to 35 per cent in 1980. Enrolment at every educational level has been increasing at a faster rate than has the growth of population; (see table 5.9).

Table 5.9: Evolution of public education 1962/63 - 1986/87, (in 1,000).

	1962/63	1979/80	1986/87	Annual rate of growth 1962/63 - 1986/87
Primary	778	3,061	3,635	6.6
Secondary*	50.3	849.2	1,975	16.5
Higher#	2.8	53.8	143.3	17.8

*) Including mid-elementary.

#) Only within Algeria.

Source: Constructed from *Statistiques*, Revue of O.N.S. Nº 15, April - June 1987, op cit. p. 20.

The percentage of age group (6 - 13) enrolled in education increased for primary education from 45.4 per cent in 1965/66 to 77.3 per cent in 1980, and to 83.4 per cent in 1986/87.[43] The number of people enrolled in secondary school as percentage of age group increased from 7 per cent in 1965 to 33 per cent in 1980, and to 51 per cent in 1985. The percentage of age group 20-24 enrolled in higher education increased from one per cent in 1965 to 5 per cent in 1979,

and to 6 per cent in 1985.[44] Although there is no published data concerning the evolution of education by socio-economic groups, it is believed that the expansion of education has also touched the groups at the lower end of the distribution of income. This might be the case owing to the fact that many children of the poor were receiving free meals in primary schools, full board in secondary schools, and scholarship - financed higher education accompanied with subsidies at the campus (meals, transport, and accommodation). Covering such costs and subsidising others may have encouraged the children of the lower income groups to remain at educational institutions and have access later on to the better-paid jobs. As pointed out, if the supply of educated labour could be increased at the expense of uneducated labour, income inequalities would be reduced.[45] This suggests that the spread of education is an important factor in reducing inequality in the personal distribution of income, because concentration patterns of human skills are as important a source of income inequality as the concentration of physical assets.

Moreover, education enhances the ability of the poor to perceive their own interests and to pursue them more effectively. The success of land reform, for instance, in Taiwan, Japan and Korea was associated with a peasantry possessed of a relatively high level of education.[46] In fact, the pertinent role of population quality in the whole development process has been stressed by many economists. For instance T. Schultz pointed out that "while agricultural development is of paramount importance, the decisive factors

of production in improving the welfare of the poor people are not space, energy and crop land; the decisive factor is the improvement in population quality."[47]

However, it must be admitted that the improvement in education in Algeria was accompanied by a reduction in wage differentials (as noted earlier), mainly as a result of government wage policies favoring the lower paid grades. With such a policy, it can be argued that education was an equalising factor, as portrayed by the decline in income differentials among levels of education - (represented by the different grades in table 5.5). The wage gap between no or low education (grade 1) and higher education (grade 6) decreased from a ratio of 1 : 3.5 in 1969 to 1 : 2.6 in 1980; (table 5.5). The decrease was even larger in the public sector, decreasing from a ratio of 1 : 3.7 in 1970 to 1 : 2.3 in 1980, (see table 5.6). This was contrary to what happened in some developing countries. For instance, in Brazil income differentials by educational groups had widened sharply during the sixties. The average monthly income differentials between no school and college increased from a ratio of 1 : 12.4 in 1960 to 1 : 15.6 in 1970.[48]

Health also improved in Algeria during the period in question. A partial free health service has been introduced since early 1974. Population per physician decreased from 5,530 in 1960 to 2,630 in 1981. Infant mortality rate decreased from 165 in 1960 to 114 in 1981. Child death rate decreased from 39 in 1960 to 18 in 1981. Death rate per

1,000 population decreased from 18 in 1965 to 9 in 1986. Life expectancy at birth increased from 47 years in 1960 to 56 in 1981 and 62 in 1986.[49] Such improvements can be said to be as a result of some amenities being distributed rather more equitably. However, this is not always the case; for instance, in Brazil expectation of life is relatively high in spite of various inequities.

5.8- Trend in Income Distribution & Poverty in the 1980.

We have seen in the above section how some determinants had exercised their effects in shaping the pattern of income distribution and poverty during the 1968 - 1979/80 period. It is important to analyse how such determinants are likely to have affected the level and trend in poverty and income distribution in the 1980s. This would give insights to planners and policy-makers in formulating policies for a more equal distribution of income and for reducing poverty. Regrettably no data on income distribution have been available since 1980, consequently, what has happened to the distribution of income and poverty after 1980 cannot be directly answered. Therefore, indirect information and indicators can be used in an attempt to gauge the direction of change.

However, the improvement of the seventies, as shown above, was brought about by the increase in the share of wage income - the main source of total household income and the more equally distributed. It was also due to the substantial increase in the wage rate of the lower wage earners. It

follows, to a great extent, that what has happened to the distribution of income and poverty in the 1980's would depend mainly upon what has happened to the share of wage income, and to the wage rate of the lower wage earners. It may also depend on what has happened to food prices and subsidies. These factors are examined in what follows.

5.9- Deterioration in the share of labour income.

The share of wage income - the major household income and the more equally distributed - decreased from 60% in 1979 to 54% in 1984. This was ultimately as a result of the increase in unemployment and the deterioration of the wage rate. The share of property income - the less evenly distributed - increased from about 27% to about 32%. The share of transfer income remained almost unchanged during the same period; see table 5.10.

Table 5.10: Evolution of household income (1979 - 84) in billions of AD.

Source of income	1979 current	1979 constant*	1979 constant %	1984 current	1984 constant*	1984 constant %
wages	40.5	44.36	60.2	76.6	54.25	54.2
Property	18.0	19.72	26.7	45.0	31.87	31.9
Transfers	8.8	9.64	13.1	19.7	13.95	13.9
Total	67.3	73.72	100.0	141.3	100.07	100.0

*) in 1980 prices. As national income deflator is not available, the country's consumer price index was used as a proxy for estimating real money values.

Source: For 1979: *Premier Plan Quinquennal 1980 - 1984.* op cit. p. 85; and for 1984: *Deuxieme Plan Quinquennal 1985 - 1989.* op cit. p. 31.

The decreasing trend in the share of wage income, noticed

during the 1980 - 84 period, is expected to have continued during the 1985 - 88 period, owing mainly to the increase in unemployment, and to the deterioration of the wage rate during the same period; (see below pp. 250-253). It is also due to the increasing share of property income owing mainly to the recent encouragement given to the private sector. During the past few years, encouragement to increase private share ownership has been offered on a far greater scale. The government financial institutions have been subsidising capital through credit facilities; the cost of borrowing is 6 per cent while inflation is officially estimated at an average rate of 10 per cent[50] during 1985 - 89; (see table 5.12). Furthermore, tax holidays ranging from one to five years have been offered to private companies involved in tourism, in an effort to promote a 'neglected sector'.[51] With such encouragement, private sector investment doubled in 1984 and increased by a further 50 per cent in 1985;[52] and more will have taken place in 1986 - 1989.

However, as the share of wage income is related to employment, it is interesting to examine what has happened to the pattern of employment during the 1980s.

5.10- Trends in employment during the eighties.

First, it has to be noted that the sharp increase in employment has not been accompanied by a similar sharp increase in production and productivity. While production was increasing very slowly, productivity was declining to

the extent that in 1979 it was only half of what it was in 1967. Thus, the rapid increase in employment during 1967 - 1979 was not accompanied by substantial increase in output. Job creation virtually became job-sharing, particularly within the public enterprises. The overstaffing of public enterprises was a deliberate policy; employment expansion in itself was considered an indicator of government success. It was also a type of populist policy.[53] The government virtually sacrificed efficiency as a means of reducing unemployment, improving income distribution, and reducing poverty. Such a policy did help to bring about some equity but only at the cost of lost efficiency and future growth. It imposed a heavy burden upon the public enterprises with detrimental effects on their profitability, liquidity and ability to finance replacements for wear and tear, obsolescence, and ultimately on productive efficiency.[54] This partly led to the sluggish growth in the creation of employment opportunities in the eighties. One must also admit that some of the sluggishness[55] has to be explained in terms of the reduction in investments resulting from the fall in the oil prices.

The annual rate of increase in employment has decreased from 5.6 per cent during 1973 - 1979 to 4.4 per cent during the 1980 - 84 period to 3 per cent in 1986, 1.9 per cent in 1987, and to 1.6 per cent in 1988; while the active population has been increasing by an annual rate of more than 4 per cent. As a matter of fact, since 1984 employment creation has been in continuous decline in relative and in absolute terms. It decreased from an annual average of about

150,000 jobs in 1980-84 to 116,000 in 1986 and to 96,140 in 1987 and to around 65,000 in 1988, (see table 5.11), far below

Table 5.11: Employment indicators in 1,000 and in % during 1985 - 88.

	1985	1986	1987	1988
Active population	4,621	4,794	4,976	5,175
Total employed	3,698	3,814	3,910	3,975
Job creation	122	116	96	65
Job creation (%)	3.3	3.0	2.9	1.6
Unemployed	923	980	1,066	1,200
Unemployment rate (%)	19.9	20.4	21.4	23.2

Source: Constructed form: for active population (1985-87) and job creation (1985-86): *Comité Inter-Ministériel de l'Emploi (C.I.E.): la Situation et les Perspectives de l'Emploi: Synthèse et Recommendations. Unpublished Document*, Ministére du Travail. Mai 1987. pp. 23-24. For 1987 job creation as reported by *Actualité-Economie*, Monthly Review, Nº 30, Algiers, Sept 1988. p. 52. For active population in 1988 is based on the imformation of annual increase of 4%; and for 1988 job created, as pointed out by the Algerian Prime Minister on 29th Nov 1988; see *El-Moudjahid* 30th Nov 1988, p. 5. And for unemployment in 1988, from *Algérie-Actualité* Nº 1207 Semaine du 1 - 7 Dec 1988. p. 17.

the planned objective of 170,000 as envisaged by the second five year plan (1985 - 89), and representing only about 32.7 per cent of the new entrants[56] into the labour market, which numbered more than 199,000 in 1988. This shows the magnitude of the problem Algeria faces in providing increasingly productive employment for a rapidly growing number of workers. In fact, owing to the rapid increase in the proportion of female labour in the total active population from 8.1 per cent in 1983 to 15 per cent in 1988, to the recent low level of job creation, and to the job losses,

the unemployment rate increased considerably from its lowest official level of 15 per cent in 1983 to about 23.2 per cent in 1988 - almost the same level as in 1967. Further deterioration in the employment situation is expected to continue during the years to come. For instance, on the basis of creating 90,000 jobs in 1989,[57] as reported by the government, unemployment will be estimated at about 24.5 per cent by the end of this year. As a matter of fact, one of the reasons of the recent social uprising of early October 1988 was the high level of unemployment.

5.11- Deterioration in the statutory minimum wage rate.

While the data on different wage rates are not available for the 1980s, it is worth at least examining during this period the evolution of the statutory minimum wage rate (S.N.M.G.) - the unified wage rate in both urban and rural areas. Furthermore, the S.N.M.G. is the wage rate received by the bulk of wage earners (the unskilled labour). In 1981/82, unskilled labour accounted for more than 65 per cent of total wage earners in non-agricultural activities and 94 per cent in agricultural activities.[58] Changes in it would certainly affect the distribution of income and the alleviation of poverty during the 1980s.[59] However, between 1981 and 1988, the S.N.M.G. decreased in real terms from AD 4.57 in 1981 to AD 3.06 in 1988; it depreciated by one-third; (see table 5.12).

Table 5.12: Evolution of minimum wage rate (S.N.M.G.) in AD (1979 - 88)

Year	current Wage rate	Price index	constant Wage rate
Jan 1979	4.21	91.2	4.61
Jan 1980	4.21	100.0	4.21
Jan 1981	5.24	114.6	4.57
Jan 1982	5.24	122.3	4.28
Jan 1983	5.77	131.8	4.38
Jan 1984	5.77	141.2	4.09
Jan 1985	5.77	156.4	3.69
Jan 1986	6.30	173.9	3.62
Jan 1987	6.30	186.9	3.37
Jan 1988	6.30	205.6*	3.06

*) on the basis of an increase in consumer prices of 10% in 1988; see *African Research Bulletin*, vol 25 Nº 11, Dec 31st 1988, p. 9355.
Source: constructed from: Consumer price index, see *International Financial Statistics*. May 1988. p. 84; for wage rate: 1979 - 84: *Annuaire Statistiques de l'Algérie 1983/84*. p. 293. For 1985 - 1986: *African Research Bulletin* vol 22, Nº 12 Jan 1986. p. 8038; for 1987 - 88, there was a wage freeze.

5.12- The deterioration in food prices & subsidies.

The lagged increase in the income of the lower income groups *vis à vis* the increase in the food prices would have negative effects on income distribution and poverty alleviation. On August 1st 1983, there was a 10 to 30 per cent increase in the price of basic foodstuffs (including bread, cooking oil and eggs).[60] In 1985, the prices of cereals - the stable food in Algeria - witnessed two increases: the first on March 23rd when the price of bread and other cereals increased by more than 11 per cent;[61] the second on August 1st when the prices of bread and semolina were raised by an average rate of 10 per cent. Such increases was said to be adopted with "the aim of ensuring

the protection of the producer and an improvement in quality of products", announced the Algerian press on August 1st 1985.[62] It has to be borne in mind that the statutory minimum wage rate depreciated, as noted earlier, by one-third between 1981 and 1988; (see table 5.12). In fact, food subsidies have been decreasing continuously from AD3,800 million in 1982 to 1,000 million in 1988, (in current prices). The decline in real terms is even greater. In constant prices, it decreased from AD3,800 million in 1982 to about AD566 million in 1988. This means that in 1988 food subsidies in real terms represented only about 15 per cent of what they were in 1982; (see table 5.13). On per capita basis, as population has been increasing rapidly, the decline is even faster.

