POLICIES, PLANNING AND MANAGEMENT FOR AGRICULTURAL DEVELOPMENT

PAPERS AND REPORTS

FOURTEENTH
INTERNATIONAL CONFERENCE
OF AGRICULTURAL ECONOMISTS

Held at the Byelorussian
State University, Minsk, U.S.S.R.

AUGUST 23rd–SEPTEMBER 2nd 1970

OXFORD
INSTITUTE OF AGRARIAN AFFAIRS
FOR
INTERNATIONAL ASSOCIATION OF AGRICULTURAL
ECONOMISTS
1971

I. PLENARY SESSIONS

Agricultural Development and Planning in the Underdeveloped Countries outside the Socialist Sphere

GUNNAR MYRDAL
Institute for International Economic Studies, University of Stockholm

NATIONAL PURPOSES, METHODS, DIFFICULTIES AND RESULTS: A SIMPLIFIED MODEL

I FEEL honoured by being invited, although not an agricultural economist myself, to present a paper on agricultural development and planning.

I will observe two main restrictions limiting the field of problems to be commented upon in this paper.

First, I will focus my attention on underdeveloped countries. As trends are in the world today, it is natural for a conference like this to attach major interest to the great majority of mankind who live in underdeveloped countries. The majority within that majority make their living from agriculture. Even though there are plenty of problems in the developed countries as well, the trends are not so threatening nor the problems to be solved so serious as in the underdeveloped countries.

Second, I will be dealing with those underdeveloped countries that are outside the Socialist or Soviet sphere. I will primarily have in mind the huge region of South Asia and that of Latin America.

Even when restricted, the field is immensely large with enormous differences between the countries and regions. I will have to paint with a wide brush. I will, indeed, merely present *a very simplified model* which I believe gives the essence of what the great majority of the agricultural labour force and their families face in the non-Socialist underdeveloped countries.

As an excuse for presenting such a simplified model without either giving bibliographic references or spelling out the needed reservations and qualifications, I refer to my work *Asian Drama. An Inquiry Into the Poverty of Nations*, 1968, where the problems dealt with here are given more exhaustive treatment, at least for South Asia. Before the Conference meets, another book of mine will have appeared, *The Challenge of World Poverty. An Anti-Poverty Program in Outline.* In the latter book I have tried to include underdeveloped countries outside Asia. In that book I am also in the position to consider changes that have occurred in recent years, in particular the so-called 'green revolution'. Both these works are published by Pantheon Books, New York.

To start with one broad generalization: in this large part of the world which makes up the non-Socialist underdeveloped regions—East, South, and West Asia, Latin America, and Africa—the rise after the Second World War of production and, in particular, *food production* has barely

kept pace with the population increase. The rise of food production has been only to a lesser extent a result of higher yields per acre but mainly through cultivation of larger areas.

In fact, had it not been for a historical accident, the hunger crisis in very big countries like India and Pakistan as well as many smaller countries would have broken out a decade or more ago. The United States, contrary to its national agricultural policy aims, had piled up awkwardly large surpluses, which without great sacrifices, or with no sacrifice at all, could be provided to underdeveloped countries on concessional cost terms.

Average caloric consumption levels in underdeveloped countries are low. Taking into consideration also the great and generally increasing income inequalities in these countries, undernutrition among the masses of poor people is more serious than appears from the average figures of food consumption.

In addition there is serious malnutrition in the underdeveloped countries, particularly in regard to protein but also other types of so-called protective nutrients. As these protective nutrients are generally more costly, malnutrition is even more pronounced in the poorer strata than undernutrition. In so far as these protective nutrients should be of animal origin, the fuller satisfaction of these needs would raise the demands on the volume of grains and other starchy products more than proportionally.

Generally speaking—except for rationally managed plantation industry and some other exceptions—*the yields per acre* are very low in underdeveloped countries.

This should, by itself, be encouraging. The existing differences in yields revealed in management surveys as between not only districts within a country but also individual farms—even when all external conditions such as climate, soil, size of cultivation unit, and the generally known technology are constant—would indicate the possible attainment of higher yields even without introducing new technology. The adoption of entirely new technology should make still higher yields possible.

An important fact is that the application of improved technology, whether already known or newly introduced, generally raises the demand for a larger input of labour and more intensive labour. This is, to an extent, true even in regard to mechanization by the use of such machines as tractors. But undoubtedly mechanization, if not controlled by policy measures, *can* be used in order to substitute for labour.

There is everywhere in underdeveloped countries a huge *under-utilization* of the labour force in agriculture. This is what is popularly discussed as 'unemployment' and 'underemployment', terms that are not adequate to reality in underdeveloped countries. This labour force will increase rapidly until the end of this century.

In the short run—over a couple of decades at least— industrialization does not ordinarily offer many new employment opportunities. For a time it might even decrease total labour demand in manufacturing as a whole,

including traditional industry and crafts. This is because of what I call the 'backwash effects' of industrialization.

Under these conditions the refugees from agriculture streaming to the cities amass in various occupations within the fields of service and retail trade, where the labour force is already seriously under-utilized. From a national policy point of view, that type of urbanization is not a desirable development.

Moreover, as the agricultural population is relatively so very large, this population stream to the cities will, in most underdeveloped countries, not ordinarily decrease the rate of increase of the labour force in agriculture very much. The agricultural labour force is everywhere increasing and in most underdeveloped countries very rapidly approaching the rate of increase of the population.

The rise of the labour force in agriculture has an inherent tendency to increase fragmentation of land holdings. More generally it will tend to force people down the economic and social ladder, making owners tenants and tenants landless workers, while the size of the small farms will be diminishing.

In the highly developed countries, whose initial situation was very different, the improvement of yields per acre and per person employed in agriculture could almost from the beginning be reached with a decreasing proportion of the labour force being in agriculture. Very soon even the absolute size of the agricultural labour force began to diminish. In the underdeveloped countries, on the other hand, agricultural development must be attained from an initial situation of gross under-utilization of the labour force in agriculture and at a time when that labour force is rapidly and steadily increasing.

This implies that planning must be directed upon using *increasingly labour-intensive technology*. As normally all technological advance—if prevented from being directed upon substitution of machines for labour—should demand a larger labour input and raised labour efficiency, this ought not to be unfeasible.

In underdeveloped countries, and particularly in those with a high man/land ratio, it is commonly assumed that they already have a very labour-intensive agriculture. This is not true. What they usually have is instead an *extensive* agriculture, though with a very large labour force attached to agriculture.

Part of that labour force does not work at all, even if this varies as between the countries. A much larger part of the labour force work short hours per day and week and are without work for large parts of the year. And they work less efficiently than would be possible, particularly if they were better fed and healthier.