Table 5.13: Food Subsidies in millions of dinars, (1982 - 1988).

	1982	1983	1984	1985	1986	1987	1988
Current Prices	3,800	1,980	2,000	2,000	2,000	1,000	1,000
Constant Prices*	3,800	1,879	1,764	1,570	1,340	623	566

*) in 1982 prices, as deflated by food consumer price index.
Source: Compiled from: *Journal Officiel de la République Algérienne Démocratique et Populaire*, of different years (of Decembers 1981 - 1987).

This may suggest that the lower income groups were further impoverished and subject to the incidence of poverty. Not only the poor are non-producers of food, depending on the market for their living requirements, but also the bulk of private landowners - those having on average less that 4

hectares - depend on market purchases for most of their consumption needs. In view of this, Sen,[63] in the case of India, emphasised that a major weapon in combating poverty over the long as well as the short run is to keep food prices low. But as this would go against incentives to the producers, which was not discussed by Sen, agricultural production can be encouraged by the inducement of high returns to inputs, like irrigation, fertilizers, and other cost reducing technology. In this regard, it was pointed out by Dantwala that:

> "if you cannot provide employment to the unemployed poor, or fair remuneration to the larger number of the underemployed, give them food at lower prices. And the only way to this without adversely affecting the incentives to produce, adopt cost reducing technology, or subsidise consumption, which the government of India has been doing on an increasing scale."[64]

I do not see why such a policy[65] cannot be adopted in Algeria.

All these economic variables seen together constitute sufficient indication that income inequality and the incidence of poverty may have increased during the 1980's. The extent of the increase in income inequality and poverty is difficult to ascertain in the absence of the required data. Nevertheless, the degree of such an increase in inequality and poverty may be quite serious because this is being reflected in increasing resentment and sense of frustration among the poor, which came to be experienced in the recent violent riots of early October 1988. Such discontent was over food shortages, rising costs of living, and high unemployment.

The riots left at least 200 dead and hundreds more wounded. Many observers, commenting on such events, have pointed out that the uprising was the consequence of the previous economic policies, which "have produced two classes: the ruling élite, which strut about in the latest Parisian creations, and the other too poor to afford the basic essentials."[66] Such events, in fact, are in themselves a clear indication of the extent which the deterioration in income distribution and in poverty has reached.

However, a summary of the trend and the likely evolution of some economic indicators during the last two decades is given in table 5.14. It shows that the trend in these indicators, which was observed during the 1967/68 - 1979/80 period, has been completely reversed during the eighties.

Table 5.14: Trend & likely evolution of some indicators, 1967/68 - 1988.

Economic indicator	Trend* in 1967/68 -80	Trend* in 1980 - 88
Unemployment	_	+
Share of wage income	+	_
Real wage rate	+	_
Income inequality	_	[+]
Incidence of poverty	_	[+]

*) Where the sign (-) stands for the observed decrease, (+) for the observed increase, and [+] for more likely increasing trend.
Source: constructed from the above findings of this section and of chapter 5 and from those of chapters 3 and 4.

5.13- Summary.

In summing up, it can be said that the overall improvement in the distribution of income and in poverty alleviation which was noticed during the seventies, was generated by some policy interventions such as job-sharing, high increase in lower wage rates, and public expenditure such as food subsidies, education and health, as redistributive welfare measures. During the eighties, these policies were halted and/or limited in use, i.e. some of these policies were hardly in use (such as food subsidies and introduction of charges in the national health care system), and others were no longer implemented (such as sharing-jobs). In consequence, a deterioration in income distribution and poverty is more likely to have taken place, as portrayed by some economic indicators. This suggests that the improvement in income distribution and poverty alleviation which was noticed during the seventies was transient.[67] The unsustainable nature is mainly attributable - as the literature has emphasised - to the nature of growth in general and to the limited scope of the particular distributional policies which were pursued.

Notes to chapter 5.

1. See "Le Programme du Tripoli", in: *Annuaire de l'Afrique du Nord 1962*. C.N.R.S., Paris, 1972.

2. See La Charte d'Alger. p. 38.

3. Ibid.

4. See *The Algerian National Charter of 1976: Content, Public reaction and significance*. John Nellis. Centre for Contemporary Arab Studies. George Town University. Washington, D.C. June 1980. p. 10.

5. See *Plan Quadriennal 1970 - 1973, Rapport Général*, Préambule. S.E.P. 1970. p. 3. Furthermore, it was stressed that "the emphasis on the resort of development does not leave in the dark the issue of an equitable distribution of income in favour of the most unfavorable strata of the population." See *Plan Quadriennal (1970 - 1973)*, op cit. p. 6.

6. See *Plan Quinquenal 1980-84, Rapport Général*, 1980. pp. i - ii.

7. See Ranis, G: "Equity with growth in Taiwan: how 'special" is the 'special case'." in *World Development*, 6. 1978. p. 407.

8. That is, owning a farm size less than 3.5 hectares does not generally reduce a household's risk of poverty. Accordingly, any increase in its operational land holding is likely to reduce the risk of poverty substantially.

9. Inequality in land distribution decreased only by about 6 per cent which was minimal in relation to what might have been expected, mainly in comparison to what one

would have expected from an 'Agrarian Revolution' which came with the slogan of "land to those who till it" and with "the abolition of exploitation of man by man." Such an inequality, as implied in the above discussion, in a society whose ideology is egalitarian is undesirable.

10. See Francis Stewart: *Basic Needs in Developing Countries*. 1985, pp. 75-76.

11. This, meanwhile, shows the non-linearity of (r) in the above equation.

12. See Fayçal Yachir and Rabah Abdoun: "Dépendence Alimentaire, Croissance Agricole et Equilibre Externe en Algérie", in *Annuaire de l'Afrique du Nord 1984*. Edition du C.N.R.S., Paris. 1986, p. 538. In fact, it is generally accepted that large landowners attract more government subsidies than small landowners.

13. In fact, agricultural income is a function of size of land, the type of soil, topography, climate, nature and mix of the crops, nearness to the market, intensity of input use and other facilities which most of them, if not all, are more likely to be enjoyed by the larger landowners, and which have made assets not only an important source of income but of inequality as well.

14. See *Statistiques*, Revue of O.N.S. Nº 15 April - june 1987, p. 25.

15. In other words, it is necessary not only to understand patterns of disparities which appear at the surface, but also to probe into the processes which affect them.

16. See Keith Sutton: "Agricultural Co-operatives in Algeria." *Year book of Agricultural Co-operation*, 1981. Plankett Foundation. (Oxford 1982). p. 186.

17. See Cristobal Kay: "Book Review." *Journal of Peasant Studies*, volume 4, Nº 2 January 1977. p. 244.

18. In developing countries, however, it is usually the government's commitment that is the crucial factor in the adoption and implementation of distributional and equity issues; if such a commitment is absent, it is quite difficult to be brought about from below, owing to many considerations.

19. In relative terms, it was 23.8 per cent and 24.5 per cent respectively during the same period.

20. Wage income, income from wages and salaries, and labour's income or share, are used interchangeably.

21. Skilled workers here stands for the executive and high technician occupations.

22. It has to be borne in mind that if fringe benefits - such as free or subsidised housing and transportation - mainly confined to employment in senior grades - were included, the trend in vertical wage disparities would be something else. But as stated above, income distribution does not include such elements.

23. See *Statistiques,* Revue of O.N.S. Nº 15 April - June 1987, Algiers, p. 14.

24. See S.E.P. *La Situation de l'Emploi…* 1970. pp. 15-17.

25. See *Annuaire Statistique de l'Algérie, 1981.* p. 75.

26. Calculated from table 5.6.

27. Calculated from tables A5.1 and A5.4, in Appendix 5.

28. See *Annuaire Statistique de l'Algérie, 1981.* p. 351.

29. See for instance, Misska: "L'Algérie du Privilège au

Droit." op cit. 25.

30. Furthermore, in industry and administrative work is highly remunerated than manual work. For instance, a typist wage is almost the same as a highly qualified solderer in metal and construction industry. See M. Mebtoul: *Dicipline d'Usine, Productivité et Société en Algérie*. O.P.U. Algiers, 1986. p. 89.

31. If the increasing share of wage income is not accompanied by more equality in its distribution, it is likely that the resultant improvement, due to the former, may be neutralised by the deterioration in the latter. This is why it is preferable to have both - an increase in the labour share and an improvement its distribution.

32. While income from property, as emphasized in chapter one, is likely to be more unequally distributed and skewed than income from wages and salaries, it follows that a rise in the share of wage income in total household incomes would often serve to improve the distribution of income.

33. The same trend was noticed in other countries. In Taiwan, for instance, see Fei, Ranis, and Kuo in: *Growth with Equity: The Taiwan Case*. op. cit.

34. See Ibrahim Hassen El Essawy: "Interconnection between income distribution and economic growth in the context of Egypt's economic development." in: *The Political Economy of Income Distribution in Egypt*. (eds) Abdel-Khalek Gouda and R. Tignor. Holms and Meiers. New York, London 1982. pp. 99 - 100. The wage policy was also a basic instrument in the income distribution programme of the Allende Government. The proportion of wages and salaries in national income increased from 52.3% in 1970 to 61.7% in 1971. See A. Foxley, E. Aninat and Jose P.

Arellano: "Chile: The Role of Asset Redistribution in Poverty Focused Development Stategies.", in: *World Development*. vol 5 Nº 1/2, 1977. p. 72. (pp. 69 - 88).

35. The Algerian Press Service (A.P.S.) stressed that "on an economic level, tax evasion has led to a reduction in state income, which 'considerably hinders' the country's development, which also deplored the injustice and inequality resulting from the fraud." Quoted in: *African Research Bulletin*, vol 22 Nº 4 May 1985. p. 7715.

36. See A. Berry and M. Urritia: *Income Distribution in Colombia*. Yale University Press, 1976. p. 170.

37. It has to be noted that the Gini coefficient, though is a useful measure for many purposes, is not useful in depicting the redistributive impact of tax systems, as is sometimes thought because it is not sensitive to the changes at the extremes of the income distribution which are usually most interesting to policy-makers. See for instance, Richard M. Bird and Luc Herry de Wulf: "Taxation and income distribution in Latin America: A Critical Review of Empirical Studies", in: *IMF. Staff Paper*, vol 20, 1973. p. 670.

38. See R.A. Musgrave and M. Gillis: *Fiscal Reform for Colombia*. Cambridge, Mass: Harvard, Law School. 1971, p. 33.

39. Some of this decrease, mainly during 1977, was said to be due to the decrease in world prices of some food products, and to the relatively good harvest in cereals in Algeria.

40. As a proportion of total consumption expenditure, they represented 25.4% and 5.7% repectively. These figures

are calculated from table 4.7, p. 194, and table A5.7 in Appendix 5.

41. Calculated from table 4.7, p. 194, and from table A5.7 in Appendix 5.

42. As quoted by Luc De Wulf: "Fiscal Incidence Studies in Developing Countries: Survey and Critique", in: *IMF Staff Papers*, vol 22 March 1975. p. 91.

43. See *Statistiques*, Revue of O.N.S. Nº 15 April - June 1987, Algiers, p. 20.

44. See *World Development Report*, of 1983, p. 197, and of 1988, p. 281.

45. See for instance J. Bhaghwati: *Wealth and Poverty*. Basil Black Well, Oxford University Press, 1985. p. 171.

46. See C.L. Bell and Jhon N. Duloy, in *Redistribution with Growth*. op cit. p. 123.

47. See T. W. Schultz: "Nobel Lecture: The Economics of being Poor." *The Journal of Political Economy*. August 1980, p. 640.

48. See P. Pfeffermann and R. Webb in: *The Distribution of Income in Brazil*. World Bank Working Paper Nº 356, September 1976, table 4, p. 41.

49. See *World Development Reports*, of 1983 and 1988. World Bank.

50. Calculated from table 5.12 above p. 240.

51. See *Middle East Economic Digest* (M.E.E.D.) 21st February 1987. p. 6.

52. See *The Financial Times:* Country Survey - Algeria.

December 10th 1986. p. 4.

53. In fact, employment expansion became almost the prime objective and was considered by the Algerian authorities, an indication of government success.

54. Many of the jobs assigned to workers, as discussed in chapter 2, were fictitious.

55. In this respect, it has to be noted that the rapid increase in employment (mainly during 1974 - 80) was, in fact, due to the direct and indirect effects of the oil boom; and the job sharing policy itself was enhanced and supported by the oil revenues.

56. Representing only 56 per cent of what was planned as job creation by the annual investment budget of 1988; see *Africa Research Bulletin*, Economic Series, vol 24 Nº 12. January 31st 1988. p. 8954.

57. See M.E.E.D. vol 33, Nº 1, 13th January 1989, p. 19. Analysts say that the target of 90,000 new jobs in 1989 is ambitious; see M.E.E.D., vol 33 Nº 14, April 14th 1989. p. 3.