This is all seen in a short-term perspective, normally perhaps a couple of decades. That in the longer run industrialization, when its base has increased, must directly and indirectly create much more employment opportunity, is obvious. A huge country such as India, with 70 per cent

of its labour force now in agriculture, which is increasing about as fast as the total labour force, must at the end of this century have a much larger proportion of the labour force employed outside agriculture in order to raise levels of living and even to prevent a disastrous fall of the now so low levels of living. This is true whatever progress is made in agriculture.

Many difficulties face a policy directed towards these two closely interrelated goals: spreading improved technology and at the same time causing labour input and labour intensity to rise.

A major difficulty is institutional and concerns *the relationship between man and land.* This relationship must be such as to give man the possibilities and the incentives to work more and more intensively, to invest whatever funds he can lay his hands on to improve his land and his crops, and in the first hand to invest his own labour.

I here touch the problem of *land reform,* including tenancy reform. This problem has a different character in different underdeveloped countries and even districts within a country. The various solutions of the problem should be different, depending upon local conditions.

In some countries it might entail cultivating presently uncultivated land for settlement of landless people. In regard to the institutional forms, in some countries co-operative farming or even state farming might be the most appropriate way of carrying out land reform; in others an outright distribution of expropriated land to the landless and mini-farmers might be the solution. I do not exclude the possibility that in some countries 'capitalist' farming could be the best solution—if it were first cleansed from the feudal elements of absentee ownership and sharecropping, if incentive taxation were applied, and if the landless were given at least a small plot for status and economic security.

Land reform has almost everywhere in the underdeveloped world been placed on the political agenda. Also almost everywhere *the reform has not been carried out,* or been carried out in a totally unsatisfactory way. This is true even where it has been enacted in the form of legislation. The laws have been full of loopholes or have not been implemented.

At the same time complementary institutional reforms in the field of education and training, credits, agricultural extension services, local self-government, co-operation, and community development, etc., although usually motivated as means to aid the poor, have almost everywhere worked to favour those better off. In the absence of land reform these complementary reforms can be characterized as a by-passing of the equality issue. As a result inequality in the rural areas has mostly been on the increase.

The explanation is the distribution of economic, social, and political power in underdeveloped countries. Power in these countries belongs ordinarily to the upper strata, including the so-called 'middle class'. The masses have remained largely passive. This is true in countries with general elections and the observance of civil liberties as the basis of government, as well as in countries with governments of a more authoritarian character.

What has then happened in the underdeveloped as well as in the developed countries is that even the discussion of land reform has now been toned down and has almost disappeared from agricultural planning.

The problems of inequality and low productivity in agriculture have in recent years been brought to a head by the *availability of new high-yield varieties of cereals and the vision of the 'green revolution'*.

In many countries, such as two of the very poorest and also most populous underdeveloped countries, Pakistan and India, the availability of improved seed grains has for some substantial and progressive farmers in some districts meant a remarkable rise in yields, often to several times what they had been. There are fairly good reasons to hope that this development can spread to other districts in these countries and also to other parts of the underdeveloped world.

This development has given rise to what I have called a technocratic euphoria. One important effect has been that almost all further thoughts about land reform are on the way to becoming finally buried.

The expectation is expressed that food-deficit countries, among them those two mentioned, will soon become 'self-sufficient in food', meaning independent of food imports. The pending hunger crisis in the Third World should thus be on the way to being prevented, or at least delayed.

This expectation as usually pronounced apparently does not envisage any improvement of the undernourishment and mal-nourishment that is prevalent among the masses in underdeveloped countries. Such an improvement would presuppose that the lower strata would come to earn so much more that they could raise an effective demand for more calories and for more protein and protective nutrients that, as already pointed out, in turn would often raise the need for still larger starchy crops. The 'self-sufficiency in food' taking these needs into account would require a much higher level of production.

The type of substantial and progressive farmer who can embark upon the type of farming where the new seed grains can be used is undoubtedly responsive to prices. When fears are now expressed for an oversupply of food that might exert pressure downward on prices and make even that type of farming less profitable or even unprofitable, this is again a confirmation that no large-scale increase in effective food demand by those who are now underfed has been expected and still less planned for.

But so far I have only scratched the surface of the economic and social problems raised by the vision of a 'green revolution'. The important thing is that *the new opportunities are open only to farmers with irrigated land and with capital resources* to buy fertilizers and other necessities and implements for intensive farming. They will be more able to do so as they will regularly escape taxation, however profitable their enterprises become. To the larger part of the subsistence cultivators, whether working as share-croppers or on mini-farms of their own, the new opportunities are out of reach.

I have stressed that improved technology will generally raise the demand for labour and that this is, indeed, also true for mechanization when it is not directly labour-saving. Through import controls and controls over the direction of enterprise and investment in industry, the government in an underdeveloped country regularly has power to stop labour-saving mechanization in this new type of capitalist farming.

But the big question is whether it really will do so. These agricultural entrepreneurs will have their place, or take their place, in the power élite of a country. The government and the administration on all levels are 'soft' toward demand and pressure from that class and are easily drawn into collusion. It is more probable than not that there will gradually be substantial investments also in labour-saving machines, thereby decreasing the demand for labour.

A tendency to introduce labour-saving technology is clearly visible in some Latin American countries. In a country like India it is a disquieting fact that there are no indications of either policy or research being directed toward the combined objective of labour-intensive and, at the same time, high-productivity agriculture.

The introduction of labour-saving technology will then add its effects to all the other developments that tend to increase social and economic inequality in underdeveloped countries and to press down the lower strata in agriculture. The main one is the rapid increase of the labour force that is imprisoned in agriculture—the only alternative being to flee to the slums in the cities.

There is in the presently prevailing trends in most underdeveloped countries no sign that the social and economic inequality in agriculture will not continue to widen, indeed at an accelerating rate. The quest for land reform is almost everywhere weakening, partly under the influence of the vision of the 'green revolution', which is hailed as the solution to the agricultural problem.

In the absence of effective land reform there is little basis for hope that all the other institutional reforms—like community development, agricultural extension, and credit co-operation—will not continue to become perverted to serve the interests of the better-offs. The availability of new agricultural technology will tend to make the governments inclined to aid those who are best able to put it into use, which means those with resources.

If then also, as I fear, these entrepreneurs begin to introduce labour-saving machines, decreasing the demand for labour, while the labour force is already under-utilized and rapidly rising, the end effect of the 'green revolution' will be an increase of the under-utilization of labour to an unprecedentedly high level.