58. See for instance, A. Bouzidi: "Emploi et Chômage en Algérie 1967 - 1983", in: *Les Cahiers du CREA*. Revue du Centre de Recherche en Economie Appliquée Nº 2 Deuxième Trimestres. Algiers. 1984. pp. 66-67.

59. For instance, Bacha and Taylor argue that the official wage squeeze in Brazil in the 1960s, contributed to the increase in inequality. See "Brazilian Income Distribution in 1960s: Facts, models, results and the Controversy." *Journal of Development Studies*, 1978 vol. 14.

60. See *African Research Bulletin*, July 15 - August 14th 1983, p. 6937.

61. See African Research Bulletin, vol 22 Nº 4 April 30th 1985, p. 7673.

62. See African Research Bulletin, vol 22 Nº 7 August 31st 1985, p. 7837.

63. See A. Sen: "Dharm Narain on Poverty Concepts and Broader Issues.", in: *Agricultural Change and Rural Poverty*. (eds) J. Mellor and Desai. op cit.

64. See M.L. Dantwala: "Technology, Growth, and Equity in Agriculture.", in *Agricultural Change and Rural Poverty*. op cit. p. 121.

65. With such a policy, appropriate measures have to be taken in order to limit the side effects concerning the distribution of income in the agricultural sector.

66. See *The Independent* Newspaper, Tuesday 11th Oct 1988, p. 10.

67. Not in so far as education and welfare services are concerned, they may be slowed down.

Chapter VI

Conclusion.

On the basis of a review of the literature, as presented in the beginning of this study, it can be argued that income distribution and poverty are determined by the complex interaction of many social, economic and political factors. Accordingly, any substantial analysis of a particular case has to take into account the particularities of that case and not merely treat it as an observation within a secular cross country analysis which assumes away the diversities of socio-economic and political characteristics of various countries. More sophisticated econometric modelling suffers from similar limitations. Instead of accepting the socio-economic forces as evolving in the course of development, they are assumed to be constant during the period of analysis. Such assumptions are inappropriate to be treated as constants in quantitative analysis, mainly when conscious efforts are being made to alter the socio-economic and political structure of the country. In view of the limitations of cross-country analysis as well as econometric modelling, it was decided in this study to adopt a socio-economic approach. Serious inadequacies of appropriate data were a further reason for not undertaking a simulation type of exercise. Moreover, the period of 20 years of post independence Algeria (to which available data relate) has been one of rapid changes in domestic as well as the inter-

national scene. In some ways one could argue that many policies did not receive a fair trial. They had to be changed because of altered circumstances. Yet the broad trends of policies and their implications for poverty and income distribution provide some basis however tentative, for formulating and implementing policies for creating a just society, the aim which the makers of modern Algeria eventually believed in.

From the review of the Algerian economy since the colonial era with which the study commenced, we can draw the following conclusions. First, not only was the Algerian economy under French occupation made to serve the metropolitan one, but also within Algeria. The Algerians were impoverished while the European settlers were enjoying a very high level of living. Second, the economy of independent Algeria during the last two decades or so has remained beset by a number of problems, bottlenecks and performance failures, which have not permitted the generation of self-sustainable growth of output and of employment. Consequently the pattern of income distribution and poverty has been significantly affected.

The analysis of the level and trend of income distribution and poverty in post-independence Algeria shows, however, that during the 1967/68 - 1979/80 period, the country experienced a rapid rate of growth as well as a more equal distribution of income and an alleviation of poverty (the improvement henceforth). Such an improvement was the net outcome of both positive and negative effects. A decomposition analysis showed that the positive effects were

generated at two levels:

1- Much of the improvement came in the non-agricultural sector where the bulk of employment creation did take place. This meant that the share of the labour income (as opposed to property income) - the main source of household income and the more equally distributed - increased considerably during the period mentioned earlier. Moreover, the income of the lower income groups increased in general faster than that of the upper income groups, and consequently income differentials narrowed between wage earners.

2 - Some improvements took place also because of the reduction in inter-sectoral inequalities, as non-agricultural/agricultural income differentials narrowed, due mainly to the establishment of the same statutory minimum wage rate in both agriculture and non-agricultural activities.

The adverse effects were noticed in the rural areas in general and in the agricultural sector in particular. With inequality in land ownership and in access to inputs, the resultant distribution of income from farm land among private landowners is still significantly unequal. This suggests that the so-called 'Agrarian Revolution' policy had no major effect on private land distribution or on either of the problem of rural poverty and income inequality. In this respect, it can be said that the agrarian reform did not bring much equity effects as expected. Consequently, the

income of the upper income groups in this sector increased faster than that of the low income groups.

As far as the incidence of poverty is concerned, a decrease was noticed, both in non-agricultural and in agricultural sectors; but the decrease was much greater in the former. As a consequence, poverty became virtually almost a rural phenomenon in general and within the agricultural sector in particular. Accordingly, this is of particular interest to policy makers in advocating the direction of the appropriate measures to combat poverty. The alleviation of rural poverty might have been far greater if it had been accompanied by a more equal distribution of land ownership. Such a land ownership is still characterised by high levels of concentration.[1]

Examining the nature of the determinants which shaped the level and pattern of income distribution and poverty during the seventies, it was found that some arise directly from policy interventions on the part of the government. These policies consisted mainly of job-sharing, high increase in low wage rates, and public expenditure on food subsidies, for example, education, and health. Some other policies and programmes did not have significant contribution to such an improvement: agrarian reform and taxation are cases in point.

To gauge the direction of the trend in income distribution and poverty during the eighties, the emphasis was laid on how the above policies were operating during that period. In

view of this, some attempts were made to assess the implications of the drop in oil prices and the fall of investments in the economy during the eighties. Both the share of wage income and the statutory minimum wage rate deteriorated significantly owing to the sharp increase in unemployment, and inflation, (mainly food prices were increasing considerably). This suggests that the improvement in income distribution and in alleviation of poverty during the seventies was transient. In other words, it seems more likely that the trend which arose during the seventies has been reversed, with serious consequences for poverty and income distribution.

As a result of the recent collapse in oil prices and the rise in interest rates on the world market, the burden of the foreign debt (the debt service ratio) increased from 28.6 per cent in 1982, to 51 per cent in 1986, and to over 83 per cent in 1988. Such a burden constitutes an additional constraint in the process of capital accumulation. There was a sharp decline in investment from 48.6 per cent in 1980 - 84 to 31 per cent in 1986 (i.e. a decline of more than 36%). Moreover, reduction of imports of capital and intermediary goods, consumer goods and raw materials resulted in a growing shortages of food, work stoppages, engendering high prices and the resultant loss of income with serious consequences for poverty and income inequality. All these put a brake on the economic growth and on its long term prospects. Economic growth rate slowed down from an average of 4.3 per cent per annum in 1980 - 84 to 2.9 per cent in 1986, and to negative rates of 1.4 per cent in 1987 and 2.7

per cent in 1988, far below the annual estimated growth rate of 6.6 per cent as anticipated by the second five year plan (1985 - 1989). Unemployment rate increased from 15 per cent in 1983 to more than 23 per cent in 1988, (and is expected to increase further this year). With regard to this situation, the Algerian Prime Minister has recently pointed out that "the Algerian economy has not acted with the required celerity to the challenge imposed by the decline in oil prices, engendering… the anxious and brutal deterioration in employment, lack of housing, low productivity and the deterioration in the purchasing power of certain social groups."[2] This is indicative of the deep-rooted problems facing the Algerian economy. Moreover, it indicates that the question of income distribution and poverty was not properly addressed, and that the reverse trend was inherent in the nature of the Algerian development strategy; (ultimately suggesting that the strategy was ill-founded, (mainly with regard to the distribution of income and the alleviation of poverty). This emphasises the idea that the methods and tools used with the aim to accomplish a goal (e.g. improving the distribution of income and alleviating poverty) do matter. Such a situation can be said to be attributable, as emphasised by the literature, to the pattern of growth in general and to the limited scope of the pursued distributional policies in particular.

Thus the improvement in income distribution and poverty alleviation which took place during the seventies could not be described as the consequence of a well-conceived develop-

ment strategy as such. It was rather by specific policy interventions such as nominally increasing employment through sharing-jobs, manipulation of statutory wage rates, and food subsidies, which were not a part of an integrated development strategy. Most of these policies did not continue their course during the eighties. With the recent deterioration in the oil market, every thing else seems to have deteriorated, because not much has been done to diversify[3] the Algerian economy, to reduce the absolute dependence on the exports of hydrocarbons and to mitigate the unemployment problem.

The principal conclusion of this study is that Algeria's failure to achieve a sustainable alleviation of poverty and reduction in income inequality resulted from the nature of the development strategy. By emphasising heavy industries which had a limited impact in terms of employment opportunities, the government resorted to the policy of job-sharing, allowing a considerable increase in the number of jobs particularly within the public sector. Such a policy[4] only generated a temporary, short lived improvement in the distribution of income and in the alleviation of poverty. It was short-lived because of the nature of the created jobs: many were not created on any efficiency criteria, they virtually amounted to inflating job posts (far beyond what was necessary for the functioning of the public sector), which could not be sustained when the oil boom was over. Such a policy has limited the capacity of the economy[5] to grow and to generate further employment opportunities during

the eighties. It is well known that it is only productive employment and greater efficiency in resource use which provide higher savings for sustaining higher rates of economic growth and of employment which is a necessary condition for improving the distribution of income and the alleviation of poverty. This concern, meanwhile, as a policy issue has been emphasised by most development economists and international institutions, mainly by the World Employment Programme of the ILO. For instance, the ILO stressed that "the main instruments for attaining this goal [the achievement of a certain minimum standard of living] would be increasing the volume and productivity of employment."[6] However, the reverse trend, for the time being, will continue its course because some factors, such as the prevalence of unequal distribution of assets (specifically land), the continuous increase in unemployment, the deterioration of the wage rate, and the rising cost of living, are still encouraging the persistence of poverty and preventing any radical redistribution of income on sustainable grounds.

Nonetheless, the questions that have to be asked are: what implications can be drawn from the experience of the recent past for the magnitude and character of growth, income distribution and poverty that Algeria will confront in the coming years? What policy directions should be followed? What policy instruments are available or might be fashioned to meet the challenges that these problems pose?

However, given the future uncertainties and complexity of

the subject matter, only some speculative policy recommendations are possible. As a matter of fact, theoretical and policy debates on development and underdevelopment bear a very strong resemblance to theories and policies on poverty and inequality. All government policies impinge one way or another upon individual incomes and income distribution. The effect of each policy instrument has not to be seen separately, but rather in coordination with other policies because the question of poverty and income inequality cannot each be tackled by one simple policy instrument.[7]

By and large, effective policies to reduce absolute poverty in a sustainable manner can be seen in a package of policies. The redistribution of assets (land, capital, etc) and the provision of employment opportunities are among the pre-requisite conditions for poverty reduction and more equal distribution of income. Meanwhile, land (or assets), redistribution would help very much to reduce inequality and poverty, but (owing to political factors) is very unlikely to be implemented. As poverty reduction lies at the heart of the employment problem,[8] the development strategy has to focus on the creation of more productive employment opportunities which would enlarge the productive capacity of the economy, and consequently create more employment opportunities.[9] Such employment opportunities are quite important even for some landowners, particularly small landowners, as their farm income is not sufficient to cover their requirements. They have to sell their labour power to gain additional income in order to subsist.[10]

All these require a drastic decentralisation and realignment of political power with wide popular participation which will make it possible to initiate ambitious programmes of public investment involving the whole social strata of the population. It is often the lack of people's participation which is the major factor limiting the social impact of distributional policies (the Algerian land reform is a case in point).[11] The importance of such a participation, in pursuing development objectives, stems from the idea, emphasised earlier, that income distribution and poverty are determined by the complex interaction of many social, economic and political factors.[12] Moreover, the decisions with regard to the development strategies, investment allocation and policies are largely determined by the socio-political structure of the society and the interplay of various social/political groups. It is within this sphere that any distributional policy must operate if it is to be successful. This concern, meanwhile, goes beyond the scope of this study, and represents a vast area for further research. However, in the absence of such policies and measures, income inequality would persist and poverty of many would be perpetuated, and the poor would not be able to fulfill their needs because of lack of purchasing power, and therefore would continue to lack an opportunity to participate in development.

Notes to chapter 6.

1. In this respect, "it is the high concentration of land holdings that influences the unequal distribution of income" rather than the other way round. See Quan, N.T., and Koo, A.Y.C., "Concentration of land holdings: an Empirical Exploration of Kuznets's Conjecture". *Journal of Development Eonomics,* vol 18 Nº 1 May - June 1985.

2. See *El-Moudjahid* 30th November 1988. p. 4.

3. Bearing in mind that we are not talking of a highly diversified economy which its realisation may only be seen in the long run.

4. Such a policy which, was backed by the oil boom revenues, masked the adverse consequences of the capital intensive development strategy. This is how the Algerian development strategy did manage to combine, for sometime, two contradictory features in its industrialisation development: capital intensive industries, and employment promotion.

5. This limited capacity was also due to the shrinkage of oil revenues.

6. See Employment, Growth and Basic Needs. ILO. Geneva. 1976. p. 7.

7. The operation cannot be complete or successful unless a well considered set of policies are put forward.

8. See for instance, *Towards Full Employment: A Programme for Colombia,* Geneva: ILO. 1970, p. 138.

9. In this respect, employment should be seen both as an end and as a means: as an end in generating self-respect and a sense of dignity; and as a means in providing a

stream of earned income needed to cover human wants and overcome poverty, and equally important to yield an output. In short, employment must be understood in the sense of a productive, and a secured full time job, which would contribute to a sustainable economic progress across the entire population.