What is popularly but inadequately called 'unemployment' and 'underemployment' in agriculture can then in the 1970s—supposed to become the Second Development Decade—*rise to truly damaging proportions.* The other side of such a development will be increasing poverty among the rural masses.

The exodus to the city slums will under these conditions almost certainly continue and probably swell in numbers. The growth of modern industry will, as I said, not open up many new employment opportunities that are really a net increase in labour demand. Other urban occupations in underdeveloped countries are overfilled by largely under-utilized labour.

These refugees from agriculture in the miserable slums of the cities are not really integrated into the urban community. They are in reality only a dislocation of some of those in the rural underclass who have become superfluous in agriculture as the result of the increase of the labour force in a rigidly stratified society where technological advance is also restricted and increasingly misdirected from the point of view of making use of that labour force.

This urban underclass may easily become the great majority in most cities in the underdeveloped countries. Even in the cities the overwhelming problem will be that *labour becomes increasingly superfluous and goes to waste, with mass poverty as a result.*

Meanwhile there are *other trends* supporting the preservation or even increase of inequality in underdeveloped countries. Thus *education* is in most underdeveloped countries, particularly the poorest ones, not effectively used as an agency for inducing social and economic change.

In many countries education is not now directed upon counteracting economic and social inequality or even making the masses prepared to use what chances they may have for participating in development. Instead, it is often used as a means for upholding the upper-class monopoly of education and their inherited claim of not having to soil their hands. It becomes then, in effect, anti-developmental. The strivings to make the masses of people functionally literate are frustrated in various ways.

Political power in almost all underdeveloped countries is held by upper-class groups who have generally prevented effective reforms aimed at protecting and advancing the interests of the masses. With the aid of Western and indigenous economists they have even equipped themselves with a theory that inequality, and growing inequality, are natural in a 'developing country' and, indeed, a precondition for economic progress. This theory is false.

Corruption is everywhere rampant and is usually increasing. This issue is ordinarily wrapped in silence in the development literature. Occasionally it is even falsely said to be favourable for development in a 'developing country'.

The *influence exerted by the developed countries*—through direct private investments and public aid—has seldom been directed toward creating greater equality. It has more often than not tended to pamper social and political reaction.

Meanwhile, *the pending 'hunger crisis'* in the restricted sense it is mostly used—implying that production is not increasing fast enough to meet effective demand at the low nutritional level of the poor classes in the underdeveloped world—may be prevented or delayed.

Meanwhile, also, modern industrial plants will be set up by the state and by indigenous capitalists and foreign concerns, often working through joint enterprises. *The whole modern sector of the economy will be growing.*

Including industry, transport, power, the financial agencies, and the facilities for higher technical education, the growth of this sector could have important constructive possibilities for the transformation and growth of the entire economy. This would assume, however, that by planned policy it had been directed to have this effect and, in particular, co-ordinated with efforts to lift labour utilization and productivity in the subsistence sectors in agriculture and in the urban slums.

This has regularly not been the case. The modern sector remains mostly in isolation. There has been and will be legislation on working conditions and social security for employees working in that sector, inspired by the International Labour Organization (I.L.O.), and earnings will be considerably higher than in the surrounding urban slums or in agriculture. They will often approach a 'middle class' status.

If then, at the same time, under-utilization of the labour force and consequently poverty will be rising in subsistence farming and among landless labourers and also among people in the urban slums, the small modern sector will have even more of an enclave nature than in colonial times. The 'spread effects' are weak now and may become weaker as the gap between the upper-class and the under-class groups widens.

None of the policy measures for protection of the worker is applicable to conditions of these under-class groups. If legislated they will not be implemented. They cannot be implemented.

Finally, the conventional economists and the secretariats of the intergovernmental organizations, uncritically using the flimsy aggregate figures for 'growth' of the national income or the national product and taking no consideration of *what* is growing, *whether* it is real growth from a national point of view or merely costs caused by negative developments, *how* the product is distributed, and, generally, the 'non-economic factors', may convince themselves and the general public that *the 'developing countries' are really developing.*

To turn the pending dangerous trends, *big and radical reforms* are urgently needed. Rich countries must be prepared to give aid on a much larger scale and direct aid so as to help the masses. Underdeveloped countries must be prepared to induce far-reaching changes in their economic and social structures. Centrally placed among these changes must be land reform in the inclusive sense I have hinted at.

For a further discussion of the policy problems I refer to *The Challenge of World Poverty. A World Anti-Poverty Program in Outline*, 1970, which will be available when the Conference convenes.

B. Szikszay, *Hungary*

I feel honoured to have the opportunity to take part in the work of this conference and to participate in the high level exchange of views and

experiences on planning and development of agriculture. I should like to deal briefly with two problems; certain factors concerned with development and planning of agriculture in the developing countries, on the one hand, and some new features of the agricultural development in the socialist countries, especially in Hungary, on the other.

The situation and the prospects of agriculture in developing countries outlined by Professor Myrdal is really dramatic and requires great and elaborate efforts both in the economic and political fields. In that part of the world where more than one and a half thousand million people live–two-thirds of them engaged in agriculture–it is quite clear that agriculture is of decisive importance. I would stress the very high rate of increase of population of between 2 and 3 percent annually in each country. The prediction seems to be right that within 15 years the population in this part of the world would be one thousand million more than in 1965 and, despite industrialisation, the number employed in agriculture will be hundreds of millions more than at present. This also means that if agricultural production should be only 2.7% per year–the low level experienced in the past one and half decades–in that case the consumption of food will stay at the present levels or only slightly more.

It is essential to work out an economic policy under which the increase in agricultural production exceeds the increase of population. From these circumstances we can draw some important conclusions relating to the economic policy which should be followed.

The consequences are as follows: The formation and development of intensive agriculture, using fertilisers and other necessities must recognise that the population in agriculture will not be decreasing but increasing. In the advanced countries the process has taken place simultaneously with a significant diminution of the population in agriculture in the relevant period. The needed increase of agricultural production also require a development of a dynamic character in other branches of the national economy.

Over all, it is indispensible to form and maintain the interconnection between industry and agriculture. On the one side it is also necessary to build up the agricultural supply industries–fertilisers, insecticides, tractors, irrigation plants, etc. It is probable that developing countries must realise an industrialisation based upon agriculture in many respects. Industrialisation should be based upon agriculture in the sense that it is aimed at a complex utilisation of agricultural products. That is, it serves the increasing output of agriculture, and capital savings springing from the agricultural development could be used for accumulation in other sectors. However, a foreign currency aspect of such an economic policy exists, but the role of this should be accessory only. The success of the economic policy needs changes in the foreign trade to get and to save foreign currency, it is indispensable to step up the agricultural exports and slow down the imports. The emphasis on imports should be placed on purchasing industrial products–first of all machines and equipment. To carry out such foreign trade policies would not only need the support of the developing countries, but the tendencies towards self sufficiency in certain advanced countries would need to be reconsidered too.

The success of such economic policies presupposes the training and development of the labour force for such changes–we can say qualitative changes–in the economy.

Large social strata must be enabled to accept and make use of the new techniques. To realise this they must increase not only–or even first of all–the number of graduates, but all the medium level workers. They must raise the general level of education of the masses to accomplish these targets. Important changes must take place in the political structure of developing countries. I should like to emphasise the very important idea of Dr. Myrdal's paper that without far-reaching changes in the social and economic structure of developing countries without great and radical effort, the dangerous tendencies prevailing at present will not change for the better. If they fail to achieve a change in policy, every plan, every technique suggested would lead to the increase in the welfare of a few rich people, and the continuance of the misery of the masses.

The economy's development to the advantage of the people is unimaginable without further political changes. They need a state which is able to support, organise and realise the programme of the economy advance for the benefit of the whole society. I fully agree that the realisation of land reform is one of the most important tasks but to stabilise gains will be successful only if state power is able to support the new owners, defend their interests, and prevent a new disparity of incomes emerging. It is very important for these countries to work out overall economic policies. However, the difference between the countries and the regions are very large. I think the Indicative World Plan for agricultural development prepared by the Food and Agriculture Organisation of the United Nations would be a good basis for elaborating such plans after the reforms Prof. Myrdal mentioned had been carried out.

About our experiences of the development and planning of agriculture in the different phases in the development of the Hungarian national economy, the following problem–similar for all developing and more or less developed countries–inevitably arose. At the same time, how can a significant improvement be achieved in the living conditions of the population, and how can the productive focus be developed partly or totally on the country's own resources. It is a very complicated task even in such a socialist country where a major part of the means for production are socialised.

In order to solve this complex problem and to achieve as time goes on an appropriate rate of consumption and savings, the direction of economic development, appropriate for the future, the steering of the structural changes of the economy have to be made and the necessary growth rate of the different branches have to be fixed. Already during the 50's, we tried to achieve a harmonised dvelopment of our economy, but it was in the 60's that it began to bear fruit.

Naturally certain changes of our economic policy were needed, first of all in the quality of the target. They had their significant influence through the production of agriculture, too. In the 50's the plan target of the agriculture did not take properly into account the real capabilities of the economy. The

problem of incentives for producers could not be solved. For these reasons the agricultural production developed slowly and was unbalanced. The correct agrarian policy was worked out after 1957 and a favourable effect of this policy was experienced in the 60's. As a result of this policy the rate of growth of the agricultural production was stabilised near 3% for the last 5 years.

The circumstances that a great majority of the means of production of industry and the other branches of the economy outside agriculture were socially planned but in agriculture control was by individual farmers was not favourable for development of the agricultural production and for the economy as a whole. The socialist transformation of agriculture had to be carried out. This transformation caused much bigger changes in the ownership of the land than had occurred during the Land Reform in 1945. As a consequence of the transformation of agricultural ownership, new farms came into existence which created a new situation in the organisation scale and development of production and in human relations, as well. At the same time the establishment of social ownership in agriculture created a new and a big capital demand. One of the special features of this developed period was that the greater part of the invested capital only replaced the obsolete means of production of the small farms and the number which left agriculture for industry; between 1949 and 1968 the labour force in agriculture decreased by 700,000. It is natural that this investment alone would cause only a small increase in agricultural production. It is very important, however, that this significant, social transformation could be carried out without decreasing production in fact agricultural production increased. However, the level of production needs permanent efforts to promote it; it is one of the main characteristics of economic policy that 15% to 20% of total investment have been put into agriculture. The favourable result of this policy can be experienced already and this is the base of the creation of a modern well organised agriculture.

In Hungary and more or less in the other socialist countries, too, significant changes in the management of agriculture have taken place. Efficient forms of management opened new opportunities for the development of agricultural production. Some main directions of the changes of management are the following based on the Hungarian experiences. Independence of farms—state and cooperative farms too—in respect of planning the developing and the fixing of the structure of production has increased. The system of the compulsory directives has been replaced by incentives. The profitability got a greater emphasis and in this connection price policy has become one of the major tools of economic direction. The system of compulsory deliveries of agricultural products was abolished; the government buys the products at prices fixed beforehand, most of them stabilised for a certain time. The governments and the farms make commercial contracts. Inside the cooperatives the new flexible forms of income distribution have been created. The role of allotment in kind, e.g. crops, vegetables, etc—has decreased in income distribution and money has become the most important form for distribution of income. With the

stabilised economy the guaranteed money income is getting more and more important, that is to say, most of the cooperative farms pay their members in cash. Summarising the Hungarian experiences, in my opinion our results in developing our agriculture can be attributed to three main factors. First, transformation of our agriculture into a large scale industry could be carried out successfully. Second, find in appropriate forms of economic direction and systems of incentives was found. Third, incorporating all this into a centrally planned economy was achieved.

Theodor Dams, *Federal Republic of Germany*

The International Association of Agricultural Economists has increasingly dealt with agricultural problems in developing countries during the recent two decades. Continuing this traditional questioning at the IAAE–Conference Prof. Myrdal has presented a significant paper, which considerably enriches our scientific reflections. I would like to thank once more our most honourable lecturer. It is a special honour to me to open the discussion.

The emphasis of Prof. Myrdal's paper lies on analysing the situation in developing countries and the development process itself. With this analysis I completely agree; however, I need some further information in regard to his prognosis on the future industrial development, without which we cannot evaluate his conclusions. As far as it concerns his strategy of development policy, I have some critical comments; I wonder whether we cannot say more on this topic, in view of the present state of our research work in economics. The difficulties in formulating this strategy might be caused by working with a 'very simplified model'.

I will start with a few remarks on the 'simplified model':

(a) The 'simplified model' is restricted to 'underdeveloped countries outside the socialist sphere'. In my opinion this distinction between 'socialist' and 'non-socialist' economies is not very helpful–besides it would be very difficult to work with.

The central problem instead, is to find the workable combination of instruments promising socio-economic development at different stages. Therefore, it is necessary to formulate precise conceptions on aims and means. In this connection I would like to stress that there is always a plurality of values involved; the values, their priorities and the combination of instruments, will change depending on the stage of economic development. In other words: Planning as an instrument of allocating the resources can only be seen in relation to systems of values; the result is a specific combination of state planning and market activities in the so-called mixed-economies.