10. In this respect, the control of food prices through subsidising consumption may have a positive effect not only, on the improvement in the distribution of income and alleviation of poverty, but on economic growth as well. It may enable the poorer sections of the population to cover their consumption requirements, and which in turn may raise productivity of labour (mainly of the poor). There is a good reason to expect as well strong increase in labour productivity through better management and organisation.

11. The distribution of income, in general, and of assets, in particular, is closely determined by the distribution of political power (they are interrelated). In other words, redistribution of income and wealth has specific implications on power, status, and prestige as well as on participation in the decision-making sphere.

12. Accordingly, the overall mechanisms determining the distribution of income and incidence of poverty have to be assessed in terms of class interests and class struggle for power.

APPENDICES

Appendix 1.

Measurement of Income Inequality and Poverty.

A very important aspect in the study of income distribution and poverty in the course of development is the distribution of the benefits of growth. For such a distribution, a tool of measurement is required in order to assess changes over time. In this respect, one has to differentiate between relative income inequality which deals with one person's, or household's income position in relation to others, and absolute poverty which deals with the absence of enough income to satisfy the consumption of a minimum bundle of goods and services, what it is called the "poverty line". Accordingly, there are two different measures: relative income inequality indices and those which deal with absolute poverty.

As far as income inequality is concerned, a considerable number of measures have been proposed in the literature. Comprehensive surveys, for instance, are provided by Sen (1973), Szal and Robinson (1977), Cowell (1977), Yotopoulos and Nugent (1976), and Bigsten (1983). Meanwhile, each of these measures has its own drawbacks and ambiguities. In this respect, Fields pointed out that "whenever relative inequality measures are used, researchers are implicitly making some value judgements, but it is not clear what these judgements are."[1] Moreover, Yotopoulos and Nugent concluded that "In conclusion, we may say that the measurement of

income inequality is riddled with ambiguities."[2] However, despite such limitations economists continued to advance measurement of income inequality in their studies of income distribution. The question that ought to be asked is: do we use any measure? The measurement which can be accepted to many,[3] as a relevant basis for inequality comparisons, has to fulfill certain properties (axioms), as introduced by Sen[4] and others.[5] These axioms are:

1- Mean independence: The measure should be independent of the level of income, and when all incomes are multiplied by a constant factor (k), the measure of inequality is unchanged.

2- Population size independence: An equal increase or decrease in the population across all income levels does not result in a change in the inequality measure.

3- Pigou-Dalton transfer sensitivity: A transfer from rich individual or household to a poorer one that does not change the ranking of individual or household should always reduce the inequality measure.

As the Gini coefficient fulfills the above three axioms, and has widely been used as an indicator of income inequality, it is used in this study as well. It has to be borne in mind that as an aggregate index, it might be misleading; income gains by middle income groups seem to come at the expense of both upper and lower groups.[6] Moreover, it has to be noted that it cannot be decomposed into within group and between

group inequalities. This means that it is not a particularly useful index in a decomposition analysis. For such a decomposition analysis, the coefficient of variation is a better alternative. It fulfills the three above axioms, as well as being decomposed into within and between inequality; consequently, it is used in this study.

As far as absolute poverty is concerned, yet again its measurement is indispensable for quantifying the extent of poverty in a country so as to be able at a later time to assess progress toward its alleviation and more generally to learn how the benefits of economic development are distributed. Furthermore, it may serve as a useful guide to the economic position of the poor. Such a measurement, meanwhile, involves two distinct problems. The first is how to identify the poor as a group, the second is how to determine the intensity of poverty (poverty index) suffered by that group. Both problems involve choosing some criterion of poverty, the most common example of which is a poverty line defined in real per capita income terms. Such a poverty line usually starts with the identification and costing of a 'balanced diet' for an average person, and then an allowance is made for non-food expenditures. These, meanwhile, pose some problems, as discussed above, mainly of how to deter-mine the minimum standard of living. Owing to all these, any estimation of a poverty line, and any measure trying to portray poverty in a single statistic must contain an element of arbitrariness because, it is difficult to capture all dimensions and characteristics of poverty; (let alone

its quantification).[7]

However, a very common index of the measurement of the extent of poverty is the percentage of the population below the poverty line - the head count ratio (H). A drawback of this measure is that it gives the same weight to someone whose income, say is 5% below to one whose income is 90% below the poverty line. In other words, the problem with this measure is that for any given number of persons below the poverty line, its value is insensitive to changes in the amount by which their conditions place them below the poverty line. This measure (H) takes the poor as a homogeneous group, and is also insensitive to transfers of income among the group of the poor.

The concept of the poverty gap - the income gap ratio (I) has been introduced. It measures the total income needed to bring everyone who is below the poverty line up to that standard. This measure is, however, insensitive to transfers of income within the poor, and to the number of the poor. Nevertheless, to avoid the deficiencies of the above poverty indicators, Sen[8] has developed an index that is superior to both the head count ratio and the income gap ratio. It takes into account the number of poor and both the extent of group shortfall beneath the poverty line and to transfers among the poor. It tells us the income needed to support every one of the population at poverty line level. Sen's poverty index may be called (P) and can be written:

$P = H [I + (1 - I) G]$, where (H) is the head count

ratio, i.e. the proportion of the people below the poverty line, (I) is the income gap; and (G) is the Gini coefficient of income distribution among those people whose income is below the poverty line. Sen's poverty index is used in this study.

As a matter of fact, the issues of measurement of income inequality and of poverty are subject to several constraints such as the definitional problems, the lack of data and information in general and of income distribution in particular. For instance, an interest in the lower income groups in general and in the poor in specific, is not always well served by aggregate inequality measures. They, for instance, do not give any indication of where exactly the inequality lies, nor when distribution alters, nor where this change has taken place. So, one should not take any decrease in aggregate inequality as a good thing regardless who gets what from whom. We must seek the implications of changes in overall inequality for a specific group - the poor. Accordingly, one has to examine how the distribution of income changes from period to period in its dynamic approach and not in its static framework. Further constraints concern the consistency and reliability of the available data, particularly lack of representativeness in sample surveys, in definitions and classifications. Of course some of these constraints differ from one country to another.

Notes to appendix 1.

1. See Gary S. Fields in: *Poverty, Inequality and Development*. Cambridge University Press. Cambridge 1980. p. 22.

2. See Yotopoulos and Nugent, *Economics of Development: Empirical Investigation*. Harper & Row, New York, London 1976. p. 246.

3. For a good survey, see N. Kakwani: *Income Inequality and Poverty: Methods of Estimaton and Policy Applications*. World Bank. Oxford University Press. 1980.

4. See Sen, A. *On Economic Inequality*. Clarender Press, Oxford. 1973.

5. See for instance G. S. Fields and C.H. Fei: "On Inequality Comparisons." *Econometrica*, March, 1978. pp. 303 - 16.

6. Thus, one must examine all income groups and their interaction to understand the distributional changes which are occurring.

7. It has to be noted that an important characteristics of these definitions is that they differ across countries and time-periods.

8. See A. Sen: Poverty: "An Ordinal Approach to measurement." in *Econometrica* vol 44 Nº 2. 1976. pp. 219 -31.

Appendix 2.

Table A2.1: Main export products 1958 - 1961 (in percentages).

	1958	1959	1960	1961
Agricultural products	84.4	75.6	59.5	47.2
Energy and Lubriant	1.9	4.7	23.7	37.9
Other Products	17.7	20.7	16.8	14.9
Total	100.0	100.0	100.0	100.0

Source: Tableaux de l'Economie Algérienne, 1967. S.E.P. p.149.

Table A2.2: Structure of gross agricultural income in millions of Frs.

	1954		1957		1960	
	in value	%	in value	%	in value	%
Cereals	625	20	667	23.4	624	20.4
Pulses (dried, etc)	33	1	21	0.7	17	0.6
Wine	1,375	44	1,119	39.3	952	31.2
Fruits	244	9	221	7.8	290	9.5
Industrial crops	67	2	48	1.7	70	2.3
Fresh vegetables	203	6.5	212	7.5	352	11.5
Sub Total	2,547	81.5	2,288	80.4	2,305	75.6
Animal products	580	18.5	558	19.4	744	24.4
Total	3,127	100.0	2,846	100.0	3,049	100.0

Source: For 1954 and 1957: Tableaux de l'Economie Algérienne, 1960. pp.133-135. For 1960: l'Agriculture Algérienne, Numéro Spécial. Le Développement Africain, Paris, oct 1961. pp.94-95.

Table A2.3: Composition & distribution of population in Algeria (1954)

	RURAL		URBAN		TOTAL	
	Number	%	Number	%	Number	%
Algerians	7,052,000	97	1,397,000	68	8,449,000	89.6
E. Settlers	224,031	03	760,000	32	984,031	10.4
TOTAL	7,276,031	100	2,057,000	100	9,433,031	100.0

Source: Ahmed Henni in: *La Colonisation Agraire et le Sous Developpement en Algérie*. S.N.E.D.1981. Algiers. pp. 82-84.

Table A2.4: Structure of industrial sector in % of output in 1959.

Industries*	% of total output	Index in1959 (1954=100)
Food processing	29.6	230
Tobacco, Matches	15.4	126
Textiles	2.5	58
Peper	1.3	142
Printing	5.9	157
Chemicals(including oils & fats	10.5	179
Glass	1.8	161
Building materials	12.0	141
Base metals	0.4	156
Metal working, Engineering	20.6	137
TOTAL	100.0	150

*) small industries, such as clothing, wood and the like are excluded.

Source: *Tableaux de l'Economie Algérienne 1960*. p.155.

Table A2.5: Product per head (1880 - 1955) in 1955 Francs.

	1880	1910	1920	1930	1955
Agricultural product per head	290	300	350	390	290
Non-Agri...../// // //	1,850	1,900	1,900	1,900	2,100
Overall product per head	530	570	660	720	750

Source: S. Amin in: *The Maghreb in the modern world*. op cit. p. 56.

Table A2.6: Structure of GDP, in percentage, 1950 - 1960.

Sector	1950	1960
Agriculture	40	23
Industry	24	23
Services	36	54
TOTAL	100	100

Source: Constructed from L.S. Stoléru: *Quantitative Model of Growth of the Algerian Economy*. Unpublished Ph.D. Brekerley University 1963. pp. 5 - 7.

Table A2.7: Breakdown of Constantine plan investment by sector in %.

Agriculture, Water development, Rural programmes	29
Industry	9
Infrastructure, Transport, Puplic utilities	18
Education	10
Health	3
Housing, Urban development, etc	25
Public administration	5
Miscellaneous	1
TOTAL	100

Source: Plan de Constantine 1959-63, Rapport Général, République Française, Délégation Général du Gouvernement en Algérie, Direction du Plan et des Etudes Economiques. Imprimerie Officelle. Algiers, 1960.

Table A2.8: Structure of working days & effective workers by sector, 1960.

	Nº of workers	Nº working days	nº effective workers
Agriculture	1,600,000	170,000,000	850,000*
Industry & services	850,000	225,000,000	750,000@
Unemployed	200,000	—	—
Total	2,650,000	395,000,000	1,600,000

*) calculated on the basis of 200 working days per effective worker.
@) calculated on the basis of 300 working days per effective worker.
Source: Constructed from L. Stoléru. op cit. p. 15.

Table A2.9: Balance of trade (in percentages) 1954 - 1961.

Imports	1954	1957	1959	1960	1961
Food, beverages & tobacco	22.27	21.07	22.24	23.32	28.54
Raw materials, fuels, fats oils	12.51	14.05	10.34	10.15	11.45
Manufactured articles	65.22	64.88	67.42	66.53	60.01
-textiles, clothing & footwear	7.62	11.64	9.82	9.68	9.32
-metal & metal products	4.65	4.91	6.49	7.26	7.22
-machinery & equipments	-	8.30	10.53	9.21	8.34
-passenger cars	3.72	3.00	4.15	4.06	2.18
-other transport equipments	6.41	8.90	5.79	5.91	4.31
Total	100.0	100.0	100.0	100.0	100.0
France's share of total imports	73.9	73.3	82.5	79.9	77.5
Exports					
Food, beverages & tobacco	70.29	77.83	74.99	55.10	41.30
of which: Wine	(40.54)	(48.66)	(49.57)	(37.90)	(28.12)
- ctrus fruits	(5.48)	(9.01)	(6.99)	(4.44)	(4.06)
Raw materials, fuels, fats oils	20.09	14.28	18.73	39.82	52.94
of which crude petroleum	-	(0.05)	(4.64)	(29.13)	(45.45)
all others	(20.09)	(14.23)	(14.10)	(10.67)	(7.49)
Manufactured articles	9.62	7.90	6.27	5.08	5.75
of which : phosphates	(1.58)	(1.18)	(1.27)	(0.76)	(0.49)
-machinery, transport equipments*	(1.46)	(o.92)	(0.77)	(0.86)	(1.51)
- all others	(6.58)	(5.79)	(4.22)	(3.46)	(3.76)
Total	100.0	100.0	100.0	100.0	100.0
France's share of total	72.8	79.9	82.3	80.8	78.6
Trade Balance (million current Frs)	-774.1	-2109	-3822.9	-3495	-1729.1

* mainly re-exports.