Whoever restricts his model in a given way, can only expect limited results when it comes to the strategic conclusion of his deliberation.

(b) From another point of view the 'simplified model' seems to be rather complex than simple. In economic theory the qualitative

variables, such as legal, political, and social conditions, are data of the model; Prof. Myrdal put such qualitative variables (land-tenure; corruption; structure of political and social structure, etc.) in the internal structure of his model. Therefore, his conclusions become more realistic. But it is very difficult to demonstrate the interdependences of the variables of the model, deductively. These advantages and disadvantages caused by the structure of the model should be kept in mind when evaluating the practibility of the conclusions.

(c) The 'simplified model' is limited to the agricultural sector. It neglects to a considerable extent the interdependence between agricultural and general economic development.

We know from economic research that agriculture makes several contributions to fostering economic growth in the course of economic development. Stated in a simplified manner, these contributions are (1) adequate food supply for a quickly growing population; (2) employment of labour (by labor-intensive production) and, later on, labor supply for the growing secondary and tertiary sector; (3) demand for products of other sectors, especially with increasing levels of agricultural income; and (4) capital accumulation in favor of more capital-intensive production in agriculture and/or other sectors of the economy. These interdependences between agriculture and the economy as a whole are only partly taken into consideration in the 'simplified model'. It only covers food supply and labor-absorption inside the agricultural sector. The other aspects are mainly neglected, since the author does not consider them to be of any great relevance, being pessimistic with regard to industrialization for the next two decades.

With these remarks on the 'simplified model' in mind, I would like to point out a few questions and problems which we might fruitfully discuss hereafter.

Prof. Myrdal's paper includes an optimistic as well as a pessimistic conclusion: (1) It might be possible to prevent or postpone starvation; but (2) in the next two decades it will not be possible to push industrialization far enough to create more industrial job opportunities for the fast growing working population. Here I would like to put a question: Is this pessimistic opinion concerning industrialization based on a status-quo-prognosis (that means an extrapolation of the unsatisfying results of the decade 1960–70) or does it include the plans for the next decade? If so, which plans are considered? If not, would the consideration of the targets for Development Decade II alter the pessimistic conclusion? In regard to the 'great plans' for DD II (i.e. Pearson-, Jackson-, Tinbergen-Report; FAO-Indicative-Plan, ILO-Programme, Prebishch's Global Strategy etc.). It should be a challenge to economists to build models with these targets. We have to examine whether the contributions of the industrialized countries can break through the 'circular causation'. In connection with the paper this would mean a more detailed content of the general statement that 'rich countries must be

prepared to give aid on a much larger scale and direct aid so as to help the masses'. The analysis submitted, the conceptual categories used and the measures suggested lead to the question on what kind of theory Prof. Myrdal's approach is based. We usually expect that relevant theory would enable us (1) systematically to classify the phenomen of 'underdevelopment' in its different forms and intensities and (2) to explain it as the result of certain interdependent factors. It should furthermore permit us to (3) grasp the interrelationships between these variables causing underdevelopment.

As to the theoretical base it seems to me that Prof. Myrdal—implicitly—refers to the findings of the theory of socio-economic dualism. This theory construes underdevelopment as the result of lack of infrastructure (in the widest sense of the word), external diseconomies, and market imperfections. These factors make for the well known backwash effects preventing a development as brilliantly described by Prof. Myrdal.

If we want to break this socio-economic dualism we have to clarify two questions:

(a) Do we have a theory from which we can deduce a strategy of economic development?
(b) Which concepts and instruments of development policy do we need to bring about a fundamental change?

In addition to the economic factors responsible for underdevelopment Prof. Myrdal emphasizes the strategic importance of the unequal distribution of political and social power. In my opinion, these factors should not be seen isolated from each other; they have to be integrated into one theory of socio-economic development. The different disciplines of social science are all concerned with 'underdevelopment' and 'development' within *their own* respective theory without having a common frame of references. What we are missing is an integrated approach essential for any consistent and effective development planning. Prof. Myrdal's paper—in its economic, social, and political—dimensions—offers a useful starting point for making some progress in this fundamental task.

The theory of socio-economic development should offer the possibility to get a workable strategy with a box of effective tools. According to our speaker, 'Centrally placed among these changes must be land reform in the inclusive sense.' With all due acknowledgements to the significance of land reforms I have some doubts whether this approach is effective enough, if we take into account the situation described. My critical remarks refer to the multiplicity of *negative* external effects which are responsible for socio-economic dualism. We will be able to guide the process of socio-economic development only if we succeed in bringing about planned *positive* external effects which set an end to those negative feed-back processes mentioned above.

Actually we already have some analyses which help us to formulate such a strategy of development policy.

(1) I refer to the theoretical and empirical work done with respect to the Latin-American situation. It seems to me that the analysis of the

so-called 'Marginalidad' and the strategy of 'Promocion Popular' is a useful basis for scientific discussion. Under this framework, the single projects, including land reforms, are to be considered as instruments for bringing about the motivation of the 'marginal population'. It is under this point of view that decisions on micro-economic alternatives in the land tenure system are to be made.

(2) We can use the results of the theory of infrastructure which shows us the basis of development of market economies; infrastructure includes personal, administrative/institutional and technical aspects. Public activities to develop the infrastructure intend to achieve external positive effects; they improve the degree of integration of economy and society, provided the population appropriately responds. This theoretical approach makes it possible to present the general statement from the paper in more detail: 'Underdevelopment countries must be prepared to induce far-reaching changes in their economic and social structures'.

Prof. Myrdal is of the opinion that the agricultural sector itself could absorb an increasing amount of labor by a) spreading improved technology of labor intensive production and b) preventing the introduction of labor-saving technology at the same time and c) eliminating the relevant constraints within agriculture. At this point some further information seems to be necessary; I would particularly like to put the following two questions:

(a) The reflections on labour-intensive agricultural production remind me of the evolution of Japanese agriculture–taking into account modern technology, nevertheless a strategy shaped according to this example. This impression is supported by the emphasis put on land tenure. In this connection I wonder how much we can learn from the Japanese experience if we want to design a concept of agricultural development, particularly in regard to capital accumulation by the agricultural sector and in regard to simultaneous industrialization. If we want to take advantage of this historical comparison then we would have to enlarge Prof. Myrdal's 'simplified model'. In any case I think it could be helpful if we would point out the differences between the Japanese path of development and his concept of agricultural development.

(b) Up to now, the 'Green Revolution' has contributed–as analysed–to raise food production, increasing at the same time intra-sectoral disparities. Assuming a low industrial development throughout the next two decades the author–suggests labour-intensive agriculture as a substitute for industrialization,–at least to a certain extent. This would be necessary but seems unrealistic.