Source: La Zone Franc en 1963, Rapport Publié par le Secrétariat du Comité Monétaire de la Zone Franc; Paris 1963. pp.267 - 68. And Year Book of International Trade Statistics, United Nations. New York 1957, 1960, 1964.

Table A2.10: Employment by sector and by ethnic groups, Oct 31st 1954.

Sectors	Men (in 1,000)		Women (in 1,000)	
	Algerians	E. setllers	Algerians	E. setllers
Agriculture:				
Owners, tenants	1032.3	20.9	970.3	3.2
wage earners	564.0	8.3	7.0	0.1
Total	1596.3	29.2	977.3	3.3
Non-agriculture:				
Employers, self employed	27.5	16.3	2.6	2.6
Small traders	61.5	18.0	0.8	6.3
Other traders, industrialists	5.7	9.4	0.1	0.6
Liberal professions	2.1	9.2	0.1	1.8
Others	20.3	3.0	0.1	1.4
Total	117.1	55.9	3.7	12.7
Wage earners:				
Top management, professions	1.3	15.1	-	1.6
Technicians, formen etc	7.9	26.6	0.5	13.0
Office workers	9.0	26.3	0.5	13.0S
killed workers	38.3	44.4	1.2	5.3
Specialised workers	58.9	25.2	2.0	2.9
Unskilled workers	139.4	6.5	1.9	0.7
Char women	-	-	20.3	6.0
Others	43.8	32.6	5.0	12.1
Total	298.6	176.7	31.4	62.6
Total employed, non-agr	415.7	232.6	35.1	75.3
Employed	130.5	12.9	2.6	1.2
Total, non-agri labour force	546.2	245.5	37.7	76.5
Total labour force	2,142.5	274.7	1,015.0	79.8

Source: T.E.A 1960 (Imprimerie Baconnier), Alger, 1960. pp. 26-27.

Table A2.11: Nummber of annual Working days by size of holdings.

Size of area (ha)	< 22	22 - 55	55 - 10	10 - 15	15 - 20	20 - 25	25 - 30	40 - 50
Maintenance	299	294	257	134	114	66	55	43
Vendaanges & Vinifications	313	642	1531	1210	971	605	409	334
Days per ha	356	189	178	90	54	26	15	7

Source: Statistiques Agricole, série Etudes, Nº 32 Nov 1967. pp. 106-8, as quoted by A. Henni. op. cit. p. 69.

Table A2.12: Gross income and share of wages in the vineyard.

Year	Wages in million of Francs	Gross revenue in billion of Francs	Wages/Revenues
1956	12,090	56	21.50%
1958	15,810	105	15.05%
1960	19,590	130	15.07%

Source: A. Henni. op cit. p. 69.

Table A2.13: Structure of viticulture, by size of holding and Nº working days.

	Area		Working Days	
Size of Area	in number	in%	in Number	in%
Less than 10 ha	60,700	16.58	22,500,000	82
10 ha - 50 ha	130,600	35.42	4,200,000	16
Over than 50 ha	175,000	48,00	550,000	2

Source: The same source as table 2.16 .p. 79.

Table A2.14: Agricultural wage earners (in 1954).

	Algerians		European settlers	
	in numbers	in %	in numbers	in %
Permanent workers	112,800	20.33	3,100	37.35
Daily workers	361,100	65.08	1.600	19.28
Seasonal workers	77,800	14.02	200	2.41
Agents of maitrise	2,300	0.42	2,000	24.10
Stage-manager	800	0.15	1,400	16.86
Total	554,800	100.0	8,300	100.00

Source: Report on 1954 census, as quoted in A. Henni. in: *La Colonisation Agraire et le Sous-Developpement en Algérie*. S.N.E.D., Algir, 1981. p. 75.

Table A2.15: Daily wages in Francs.

	Algerians	European settlers
Daily labourer	6	10
Market gardener	7	12
VIntage	8	12
Cellarmen	8	15

Source: Ahmed Henni. op cit. p. 76.

Table A2.16: Distribution of employment by sector in %, 1967 - 83.

	1967	1969	1973	1979	1984
Agriculture	50.0	49.4	40.0	32.1	22.8
Industry	7.0	8.5	11.2	13.3	13.7
C. P & Building	4.1	4.3	8.7	14.5	19.1
Services	21.4	21.0	20.2	21.7	22.2
Administration	17.5	16.8	19.9	20.4	22.2
Total	100	100	100	100	100

Source: Constructed from Synthèse du Bilan Economique et Social de la Décennie 1967 - 1978. op cit. p. 136; and Annuaire Statistiques de l'Algérie of 1981, p. 75; and of 1983/84. p.40.

Table A2.17: Structure of Employment by sector 1967 - 84, in percentages.

Sector	1967	1973	1979	1984*
Agriculture	50	40	32	25.6
Non-agriculture	50	60	68	74.4
Total	100	100	100	100.0

*) from Annuaire Statistique de l'Algérie 1983/1984.
Source: Constructed from table 2.43.

Table A2.18: National resources & their uses (billion of current AD).

	1967	1969	1973	1978	1979	1982	rate*
GDP	14.6	18.5	30.5	74.1	113.2	185.5	18.5
Imports	3.6	5.8	10.9	41.9	40.8	59.4	20.5
Total resources	18.2	24.3	41.4	134.9	154.0	244.9	18.9
-Final consumption	10.4	12.6	18.7	53.9	62.0	103.1	16.5
-Gross accumulation	3.9	6.7	13.9	54.8	53.7	79.0	22.2
-Exports	3.9	5.0	8.8	26.2	38.3	62.8	20.3
per capita income*	1326	1558	2340	4810	5822	10330	14.7

*) in units of current AD.
Source: Planification et Développement. tome 1. op cit. p. 151.

Table A2.19: Sectoral Economic indicators 1960 - 1982, in %.

	1960		1982	
	Agriculture	Non-agricul	Agriculture	Non-agricul
1- Gross product	21	79	6	94
2- Share of labour force	67	33	25	75
3- Ratio of 1/2	0.31	2.4	0.24	1.25
4- Ratio (3) of 1/ to (3) of 2	7.7		5.2	

Source: Constructed from World Development Reports of 1979, 1980 and 1984. World Bank.

Table A2.20: GDP Structure & its component growth rates 1967-82, in %.

Sector	1967	1969	1973	1977	1978	1982	rate*
Agriculture	13.7	11.9	8.9	7.2	7.2	6.6	1.3
Industry	14.3	14.7	15.4	11.5	11.6	11.6	5.5
C. & P. Building	8.2	8.7	10.5	10.1	12.0	13.5	9.9
Other material prod.	2.8	4.4	4.9	6.2	6.2	3.3	8.4
Sub- total	39.0	39.7	39.7	35.0	37.0	35.0	6.1
Hydrocarbon	17.8	16.3	21.3	31.8	26.4	35.6	12.6
Transp & communication	4.1	5.4	5.9	5.5	5.2	4.3	7.4
Services	14.4	12.0	8.9	5.9	7.1	5.4	0.5
Commerce	19.2	20.1	17.4	12.8	15.2	13.6	4.3
Total value added	94.5	93.5	93.1	91.1	90.9	93.9	7.0
Import duties	5.5	6.5	6.9	8.9	9.2	6.1	7.9
G.Domestic Production	100.0	100.0	100.0	100.0	100.0	100.0	7.0

*) Average annual growth rates in real terms as deflated by a general prices index of 11.5% per year for the période 1967 - 1982.

Source: Constructed from Planification & Développement, tome 1. op cit.

Table A2.21: Balance of trade in billion of dinars 1967 - 1982.

	1968	1969	1970	1972	1974	1976	1979	1981	1982
Total Exports	4.4	5.0	5.3	6.2	20.1	22.9	48.6	64.5	62.8
-hydrocarbon	2.9	3.1	3.5	4.8	18.3	21.1	36.0	61.7	59.6
-other goods	1.2	1.5	1.4	1.0	1.3	1.1	0.8	1.1	1.4
-services	0.3	0.4	0.4	0.4	0.5	0.7	1.8	1.7	1.8
Total Imports	4.6	5.9	7.0	7.7	19.5	27.4	40.5	59.2	59.4
- goods	4.0	5.0	6.2	6.7	17.8	22.2	32.4	48.8	49.4
-services	0.6	0.9	0.8	1.0	1.7	5.2	8.4	10.4	10.0
Sold (1-2)	- 0.2	-0.9	-1.7	-1.5	+0.6	-4.5	-2.2	+5.3	+3.4

Source: Planification & Développement, tome 1. op cit. p. 152.

Table A2.22: Imports-exports structures, in millions of current AD & in %

	1967		1973		1979		1982	
	in value	in%	in value	in%	in value	in%	in value	in%
T. imports	3554	100	10934.4	100	40777.8	100	59387.4	100
-food products	824	23.2	1828.2	16.7	5174.3	12.0	8744.6	14.7
-indus goods	429	12.1	678.1	6.2	1777.9	4.4	3759.5	6.3
-indus approvis	1087	30.6	3495.7	32.0	11394.6	27.9	17587.0	29.6
-capital gooods	814	22.9	3532.7	32.3	14031.0	34.4	19296.3	32.5
-services	400	11.2	1400.0	12.8	8400.0	20.6	10000.0	16.9
T.exports	3872	100	7978.0	100.	38618.0	100	62783.0	100.
hydrocarbons	2605	67.3	6206.0	77.8	35956.0	93.5	9631.0	95.0
food products	647.1	16.7	780.1	9.8	418.4	1.1	_	_
other products	319.9	8.3	491.9	6.1	443.6	1.1	1752.0	2.1
services	300	7.7	500.0	6.3	1800.0	4.7	1800.0	2.9

Source: Constructed from Planification & Développement, tome 1. op cit.

Table A2.23: Algerian oil production in million tons (1974 - 1984).

1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
47.1	47.5	50.1	53.5	57.2	58.2	52.2	46.3	45.8	42.3	43.2

Source: B.P. Statistical review of World Energy. June 1984. p. 4.

Table A2.24: Evolution of Algeria's Exports & Imports in $ Millions.

	1980	1981	1982	1983	1984	1985	1986*
Exports	15623	13296	11476	11162	12120	11930	7056
Imports	10339	11269	10738	10395	10393	9169	6480

*) From Financial Times Survey - Algeria. Dec 10th 1986. p. 2.
Source: African Research Bulletin, Economic Series, vol 23 Nº 10 Nov 1986. p. 8456.

Table A2.25: Structure & growth of active population 1967-83 (in 1,000).

	1967	1969	1973	1978	1980	1982	1983	rate*
Male (of 18-59 years)	1950	2120	2480	3086	3314	3562	3697	4.1
employed (15-17)@	220	218	217	170	167	167	167	-1.7
Employed female	103	118	157	233	267	315	342	7.8
R. Active population#	2273	2458	2854	3490	3748	4045	4206	4.0

*) annual growth rate.

@) Employed male of 15-17 years old and those over 59 years old.

#) Resident active population.

Source: Constructed from Synthèse du Bilan Economique et Social de la Décennie 1967 - 1978. op cit. p. 136; and Annuaire Statistiques de l'Algérie of 1981, and of 1983/84.

Table A2.26: Structure of active population 1967 - 1983, in %.

	1967	1973	1978	1982	1983
Male (of 18-59 years old)	85.8	86.9	88.4	88.2	87.9
Employed male (15-17) & over 59 Y. old	9.7	7.6	4.9	4.1	4.0
Employed female	4.5	5.5	6.7	7.8	8.1
Total	100.0	100.0	100.0	100.0	100.0

Source: Constructed from table A2.25.

Table A2.27: Algeria's external debt in us$ millions (1970 - 1988).

Year	Total Debt	Prinvipal payments	Interest payments	Total Debt service (TDS)	TDS/ Exports
1970	937	34	10	44	3.9
1971	1,233	52	16	69	n.a
1972	1,488	138	51	189	11.7
1973	2,932	233	67	300	n.a
1974	3,305	491	218	709	12.6
1975	4,477	247	209	456	9.4
1976	5,934	433	340	773	13.0
1977	10,318	639	405	1,044	15.3
1978	15,401	894	594	1,488	20.4
1979	17,962	1,556	1,234	2,791	25.6
1980	18,686	2,460	1,394	3,854	25.8
1981	17,614	2,524	1,314	3,838	24.6
1982	16,683	2,898	1,371	4,269	28.6
1983	14,902	3,240	1,222	4,462	31.8
1984	13,865	3,274	1,292	4,566	32.8
1985	15,330	3,286	1,296	4,581	32.5
1986	19,300	3,248	1,433	4,681	51.0
1987	22,881	3,543	1,377	4,920	46.8
1988	n.a	4,958	1,485	6,443	83*

n.a stands for not available.

*) Calculated by the author.

Source: Compiled from World Debt tables of different issues.

APPENDIX 3.

DECOMPOSITION EQUATION of WITHIN and BETWEEN COMPONENTS of INCOME INEQUALITIES.

In order to assess the contribution of within and between components in the overall change in income inequalities, a partial differentiation of the decomposition of equation:

3.2: $C_n^2 = W_a \sigma_a^2 C_a^2 + W_u \sigma_u^2 C_u^2 + W_a(1- \sigma_a)^2 + W_u(1- \sigma_u)^2$.

has to be carried out. But owing to $\sigma_a = \mu_a/\mu_n$ and $\sigma_u = \mu_u/\mu_n$, expressing the mean income in rural and urban as a fraction of the overall mean income of the national economy; the partial differentiation cannot be properly done because the assessment of separate effects on C_n (the overall coefficient of variation) of the variation of the population shares (weights, W_a and W_u), the sector coefficient of variation (C_a and C_u), and the population income parities (σ_a and σ_u), hence it is not convenient to use σ_a and σ_u, thus the population weight (W_a and W_u) would enter into the definition of μ_n where $\mu_n = W_a\mu_a + W_u\mu_u$; where μ_n is the mean income of the national economy. So it would be preferable to express σ_a and σ_u in a different manner.

Then let (3.3) $\alpha_a = \mu_a/\mu$ and $\alpha_u = \mu_u/\mu$, where $\mu = (\mu_a + \mu_u)/2$, a simple arithmetic mean. Substituting this (3.3) in $\sigma_a = \mu_a/\mu_n$ and $\sigma_u = \mu_u/\mu_n$ as given above, then:

$$\sigma_a = \mu_a/\mu_n = \mu\ \alpha_a/(\ W_a\mu_a + W_u\mu_u) = \alpha_a(\mu_a+\mu_u)/\ 2(\ W_a\mu_a + W_u\mu_u).$$

Dividing both numerator and dominator by μ, then:

$$\sigma_a = \frac{\alpha_a(\mu_a/\mu+\mu_u/\mu)}{2(W_a\mu_a/\mu + W_u\mu_u/\mu)} \quad \text{but } \alpha_a = \mu_a/\mu \text{ and } \alpha_u = \mu_u/\mu \text{ then:}$$

3.3: $\sigma_a = \alpha_a(\alpha_a + \alpha_u)/2(W_a\alpha_a+W_u\alpha_u)$

and with the same steps:

3.4: $\sigma_u = \alpha_a(\alpha_a+\alpha_u)/2(W_a\alpha_a+W_u\alpha_u)$

Substituting 3.4 and 3.5 in the decomposition equation (3.2), it gives:

$$3.5: \quad C_n^2 = \frac{W_a C_a^2 \alpha_a^2(\alpha_a + \alpha_u)^2}{4(W_a\alpha_a + W_u\alpha_u)^2} + \frac{W_u C_u^2 \alpha_u^2(\alpha_a + \alpha_u)^2}{4(W_a\alpha_a + W_u\alpha_u)^2} +$$

$$W_a\left[1 - \frac{\alpha_a(\alpha_a + \alpha_u)}{2(W_a\alpha_a + W_u\alpha_u)}\right]^2 + W_u\left[1 - \frac{\alpha_u(\alpha_a + \alpha_u)}{2(W_a\alpha_a + W_u\alpha_u)}\right]^2$$

And C_n is a function of C_a, C_u, W_a, W_u, α_a and α_u; then for k income groups, C_n can be differentiated with respect to time to give:

$$dC_n/dt = \sum_{j=1}^{k}[(\partial C_n/\partial C_j)(\partial C_j/dt)] + \sum_{j=1}^{k}[(\partial C_n/\partial W_j)(\partial W_j/dt)] +$$

$$\sum_{j=1}^{k}[(\partial C_n/\partial \alpha_j)(\partial \alpha_j/dt)], \text{ (note that } \sum_{j=1}^{k}(\partial W_j/dt) = 0)$$

However, the set of information required for the decomposition is:

a) coefficient of variation in jth sector or group (C_j).

b) proportion of population in jth sector or group (W_j).

c) ratio of income per people in sector j to average income per people of all sectors, which is $\alpha_j = \mu_j/\mu$.

To calculate each effect, consider as an example, the intra-sectoral effect $(\partial C_n/\partial C_j)(\partial C_j/dt)$, where $\partial C_n/\partial C_j$ is a partial derivative obtained by varying C_j while all other variables are held constant, then having C_j tow points in time - at the start and end of the time period considered (dt), so:

$$(\partial C_n/\partial C_j)(\partial C_j/dt) = \frac{[C_n(t_i+dt) - C_n(t_i)]\,[C_j(t_i+dt) - C_j(t_i)]}{[C_j(t_i+dt) - C_j(t_i)]\,[(t_i+dt) - (t_i)]}$$

$$= \frac{[C_n(t_i+dt) - C_n(t_i)]}{(dt)}$$

where $C_n(t_i)$ = initial value of C_n and $C_n(t_i+dt)$ = value of C_n after time dt, obtained from the decomposition equation by replacing initial C_j value with C_j value at time (t_i+dt).

For two sectors, e.g. rural and urban, the total intra-sectoral effects would be:
$(\partial C_n/\partial C_a)(\partial C_a/dt) + (\partial C_n/\partial C_u)(\partial C_u/dt)$, representing respectively within rural effect and within urban effect. And the total intersectoral effects would be:

$$(\partial C_n/\partial W_a)(\partial W_a/dt) + (\partial C_n/\partial W_u)(\partial W_u/dt) + (\partial C_n/\partial \alpha_j)(\partial \alpha_j/dt) + (\partial C_n/\partial \alpha_j)(\partial \alpha_j/dt).$$

That is, respectively population weight effects and income disparity effects.

The total effect, meanwhile, is the sum of the intersectoral and intrasectoral effects. And these components can be expressed as percentages of the total, i.e. inter-sectoral effects as per-centage of total effects, and inter-sectoral effects as percentage of total effects.

Appendix 4.

Table A4.1: Structure of per capita expenditure in urban areas 1967/68.

Socio-economic	household size	popula- tion	food	non- food	overall	food %	non- food %
Independent agri	6.18	3.87	306.01	262.69	568.70	53.81	46.19
Perm. agr workers	6.49	7.05	410.65	269.85	680.50	60.34	39.66
Temp. // //	5.95	5.57	287.26	152.69	439.95	65.29	34.71
Employers	8.77	0.59	674.56	865.86	1540.42	43.79	56.21
Top Execu. & L. prof.	6.74	0.66	1015.04	1801.90	2816.94	36.03	63.97
Wholesale traders	7.27	0.41	844.10	1159.24	2003.35	42.13	57.87
Retail traders	6.86	12.77	478.27	537.31	1015.58	47.09	52.91
Craftsmen	6.22	3.82	449.66	449.83	899.49	49.99	50.01
Crafts workers	5.77	0.39	522.87	584.52	1107.39	47.22	52.78
Middle executive	7.05	3.02	782.50	936.75	1719.25	45.51	54.49
Clerks	6.91	8.28	621.65	637.02	1258.67	49.39	50.61
Qualified-Specia-P.wor	7.4	12.13	516.23	560.64	1076.86	47.22	52.78
// // Temp. //	6.39	1.26	390.78	287.67	678.45	57.60	42.38
Unskilled self-empl.*	6.88	0.92	309.38	215.98	525.36	58.89	41.11
Unskilled perm. empl.	7.14	8.64	429.41	350.76	780.17	55.04	44.06
Unskilled temp. empl.	5.90	7.41	281.51	179.83	461.34	61.02	38.98
Self-empl. in service	7.44	0.96	502.68	564.56	1067.24	47.10	52.90
Perm. temp. employed	6.08	5.37	484.13	453.54	937.67	51.63	48.37
temp. empl. service	4.80	1.61	269.75	188.02	457.77	58.93	41.07
Law & Pub. security	6.36	2.93	775.62	965.51	1741.13	44.55	55.45
Retired	6.39	9.83	336.47	274.17	612.64	54.92	45.08
Rentiers	6.89	1.00	453.75	682.07	1135.82	39.95	60.05
Unemployed	4.68	1.50	240.46	171.36	411.82	58.39	41.61
Total or Average	6.42	100.0	460.03	449.87	909.90	50.56	49.44

*) in petty jobs.

Source: The same source as table A4.2, on the next page.

Table A4.1: Structure of per capita expenditure in rural areas 1967/68.

Socio-economic	household size	popula- tion	food	non-food	overall	food %	non-food %
Independent farmers	7.33	31.50	223.76	186.78	410.54	54.50	45.50
Perm. agr workers	6.57	7.12	357.77	266.13	623.90	57.34	42.66
Temp. // //	6.04	19.91	246.04	129.85	375.89	65.46	34.54
Employers	12.75		497.94	318.91	816.85	45.76	54.24
Top exec. & L. prof	7.50	0.22	846.49	803.36	1649.85	45.76	54.24
Wholesale traders	8.0		504.29	1928.46	2432.75	20.73	19.27
Retail traders	8.43	6.05	339.86	375.08	714.94	47.54	52.46
Craftsmen	6.55	3.10	323.56	204.56	528.12	61.27	38.73
Crafts workers	8.77	0.31	293.61	141.84	435.45	67.43	32.57
Middle executive	7.93	1.23	525.98	486.81	1012.79	51.93	48.07
Clerks	8.66	1.75	434.0	489.75	923.75	46.98	53.02
Qual.-Spec. Perm. wor	7.45	3.19	403.85	355.43	759.28	53.15	46.85
// // Temp.//	6.53	0.77	291.80	187.06	478.86	60.94	39.06
Unskilled self-empl.*	6.94	0.59	265.34	154.10	419.44	63.26	36.74
Unskilled perm. empl.	7.22	3.10	419.36	317.16	736.52	56.94	43.06
Unskilled temp. empl.	6.09	5.45	212.38	96.86	309.24	68.68	31.32
self-empl. in service	7.33	0.48	370.87	436.48	809.35	45.82	54.18
Perm. temp. employed	6.91	0.87	442.25	309.47	751.72	58.83	41.17
Temp. empl. service	4.0	0.26	196.33	77.07	273.40	71.81	28.19
Law & Public sec.	7.18	0.55	567.61	432.54	1000.15	56.75	43.25
Retired.	5.73	11.85	338.57	213.0	569.57	59.44	40.56
Rentiers	5.92	0.19	294.59	186.26	480.85	61.26	38.74
Unemployed.	4.47	1.51	169.06	116.80	285.86	59.14	50.86
Total or Average	6.66	100.00	285.08	214.90	499.98	57.02	42.98

*) in petty jobs.

Source: Constructed from l'Enquete de la Consommation des Ménages 1967/68. A.A.R.D.E.S. Tableaux de l'Economie Algérienne 1973. Secretariat d'Etat au Plan. Direction des Statistiques. pp. 241-46.

Table A4.3: Daily average diet: Composition and nutrient structure in all Algeria# 1967/68.

Socio-economic	Calories	Protein	Lipid	Calcium	Iron	Vit A	Vit B2	Vit PP	Vit C
1-Independent Farmers	3288	103.6	38.4	446	14.5	210	0.85	24.3	37
2-Perm. agr workers	2840	81.7	41.9	349	11.8	250	0.75	18.5	66
3-Temp. // //	3054	93.8	36.4	312	12.7	145	0.71	22.4	30
4-Retail traders	2371	68.0	45.3	362	10.5	331	0.70	15.8	61
5-Craftsmen,Craft work.	2593	77.0	36.4	371	11.4	337	0.70	17.7	52
6-Middle executive	2725	77.6	62.1	501	12.7	553	0.94	18.2	95
7-Clerks	2426	65.4	57.3	434	11.2	471	0.77	14.6	80
8-Qualified workers	2516	73.0	45.1	400	13.6	420	0.82	17.3	67
9-Unskilled perm.empl.	2589	76.0	41.2	360	10.7	291	0.68	16.7	51
10-Unskilled perm. empl.	2330	68.7	29.5	290	9.6	194	0.58	15.8	33
11-Unskilled self-empl.*	2466	73.1	27.1	319	10.0	206	0.66	17.7	40
12-Law & Public sec.	2659	74.1	58.7	470	12.3	536	0.86	17.1	93
13-Retired	2958	86.9	55.7	369	12.5	342	0.75	19.5	49
14-Unemployed	2116	64.3	25.6	229	8.8	152	0.45	14.5	26
15-Rentiers	2503	73.3	43.4	433	11.3	502	0.77	17.0	74
16-Emp.& Wholesale trad	2727	78.3	69.8	529	13.5	488	1.05	18.4	75
17-Top exec. & L. prof.	2584	69.6	80.1	674	14.0	730	1.07	15.6	40
18-Pers. in services	2287	65.3	37.8	364	10.2	330	0.65	14.3	57
All Algeria#	2817	84.2	42.1	377	12.3	273	0.75	20.0	49
Nutritional requirement	2400	60.0	40.6	500	12.2	600	1.35	15.0	30

#) All Algeria excluding Greater Algiers.

*) in petty jobs.

Source: Compiled form Analyse Nutritionelle… op. cit.

Table A4.4: Daily average diet: Composition & nutrient structure in urban communes 1967/68.