Here I have a somewhat different position which I would like to outline briefly: In my opinion the 'Green Revolution' with these new technical dimensions of agricultural production makes industrialization more urgent than it was in times of traditional ways of production. The industrialization has even to start very much earlier because of the close connection between

agriculture and the economy as a whole. The increasing demand for food–as a precondition of utilizing new technology in agriculture–depends on development outside agriculture, that means on the creation of more industrial working places. Therefore the 'spread effect' of new technologies *within* agriculture is strictly related to a general economic development which strongly stimulates the demand for agricultural products. It cannot be attained only by eliminating all constraints within agriculture itself, with a slow increase of demand for food stuff.

How far a labor-intensive agricultural production will be successful with regard to the 'spread effect' depends not only, or not even mainly, on technocratic measures against the application of labor saving machines. It depends much more on a development strategy which activates the functional relationships of the economy as a whole.

In addition, we should not forget the possible consequences of labor-intensive agriculture for the level of production costs. Let me refer to two aspects: First, to the repercussions on the costs of living of the non-agricultural population, and secondly to the competitive position of agricultural producers on international markets. Both are highly consequential for economic development as a whole which is–as we have seen–an essential for agricultural development.

To sum up, response-effects of a great number of agricultural holdings can be expected only if we succeed in

(a) motivating the larger part of agricultural population for innovation,
(b) raising the purchasing power on internal as well as on international markets) by industrialization,
(c) meeting the farmers, growing expectations by offering adequate amounts of capital and efficient technical and economic extension services,
(d) eliminating the economic, social and political constraints, which impede the realisation of the objectives just mentioned (a–c).

Thus we can conclude: the capacity of agriculture to absorb more labor presupposes industrialization. In other words: the *old* well-known problem of the interdependence between agriculture and the economy as a whole is made much more critical by *new* agricultural techniques today.

Of course, there are many more points in this excellent paper worthy of discussion. I restricted myself to some aspects which I considered most important.

At the end of his paper Prof. Myrdal refers to his recent book *The Challenge of Poverty–A World Anti-Poverty Program in Outline*. Unfortunately I did not have the opportunity to read this work before this Conference. Some of my remarks might have been different, had I read his book before.

S. I. Krasovec, *Yugoslavia*

I too believe that in a great part of the Third World there could hardly be a 'Green Revolution' without a previous land reform. I also agree that land

reform alone cannot solve all problems. Some quantitative considerations may illustrate this, and we may perhaps see whether high quantites endanger the classical and prevailing models.

According to a number of studies made jointly by FAO Statistical and UN Demographic divisions, in the year: from 1965 to 1985 the *agricultural* population of the developing world may increase by 516 million people.

Out of them, the increase of agricultural labour force, or of the active agricultural population, will amount to 200 million people. Now, what is essential to realise is that these 200 million will not be highly efficient commercial farmers. This increase is to occur in regions of subsistence farming and of agricultural over-population. It may increase pressure on land and on wages. A low wage level has always in modern history prevented mechanization and modernisation. Large demographic investments may prevent savings for technological investments. So I am afraid that this enormous force is going to act against a prolonged Green Revolution if this whole army remains on land.

If so, I ask myself, whether and to what extent would an exclusion of modern labour saving devices, and a heavier engagement in labour—no matter how cheap labour—make the agricultural production relatively more expensive, labour more expensive, the manufactured goods more expensive, and the manufacturing industries of the Third World less competitive in the World market?

If there were a large rural exodus, what would be the consequences of a further overurbanization of the Third World. Anyway, there is no deruralization, no decrease of the birthrate in the overurbanized sections of the Third World.

Mario Pereira, *Portugal*

As an agricultural economist with a rather long experience in the field of agrarian problems faced by under-developed regions, I wish to thank Dr. Myrdal for his excellent report containing comprehensive and relevant remarks.

I believe that most of our colleagues agree with his points of view; for myself, I place special stress on the two following issues:

The first is the preference which must be given to technologies requiring labour intensification in regions where man/land relationship is very high. In fact, the common tendency among the big farmers and some technicians to over-use mechanical means in order to lessen the labour cost may bring the workers already underemployed into a marginal economic and social situation in regions where the pressure of the population on land is still very high.

The second issue laid out by Dr. Myrdal which should be thought about by the politicians and the economists responsible for agricultural policy in under-developed countries concerns the dangers of the 'technocratic euphoria' which may stem from what has been called 'the green revolution'. Its spectacular but ephemeral results will be used to disguise the key problem which, in truth, is structural reform.

I agree that the agrarian reform must be the starting point of the process to integrate agriculture in the overall economic growth. In this regard I have a question about which I would like to hear Dr. Myrdal's opinion.

Taking into account the economic factors which condition the production and regulate the management of farm enterprises, the structural reforms must be pointed towards the establishment of rentable farm units which, on the one hand, satisfy the needs of the population and, on the other, provide the professionals of agriculture with living conditions similar to those offered by other sectors.

However, the size of the farm units of the future, the amount of invested capital and the technological progress will require from the farmer a professional background and managerial capacity which do not yet exist among the population of the underdeveloped countries. This leads us to the conclusion that an agrarian reform based on the establishment of economic units must be preceded by a generalized movement towards the professional training of the future farmers.

To make an agrarian reform without having within a short time well prepared farmers to manage the farm enterprises of the future is to run the risk of creating odd situations or even failures which will be used by the counter-reformers to defend the fixedness of structures.

Therefore, I feel that an agrarian reform aimed at the establishment of viable farm units must be preceded by an education policy for the rural population with a view to having progressive farmers to manage the farm enterprises of the future.

Oddvar Aresvik, *Lebanon*

I have the highest admiration for Prof. Myrdal and his work on the problems of the developing countries. I also find his paper on agricultural development and planning in the under-developed countries to be an excellent paper in many ways. I cannot however, fully agree with his treatment of the new high yielding varieties and the so-called Green Revolution. I have had the privilege to follow this revolution from the very start as Senior Economic Advisor on agricultural development planning to the Government of West Pakistan during the period 1963–1969 and through frequent visits to other developing countries in various parts of the world, including India.

The Green Revolution is the result of a spectacular breakthrough in production of wheat and rice. The revolution is at present far advanced and has reached the economic pay-off stage and stage of second generation problems in Pakistan, India, the Philippines and Turkey. It is in various stages of development in Afghanistan, Iran, Iraq, Lebanon, Tunisia, Morocco, Indonesia, Malaysia and Thailand. The introduction of the new varieties in the first mentioned countries took place over a period of only 3–4 years.

The rapidity of spread of the Green Revolution has shattered the hypothesis of the economists and planners who believed that an agricultural revolution characterized by rapidly rising yield per acre can only be achieved

after a gradual slow improvement over several decades. Fortunately it has also prevented the period of great famines forecasted to start 1975 in India and Pakistan.

The rapid changes in production now taking place in several countries were made possible by the introduction or transplant of high yielding, fertilizer responsive, day length insensitive, varieties of wheat and rice, together with a new package of improved cultural practices which must be applied to permit these varieties to express their high yield potential. The varieties were tested and the proper package developed for each country through the 'adaptive research approach'.

The transplant or introduction of the new wheats and their technology preceded by about two years the introduction of the new rice varieties. They occupied in 1968/69 more than 20 per cent of the Asian wheat area while the rice varieties occupied about 6 per cent of the Asian rice area.

How did this rapid introduction of the new high yielding varieties take place? It took place through a new approach, which we may call the 'Kick-off Approach'.

In a society with stagnant traditional agriculture usually everybody blames the farmers. Government officials, scientists and bureaucrats and foreign consulting firms usually openly state that the peasant farmer is ultra-conservative, will not accept new methods and has a low absorbative capacity. Consequently it is assumed that very little can be done to improve agriculture, except gradually and slowly over a very long period of time.

The farmers were however, ready, as soon as the scientists and economists, politicians and administrators could be convinced, and deserve most of the credit for the rapid introduction. In some countries progressive farmers, after trying the new varieties on their farms, brought about a condition of pressure from the bottom for large seed imports.

The Kick-off Approach is based upon an outright rejection of the above hypothesis that agricultural development necessarily has to be slow. This approach is based upon manipulation of the following factors in such a way as to achieve rapid development: (1) the technical factors. (2) the psychological factors, and (3) the economic factors. In addition comes strong national accelerated production campaigns for one product at a time when the new technology is available and tested and adapted. The approach is characterized by the way these factors are aggressively manipulated and subsequently built into production campaigns.

A traditional agriculture cannot be transformed into a productive agriculture without new more efficient technology in crop and animal production representing significant positive shifts in the production functions. An agricultural revolution for tropical and sub-tropical regions must begin here. This calls for higher priority for agricultural experimentation and research, aiming at significant production function shifts. This is a long, expensive, time-consuming process requiring team work between scientists from various disciplines.

The world agricultural situation up to the recent Green Revolution represented a great disequilibrium because of the relatively insignificant

amount of efficient and effective research done on agricultural problems in the developing parts of the world. This situation is now changing, redressing the production advantage in favour of the tropical.

Production levels that have taken generations to achieve in the developed countries can, based upon the present resources of technology and inputs, the global research network for the developing countries which is being organized through international institutes and strong regional and national programs, take place in decades in the developing countries. This has already been proved. It has been possible to develop new, high yielding, fertilizer responsive, varieties and supporting technology for efficient wheat production and to transfer these with high efficiency and only minor modifications from Mexico directly to Pakistan, India and other countries. Doubling of wheat production, which has taken generations in many developed countries, took fifteen years in Mexico and may take about 6–7 years in Pakistan and India.

The new wheat and rice varieties in suitable areas not only permit many times higher yields by use of high doses of fertilizer but give twice the amount of grain yield per unit of nutrient compared with the traditional varieties. This means that production can be increased at decreasing cost per unit of production.

The importance of the psychological factors has often been overlooked by planners formulating programs for transforming traditional agriculture. The experience during the initiation of the Green Revolution shows that certain psychological aspects are of great importance.

In order to get the often illiterate farmers in the developing countries to adopt new technology rapidly a 'kick-off' through dramatic demonstrations of new high yielding techology and strong production campaigns is needed. It calls for promptly demonstrating yields that are 100 to 400 per cent greater than those that have ever been seen before by the peasant farmers. This, if achieved, destroys all of their former beliefs, and with them also goes the peasant's 'conservatism'. It generates enthusiasm in the farmer, scientist and government officials and ushers in an entire new spirit of hope and aggressiveness at all levels. The word about these fantastic differences spreads from farmer to farmer like a virus, while small differences of say 15–20 per cent would convince nobody.

In order to mount such an attack, strong food production campaigns should be initiated around one single crop or animal product at a time for which new high yielding technology is available. It should be a product that is important to the economy of the country and for which the minimum production services like roads, market facilities and sufficient water for substantially higher yields are available. Both the high yielding wheat and rice varieties first developed are best suited for irrigated areas with a reasonable degree of control of the water factor.

It has now been proved that the farmers in developing countries are acting in a rational, economic way. If rapid change is to be fostered through a production campaign for introduction of new technology, government economic policy must be such that the adoption of new methods and inputs

are profitable to the farmer. The farmer must be assured of a stimulatory price for his products and prices must be stabilized to prevent unreasonable fluctuations and the risk of a deep price drop resulting from a steep rise in production. On the other hand, rigid price support policies, freezing cropping patterns, should be avoided. After some years when the new cost-reducing, technology has been adopted by most farmers, the time will have come to consider a price reduction and thereby make other products relatively more profitable and consequently facilitate a diversification of agriculture.

The factors listed above can only be properly manipulated through strong national production campaigns. Assuming that new profitable technology and the necessary inputs are available, the main pre-requisites for such campaigns to be successful are:

(1) A minimum basic infra-structure.
(2) A sufficient number of well motivated enthusiastic skilled research personnel well versed in the new technology to guide the campaign.
(3) A cadre of skilled personnel in the agricultural sector generally and a sufficiently strong extension base for a successful campaign.
(4) A modest flexible budget with a minimum of adminstrative red tape for the co-ordinator of the campaign.
(5) A firm commitment by the government giving the campaign high priority.

Prof. Myrdal seems to think that too much emphasis recently has been given to the new technology compared with changes in economic and social structures, and that the end effect of the Green Revolution will be an increase of the underutilization of labour to an unprecedently high level, increasing poverty among the rural masses and the exodus to the city slums.

I do not share this view. Over-optimism on one side and over-pessimism on the other side regarding the effects of the Green Revolution should be avoided. Dramatic changes in technology will always lead to both positive and negative repercussions. This will be the same for an agricultural revolution as for an industrial one. I am however, convinced that the governments involved through a sound economic and social policy will stimulate the positive repercussions and minimize the negative ones. No social revolution in the rural areas of the developing countries will be possible except on the base of a green revolution. Such a revolution also seems to lead to many of the changes in social attitudes which Prof. Myrdal deems necessary for future development. High productivity is becoming the most important status symbol in agriculture in areas where the new technology has been adopted.