Socio-economic group	Calories	Protein	Lipid	Calcium	Iron	Vit A	Vit B2	Vit PP	Vit C
1-Independent Farmers	2743	83.1	38.1	390	11.3	251	0.72	18.8	52
2-Perm. agr. workers	2818	80.3	42.7	361	11.6	227	0.74	18.3	58
3-Temporary agr. //	2571	75.3	35.2	301	10.7	174	0.64	17.6	38
4-Retail traders	2148	60.4	52.9	390	10.2	378	0.72	12.9	68
5-Craftsmen, Craft wor.	2240	64.1	39.7	383	10.2	328	0.65	13.9	63
6-Middle executive	2529	69.7	66.1	563	12.2	566	0.91	15.4	104
7-Clerks	2361	63.3	62.6	481	11.2	497	0.80	13.9	84
8-Qualified perm. & tem	2221	63.2	43.0	375	10.4	381	0.68	13.9	68
9-Unskilled perm. empl.	2102	60.2	38.1	353	9.4	286	0.60	12.8	53
10-Unskilled temp. empl.	2069	60.1	28.6	273	8.4	176	0.51	13.2	37
11-Unskilled self-empl.*	1941	59.2	26.0	288	7.6	204	0.54	12.9	42
12-Law & Public security	2510	69.3	43.7	534	12.2	660	0.90	15.2	98
13-Retired	2376	68.9	40.7	352	10.3	329	0.64	15.1	51
14-Unemployed	2028	59.5	29.8	268	8.6	233	0.48	12.5	36
15-Rentiers	2526	74.0	47.4	423	11.6	575	0.77	16.7	75
16-Emp. & Wholesale trade	2686	83.5	70.6	612	13.8	443	1.20	19.4	88
17-Top exec & L. prof.									
18-Personnal in services	2125	58.0	40.5	367	10.4	353	0.63	14.5	59
All Algeria#	2311	65.7	44.8	383	10.4	346	0.68	14.5	62
Nutritional requirement	2400	60.0	40.6	500	12.2	600	1.35	15.0	30

#) All Algeria excluding Greater Algiers.

*) In petty jobs.

Source: Compiled form Analyse Nutritionelle… op. cit.

Table A4.5: Daily average diet: Composition and nutrient structure in peri-urban areas 1967/68.

Socio-economic group	Calories	Protein	Lipid	Calcium	Iron	Vit A	Vit B2	Vit PP	Vit C
1-Independent Farmers	3520	129.4	42.0	476	16.6	162	1.00	26.7	36
2-Perm. agr. workers	2689	78.8	36.5	320	10.6	186	0.67	17.8	38
3-Tem. agr. //	2735	82.4	32.9	291	11.3	147	0.63	19.5	24
4-Retail tradesmen	2300	67.3	34.3	335	10.3	234	0.62	15.0	56
5-Craftsmen, Craft wor.	3013	92.2	36.7	402	14.6	489	0.78	21.9	64
6-Middle executive									
7-Clerks	2427	66.6	52.2	447	11.1	581	0.78	14.2	84
8-Qualified perm.&tem	2630	73.0	54.7	401	11.7	468	0.75	16.6	76
9-Unskilled perm. empl.	2457	71.5	42.1	393	11.6	313	0.73	15.5	59
10-Unskilled temp. empl.	2723	83.8	34.6	314	12.4	244	0.64	19.1	25
11-Unskilled self-empl.*	2559	76.8	36.9	342	11.4	267	0.67	17.2	38
12-Law & Public security									
13-Retired	2759	83.4	46.5	370	12.6	395	0.73	18.5	55
14-Unemployed									
15-Rentiers									
16-Emp. & Wholesale									
17-top exec. & L. prof.									
18-Personnal in services	2099	62.4	31.5	377	9.8	244	0.61	12.9	58
All Algeria#	2782	84.3	41.5	414	14.1	268	0.76	20.0	47
Nutritional requirement	2400	60.0	40.6	500	12.2	600	1.35	15.0	30

#) All Algeria excluding Greater Algiers.

*) In petty jobs.

Source: Compiled form Analyse Nutritionelle… op. cit.

Table A4.6: Daily average diet: Composition & nutrient structure in rural communes 1967/68.

Socio-economic group	Calories	Protein	Lipid	Calcium	Iron	Vit A	Vit B2	Vit PP	Vit C
1-Independent Farmers	3286	105.1	37.9	445	14.3	178	0.83	24.3	30
2-Perm. agr. workers	2821	84.8	43.6	356	12.2	170	0.78	20.7	75
3-Tem. agr. //	3247	101.2	37.8	323	13.6	131	0.74	24.6	28
4-Retail tradesmen	2659	79.7	40.0	353	11.1	254	0.71	18.6	50
5-Craftsmen, Craft wor.	2911	91.1	36.3	359	12.4	257	0.74	21.0	38
6-Middle executive	2935	90.1	60.7	411	12.9	426	0.95	22.1	69
7-Clerks	2469	67.4	49.4	338	10.5	327	0.68	15.7	65
8-Qualified perm. & tem	2812	84.1	41.2	344	11.6	291	0.71	19.7	49
9-Unskilled perm. empl.	3299	100.8	44.2	381	12.8	236	0.78	22.6	45
10-Unskilled perm. empl.	2593	79.2	30.2	297	10.5	160	0.64	18.4	23
11-Unskilled self-empl.*	3091	94.0	32.0	351	12.8	208	0.77	22.4	33
12-Law & Public security	2957	84.8	57.2	386	12.8	342	0.78	20.5	84
13-Retired	3341	97.7	65.3	382	13.6	326	0.80	22.7	45
14-Unemployed	2293	71.2	24.8	211	9.3	110	0.49	16.7	19
15-Rentiers									
16-Emp. & Wholesale trade									
17-Top exec. & L. prof.									
18-Personnel in services	2803	86.7	36.9	36.3	12.0	276	0.73	19.7	45
All Algeria#	3104	95.7	41.8	376	13.1	212	0.77	22.4	39
Nutritional requirement	2400	60.0	40.6	500	12.2	600	1.35	15.0	30

#) Ecluding Greater Algiers.

*) In petty jobs.

Source: Compiled form Analyse Nutritionelle... op. cit.

Table A4.7: Daily average diet: Composition & nutrient structure, communes of Southern Algeria 1967/68.

Socio-economic group	Calories	Protein	Lipid	Calcium	Iron	Vit A	Vit B2	Vit PP	Vit C
1-Independent Farmers	2330	55.3	33.5	440	10.0	391	0.79	15.2	97
2-Perm. agr. workers									
3-Temp. agr. //	1470	42.5	26.7	258	6.7	293	0.50	10.2	58
4-Retail tradesmen	2148	51.7	49.2	381	9.8	544	0.70	12.6	85
5-Craftsmen & Craft wor.	1976	46.9	30.9	381	8.6	480	0.64	11.1	72
6-Middle executive									
7-Clerk	2641	70.9	54.0	478	12.5	588	0.86	16.4	96
8-Qualified perm. & temp.	2791	79.7	56.6	682	34.2	892	1.71	24.5	109
9-Unskilled perm. empl.	2230	59.2	42.7	317	9.5	474	0.62	13.8	57
10-Unskilled perm. empl.	1727	40.5	26.1	289	7.2	274	0.53	10.3	62
11-Unskilled self-empl.*									
12-Law & Public sec.									
13-Retired	2136	57.2	38.4	355	9.6	436	0.72	13.6	59
14-Unemployed									
15-Rentiers									
16-Emp.&Whole. trade.									
17-Top executive & L. prof.									
18-Personnel in services	2113	54.0	32.7	367	9.6	501	0.65	12.3	71
All Algeria#	2190	55.4	38.3	400	11.6	480	0.78	14.1	80
Nutritional requirement	2400	60.0	40.6	500	12.2	600	1.35	15.0	30

#) Excluding Greater Algiers.

*) In petty jobs.

Source: Compiled form Analyse Nutritionelle… op. cit.

Table A4.8: Composition of average daily diet by socio-economic groups in all Algeria*1967/68.

Code (a)	Animal calories in K.cal	in%of T.	Vegetable calories in K.cal	in%of T.	Cereal calories in K.cal	in%ofT.	Animal proteins in Nr	in% of T	Cereal proteins in Nr	in % of T
1	162.6	4.9	3133	95.1	2634	79.9	7.85	7.6	89.9	86.8
2	131.0	4.6	2710	95.4	2141	75.4	5.9	7.2	71.6	87.6
3	095.2	3.1	2959	96.9	2538	83.1	4.4	4.7	86.0	91.8
4	215.4	9.1	2156	90.9	1597	67.4	10.1	14.8	53.0	77.9
5	135.4	5.2	2456	94.8	1959	75.5	6.4	8.3	66.0	85.7
6	361.5	13.2	2364	86.8	1652	60.6	16.6	21.4	54.0	69.5
7	253.5	10.4	2173	89.6	1471	60.0	11.3	17.3	47.0	72.2
8	182.7	7.3	2335	82.7	1723	68.4	8.4	11.5	57.3	78.5
9	146.6	5.7	2442	94.3	1907	73.7	6.7	8.8	64.3	84.6
10	075.0	3.2	2255	96.8	1842	79.1	3.5	5.1	62.0	90.2
11	108.7	4.4	2357	95.5	1939	78.6	4.8	6.6	65.5	89.6
12	302.6	11.4	2356	88.6	1630	61.3	13.1	17.7	53.3	71.9
13	240.2	8.1	2718	91.9	2180	73.7	6.4	7.4	74.6	85.8
14	067.5	3.9	2049	96.8	1732	81.9	3.2	5.0	58.3	90.7
15	184.8	7.9	2318	92.6	1656	66.2	8.9	12.1	56.4	76.9
16	450.2	16.6	2277	83.5	1570	57.6	18.8	24.0	50.8	64.9
17	500.8	19.4	2083	80.6	2176	45.5	23.2	33.3	35.5	61.0
18	156.7	6.9	2130	93.1	1601	70.0	7.7	11.8	52.6	80.6
All≠	167.7	6.0	2649	94.0	2131	75.6	7.2	8.6	71.9	85.4
N.R#						<66.0	15.0	25		<70.0

a) of different socio-economic groups as stated respectively in tables A4.3 - 7 above.

*) All Algeria excluding Greater Algiers.

≠) Average all strata,of socio-economic groups.

#) Nutritional Requirements.

Source: Compiled form Analyse Nutritionelle… op. cit.

Table A4.9: Composition of daily diet by socio-economic group in urban communes* 1967/68.

Code (a)	Animal calories in K.cal	Animal calories in%of T.	Vegetable calories in K.cal	Vegetable calories in%of T.	Cereal calories in K.cal	Cereal calories in%ofT.	Animal proteins in Nr	Animal proteins in% of T	Cereal proteins in Nr	Cereal proteins in % of T
1	131.8	4.8	2611	95.2	2127	77.5	6.2	7.5	72.5	87.2
2	117.9	4.2	2700	95.8	2141	76.0	4.0	5.1	70.8	89.4
3	94.1	3.7	2483	96.4	2031	78.8	4.5	6.0	67.4	89.5
4	292.4	13.6	1857	86.5	1287	59.9	14.2	23.5	40.9	67.7
5	177.3	7.9	2064	92.1	1563	69.7	8.2	12.8	50.7	79.1
6	379.0	15.0	2150	85.0	1406	55.6	17.0	24.4	44.3	63.6
7	277.4	11.7	2084	88.3	1352	57.3	13.0	20.5	42.6	57.3
8	186.4	8.4	2035	91.6	1494	67.3	9.1	14.4	48.8	77.2
9	152.7	7.3	1949	92.7	1445	68.7	7.0	11.6	47.7	79.2
10	76.7	3.7	1992	96.3	1613	78.0	3.6	6.0	53.5	89.0
11	102.2	5.3	1839	94.7	1504	77.5	5.3	9.0	51.3	86.7
12	398.5	15.9	2112	84.1	1407	56.1	17.0	25.0	43.8	63.2
13	137.6	5.8	2238	94.2	1713	72.1	6.6	9.6	57.2	83.0
14	100.2	4.9	1929	95.1	1566	77.2	4.2	7.1	52.0	87.4
15	187.1	7.4	2339	92.6	1686	66.7	9.1	12.3	56.6	76.5
16	495.4	18.4	2191	81.6	1564	58.2	25.1	30.1	50.2	60.1
17										
18	165.8	7.8	1959	92.2	1419	66.8	7.9	13.6	45.3	77.8
All•	193.8	8.4	2117	91.6	1570	67.9	9.1	13.9	51.3	78.1
N.R#						<66.0	15.0	25.0		<70.0

a) of different socio-economic groups as stated respectively in tables A4.3 - 7 above.

*) Urban communes of Northern Algéria.

•) Average all strata of socio-economic groups.

#) Nutritionelle Requirements.

Source: Compiled form Analyse Nutritionelle... op. cit. p. 106.

Table A4.10: Composition of daily diet by socio-economic group in peri-urban* 1967/68.

Code (a)	Animal calories in K.cal	Animal calories in%of T	Vegetable calories in K.cal	Vegetable calories in%of T	Cereal calories in K.cal	Cereal calories in%ofT	Animal proteins in Nr	Animal proteins in% of T	Cereal proteins in Nr	Cereal proteins in % of T
1	200.7	5.7	3220	94.3	2830	80.0	11.2	10.4	91.7	85.0
2	128.8	4.8	2560	95.2	2108	78.4	5.0	6.3	70.9	90.0
3	71.5	2.6	2663	97.4	2280	83.4	2.2	2.7	76.9	93.3
4	136.4	5.9	2164	94.1	1677	72.9	6.3	9.4	55.7	82.8
5	107.2	3.6	2906	96.4	2415	80.2	5.1	5.5	81.3	88.2
6										
7	244.0	10.1	2181	89.9	1535	63.3	11.0	16.5	49.0	73.6
8	192.2	7.3	2438	92.7	1772	67.4	7.7	10.5	58.5	80.1
9	180.7	7.4	2276	92.6	1792	72.9	7.4	7.7	59.2	62.0
10	58.5	2.2	2664	97.8	2230	81.9	2.7	3.2	75.4	90.9
11										
12										
13	171.4	6.2	2638	95.6	2060	74.7	5.8	7.0	70.3	84.3
14										
15										
16										
17										
18	163.6	7.8	1935	92.2	1531	72.9	6.5	10.5	50.2	80.7
All•	146.0	5.2	2636	94.7	2106	75.7	6.9	8.1	72.2	85.6
N.R#						<66.0	15.0	25.0		<70.0

a) of different socio-economic groups as stated respectively in tables A4.3 - 7 above.

*) In peri-urban, peri-rural of Northern Algeria.

•) Average of all strata, of socio-economic groups

#) Nutritional Requirements.

Source: Compiled from Analyse Nutritionelle... op. cit. p. 109.

Table A4.11: Composition of daily diet by socio-economic group in rural communes* 1967/68.

Code (a)	Animal calories in K.cal	Animal calories in%of T	Vegetable calories in K.cal	Vegetable calories in%of T	Cereal calories in K.cal	Cereal calories in%ofT	Animal proteins in Nr	Animal proteins in% of T	Cereal proteins in Nr	Cereal proteins in % of T
1	161.1	4.9	3125	95.1	2670	81.2	7.6	7.2	91.5	87.1
2	138.9	4.8	2782	95.2	2197	75.2	6.6	7.7	73.7	86.9
3	101.7	3.1	3245	96.9	2747	84.6	4.8	4.7	93.1	92.0
4	159.7	6.0	2499	94.0	1993	74.9	7.4	9.3	68.0	85.3
5	128.3	4.4	2783	95.6	2373	81.5	6.1	6.7	81.2	89.1
6	380.7	13.0	2554	87.0	1989	67.8	17.8	19.8	67.3	74.7
7	157.2	6.4	2312	93.6	1685	68.2	7.0	10.4	55.9	82.9
8	142.4	5.1	2670	95.0	2158	76.7	6.1	7.3	73.8	87.8
9	131.8	4.0	3167	96.0	2624	79.5	6.1	6.1	90.2	89.5
10	74.7	2.9	2518	97.1	2161	83.3	3.3	4.2	73.3	92.6
11	91.1	2.9	3000	97.1	2595	84.0	3.8	4.1	87.2	92.8
12	172.6	5.8	2784	94.1	2034	68.8	7.5	8.8	69.2	81.6
13	339.8	10.0	3201	95.8	2485	74.4	6.0	6.1	85.6	87.6
14	51.7	2.3	2241	96.7	1962	85.6	2.5	3.5	66.6	93.5
15										
16										
17										
18	130.0	4.6	2673	95.4	2191	78.2	6.4	7.4	75.4	90.0
All•	160.7	5.2	2943	94.8	2479	79.9	6.4	6.7	84.6	88.4
N.R#						<66.0	15.0	25.0		<70.0

a) of different socio-economic groups as stated respectively in tables A4.3 - 7 above.

*) In rural communes of Northern Algeria.

•) Average of all strata of socio-economic groups.

#) Nutritional Requirements.

Source: Compiled from Analyse Nutritionelle… op. cit. p. 112.

Table A4.12: Composition of daily diet by socio-economic group in the south of Algeria 1967/68.

Code (a)	Animal calories in K.cal	Animal calories in%of T	Vegetable calories in K.cal	Vegetable calories in%of T	Cereal calories in K.cal	Cereal calories in%ofT	Animal proteins in Nr	Animal proteins in% of T	Cereal proteins in Nr	Cereal proteins in % of T
1	105.7	4.5	2224	94.5	1218	52.2	6.1	11.0	42.5	76.9
2										
3	62.4	3.5	1678	96.5	1005	57.8	2.1	4.9	35.8	84.2
4	231.7	10.8	1916	89.2	1132	52.7	9.9	19.1	36.5	70.6
5	102.8	5.2	1873	94.8	1108	56.0	5.0	10.7	36.9	78.7
6										
7	299.7	11.3	2343	88.7	1513	57.2	14.4	20.3	49.1	69.3
8	140.1	5.0	2651	95.0	1347	48.3	12.4	15.6	43.1	54.1
9	137.2	6.2	2093	93.8	1406	63.0	6.9	11.7	47.2	79.7
10	84.5	4.9	1643	95.1	1003	58.0	3.3	8.1	33.2	82.2
11										
12										
13	208.9	9.8	1927	90.2	1228	57.4	11.0	12.2	41.1	71.8
14										
15										
16										
17										
18	167.3	7.9	1946	92.1	1249	59.1	8.1	15.0	40.3	74.6
All*	167.6	7.7	2022	92.3	1211	55.1	7.5	13.5	40.5	73.1
N.R#						<66.0	15.0	25.0		<70.0

a) of different socio-economic groups as stated respectively in tables A4.3 - 7 above.

*) Average of all strata, of socio-economic groups.

#) Nutritional Requirements.

Source: Compiled from Analyse Nutritionelle… op. cit. p. 115.

APPENDIX 5.

Table A5.1: Monthly salaries in non-agricultural activities (all public & private) in AD, 1970.

Occupation Grade	High technicians and Executives	Technicians	Qualified, Specialised	Help personnel	Unskilled	Average
Extractive industries	2408	897	785	452	439	460
Petroleum and gas.	1798	1381	959	760	569	941
Food & drink industries	1880	1339	804	571	459	788
Textile industries.	1723	1154	772	551	457	828
Leather & shoe industry	1641	1353	754	516	488	818
Chemical industries.	2024	1690	1056	769	565	1099
Construction materials	1603	1143	749	519	467	757
Steel industries.	2361	1325	986	523	585	1108
Metal transformation	1663	1339	931	549	541	970
Wood industries.	1653	1297	789	508	426	824
Paper industries.	1688	1177	810	476	449	824
Building & public works	2490	1405	921	612	415	1033
Electricity, gas & water.	1371	936	603	479	411	651
Banks & insurance.	1640	1193	704	528	481	757
Transport & comm	1789	1144	756	607	616	809
Other industries.	1050	1218	755	620	378	783
Overall average.	1871	1171	831	526	512	825

Table A5.2: Monthly salaries in non-agricultural activities (public sector) in AD, in 1970.

Occupation Grade	High technicians and Executives	Technicians	Qualified, Specialised	Help personnel	Unskilled	Average
Extractive industries	2516	681	759	303	-	448
Petroleum and gas.	1717	1269	872	700	550	865
Food drink industries	1861	1262	770	579	461	753
Textile industries.	1625	999	730	574	458	751
Leather industries	1641	1236	760	496	468	833
Chemical industries.	1930	1771	983	785	568	1029
Construction materials	1912	1259	781	522	490	784
Steel industries.	2445	1278	982	524	-	1095
Metal transformation.	1711	1342	916	526	537	951
Wood industries.	1635	1180	698	507	430	758
Paper industries.	1751	1154	803	455	455	817
Building & public works.	2917	1429	921	633	411	1062
Electricit, gas & water	1370	910	595	474	418	644
Banks, insurance.	1678	1234	708	528	478	755
Transport & comm.	1782	1091	723	601	567	780
Other industries.	1425	1366	713	620	587	859
Overall average.	1871	1104	785	582	501	788

Table A5.3: Monthly salaries in non-agricultural activities of the private sector, in AD (1970).

Occupation Grade	High technicians and Executives	Technicians	Qualified, Specialised	Help personnel	Unskilled	Average
Extractive industries.	1800	1129	894	452	437	1030
Petroleum and gas.	2527	1746	1621	1537	783	1673
Food & drink industries	2113	1794	1004	581	462	1065
Textile industries.	1783	1621	939	498	515	1087
Leather & shoe industry	1740	1412	749	533	507	801
Chemical industries.	2385	1642	1022	739	579	1232
Construction materials.	1590	760	513	416	263	538
Steel industries.	2196	1411	990	514	585	1126
Metal transformation	1774	1578	1054	707	548	1118
Wood industries.	1795	1477	912	510	409	949
Paper industries.	1608	1235	1004	620	343	1004
Building & public works	1875	1334	929	599	450	1008
Electricity, gas & water	1500	1349	862	577	377	740
Banks & insurance.	1319	1058	626	532	518	779
Transport & comm.	1902	1830	1312	672	884	1577
Other industries.	-	1284	880	-	265	651
Overall average.	2064	1462	1093	825	598	1131

Table A5.4: Monthly salaries in non-agricultural activities (public & private) in AD, 1980.

Grade	I	II	III	IV	V	VI	Average
Extractive industries	2863	2562	2051	1617	1443	1179	1643
Petroleum and gas.	2734	1798	1757	1397	1185	1146	1622
Food & drink industries	3120	2245	1560	1451	1200	1137	1467
Textile industries.	2957	2426	1799	1439	1290	1153	1533
Lather & shoe industries	2958	2504	1804	1497	1137	1060	1567
Chemical industries	2986	2556	2061	1429	1274	1070	1639
Construction materials	3090	1894	1775	1674	1531	1361	1568
Steel industries.	3530	2440	2039	1722	1377	1105	1749
Metal transformation	3819	2549	1981	1452	1235	1147	1643
Wood industries.	4015	2985	2687	2081	1572	1458	1986
Paper industries.	3617	2350	1807	1605	1460	1211	1652
Building & pub. works.	3570	2560	1883	1597	1369	1086	1745
Electricity, gas &water	2904	2377	1605	1580	1342	1221	1790
Banks & insurance.	2308	1902	1454	1280	1224	1004	1483
Transport & comm.	3471	2695	1644	1453	1368	1252	1521
Other industries.	4099	2351	1808	1542	1231	0976	1397
Overall average.	3003	2312	1787	1545	1353	1189	1602

Table A5.5: Monthly salaries in non-agricultural activities of the public sector in AD, 1980.

Grade	I	II	III	IV	V	VI	Average
Extractive industries.	2653	2364	2029	1607	1443	1341	1740
Petroleum and gas.	2734	1798	1757	1397	1185	1146	1622
Food drink industries	2727	2144	1693	1498	1269	1165	1575
Textile industries.	2753	2404	1644	1439	1334	1207	1626
Leather industries.	3247	2351	1831	1609	1222	1209	1650
Chemical industries.	2323	1867	1674	1521	1342	1081	1528
Construction materials	2599	1925	1826	1740	1616	1608	1717
Steel industries.	3050	2425	1856	1620	1379	1132	1667
Metal transformation.	2676	2157	1706	1503	1217	1160	1528
Wood industries.	4015	2985	2687	2081	1572	1458	1986
Paper industries.	3099	2194	1726	1582	1334	1169	1658
Building & public works	2893	2349	1733	1442	1286	1072	1660
Electricity, gas & water	2904	2377	1605	1580	1342	1221	1790
Banks & insurance.	2308	1902	1454	1280	1224	1004	1483
Transport & comm.	2805	2429	1793	1507	1441	1293	1653
Other industries.	3312	2337	1786	1335	1010	1028	1305
Overall average.	2770	2214	1735	1552	1374	1206	1652

Table A5.6: Monthly salaries in non-agricultural activities in the private sector (1980).

Grade	I	II	III	IV	V	VI	Average
Extractive industries	3073	2760	2073	1627	-	1016	1545
Petroleum and gas.	-	-	-	-	-	-	-
Food drink industries	3512	2345	1406	1403	1131	1109	1359
Textile industries.	3160	2447	1954	1438	1245	1098	1439
Lather & shoe industries	2669	2657	1777	1385	1052	0911	1484
Chemical industries.	3649	3244	2447	1337	1206	1058	1749
Construction materials	3580	1863	1724	1607	1446	1113	1418
Steel industries.	4010	2455	2221	1824	1375	1077	1831
Metal transformation	4961	2940	2256	1400	1253	1133	1757
Wood industries.	4247	2770	2033	1752	1451	1100	1830
Paper industries.	4135	2505	1887	1628	1586	1253	1622
Building & public works.	-	-	-	-	-	-	-
Electricity, gas & water	-	-	-	-	-	-	-
Banks & insurance.	-	-	-	-	-	-	-
Transport & comm.	4137	2961	1494	1398	1295	1211	1388
Other industries.	4886	2364	1829	1749	1452	0924	1488
Overall average.	3935	2702	1993	1515	1267	1117	1404

Source : For 1970, La Situation de l'Emploi et des Salaires 1970 S.E.P. Direction des Statistiques. Decem. 1970.pp.32-35.
For 1980 Annuaire Statistiques de l'Algérie 1981. M.P.A.T. Mars 1983. p. 351.

Table A5.7: Distribution of expenditure on bread, cerals and its by-products by brackets of consumption expenditues in 1979/80.

Expenditure brackets	population in %	expenditure in %
less than 800	3.8	2.0
800 - 1,000	3.2	2.4
1,000 - 1,200	4.4	3.3
1,200 - 1,500	7.3	6.1
1,500 - 2,000	18.6	16.2
2,000 - 2,500	13.5	12.7
2,500 - 3,000	11.0	10.6
3,000 - 3,500	9.3	9.9
3,500 - 4,000	6.8	7.9
4,000 - 4,500	5.1	5.8
4,500 - 5,000	4.2	5.3
5,000 - 5,500	3.1	4.1
5,500 - 6,000	1.9	2.2
6,000 - 6,500	1.4	1.9
6,500 - 7,000	1.6	2.0
7,000 - 7,500	1.0	1.4
7,500 and over	3.8	6.2
Average/or total	100.0	100.0

Source: Dépense de consommation des Ménages Algériens. op cit.

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