L. K. Elmhirst, *U.K.*

I have only a few words. It is the hunger and the greed of all big cities for an ever increasing range of services from their rural hinterlands without repayment, that is our trouble. And this is as true of Minsk and Sydney and Lyon. The cities demand an ever increasing range of service from the rural hinterlands. Do they offer in return the ever increasing range of services that

the rural hinterland requires? I wonder? Myrdal's contribution is to remind us of the constitution of this Association. Please read it again. There are two aims. One is a sound economic base for the quality of life in the rural areas. I refer you to two examples. This morning I sat on a water loo. Every peasant woman coming in from the countryside and thinking of her family can come to Minsk and sit on a water loo. Can she in her village? My second example is last night we enjoyed a wonderful concert, two thirds of it was drawn from the creative arts of the rural hinterland. What is Minsk or Sydney or Lyon or London or New York doing to strengthen the creative arts in the rural hinterland?

A. H. Kahlon, *India*

The discussions on the subject of farm planning give the impression that some of us attach more guilt to the tools of farm planning than is warranted by the facts. Let me elaborate this. We have gone through an existing experience in farm planning in I.A.D.P. Ludhiana and, based on our experience, I wish to make the following observations.

In all farm situations where a great success was experienced, farm management extension workers had rightly stressed the process of farm planning while working with the farmer. Wherever the extension workers used farm planning as a mechanical tool, it was bound to fail and it did fail in practice.

Again, some research workers used more sophisticated programming techniques where the available data would permit. The results obtained were not very encouraging. But here again the fault was more with the planner who did not bother about the quality of the data used and could not be attributed to programming technique.

Again, in some situations the planners started from the wrong end. Rather than working with the farmer on simple farm plans they switched on to a highly sophisticated process of farm planning. This happened because the background of the planners who were trained in the U.S.A. did not give them any hindsight to the problem. Fortunately, they realised this mistake in the very early stages of the programme and to correct it they resorted to simple farm plans. Stress was laid on methods and practices associated with the major farm enterprise of the area rather than with the organisation of the farms. This approach yielded fruitful results. In the second stage, emphasis was given to all the important enterprises on the farm. In the meantime some progressive farmers moved on to the third stage of intensive farm planning and their experience served as a demonstration effect to the rest of the farmers. Let me hasten to conclude that for farm planning to succeed it is important to work with the farmers and move in stages from simple planning to the final stages of intensive farm planning of the farm organisation as a whole, where more stress is laid on the reorganisation of the farm rather than on improved methods of production and improved farm practices.

Before I conclude let me underline the importance of the synthetic farm situation as an instrument of farm planning. It would be difficult, if not

impossible, to plan individual farm organisations in developing countries because of the large number of small farms involved. In such situations it will be a good idea to average out input–output coefficients and build synthetic situations parallel to the concept of the representative firm. These could be issued as standard farm plans and actual farm situations planned by adjusting their resource situation within the framework of synthetic farm situations.

Finally, farm planners need to be warned to be more careful in making heroic assumptions of linearity, divisibility and independence of enterprises while using budgeting and programming techniques. The complementary relationships between modern technological inputs and outputs have become more significant in this context of recent breakthrough in farm technology. Even after we broaden the scope of an activity by using the rotational concept, the assumption of independence of enterprises may be valid. In such cases we should use the curvilinear (quadratic) programming technique, rather than linear programming.

In fact, situations are now arising where our concern should be not so much with maximisation or minimisation part of the objective function, but more now with the impact and implications of public and private investment priorities. To solve such problems it would be a good idea to explore the potentialities of simulation techniques. The developing countries would require more sophisticated computational facilities to solve problems and this Conference of International Agricultural Economists could do a great service by making such recommendations which would help the developing countries to acquire electronic computational facilities.

O. Gulbrandsen, *Sweden*

I would like to make three points on Myrdal's paper. The first one is his thesis that we have to use labour-intensive techniques in agriculture in order to use the increased supplies of labour. The second is his pessimistic view of the importance of the manufacturing sector in developing countries and the third one concerns slums. As has been pointed out in the Indictive World Plan, and referred to by Dams and Aresvik, the Green Revolution means an industrialisation of agriculture, the farmer has to buy industrialised inputs, fertilisers irrigation equipment etc.–consequently he has to reduce his labour expenditures and consequently it is a labour saving technique. That means that in order to have an adequate food supply we have to use a labour saving technique in agriculture. Consequently, to solve the world food problem we have to accept a stream of labour going out of agriculture. Consequently we should expect an increase in slums–either rural or urban–if we do not use this labour in industry.

With respect to the second point, increases in the manufacturing sector, I am not so pessimistic as Myrdal. The example of Japan has already been touched upon. Japan in a decade has moved from being a developing country to the upper range of the developed countries. A second example is the performance of the Soviet Union in the last two decades. I would say that the

reason why Myrdal is pessimistic is that he is only considering the manufacturing sector. Industrialisation does not mean only manufacturing, but also the infra structure around this. We can thus calculate not 5 or 10 per cent but, perhaps, 40 per cent of the labour in a developing country as a starting point. With the rates existing in developing countries today you can readily envisage reaching in ten or twenty years a stage which we can consider as developed. The increase of industry in the last 10 years in many developing countries has been 8–13% per year and this means that in one decade you can double the sector, not only the manufacturing sector but also the service sector together.

The third point concerns the slums. If there is a problem of utilising labour, and the goals of increasing manufacture are not achieved, where are you to have the people? It is better to have them in the towns or in the countryside. This is a question I think where we have to discuss much more than we have hitherto; it is an important research field. I am not sure that the town slum is the worse solution. If there is a completely monetary economy it is easy to find the labour supply for industries, and cheaper to organise education and medical service.

E. B. Khlebutin, *U.S.S.R.*

The backwardness of the growth of agricultural production and the increasing population of developing countries which the statistics of the postwar period has demonstrated seems, on the figures being quoted, to be liquidated. The cause of population increase and food increases are balanced; in some countries there is a tendency for agricultural production to increase. Many economists are inclined to interpret this as a beginning of a new era. The freeing of developing countries from agricultural and general economic crises which they suffered from their start as independent countries.

However, Myrdal in his brilliant paper shows, and it is quite well known from other sources, that the annual rate of calorie consumption excluding protein is not sufficient, even if it were evenly spread. In reality this situation is more critical than averages would suggest because in developing countries the difference between the haves and the have nots is increased–social stratification is under way at a great rate. Taking into account the wide spread of incomes, we must say that the economic basis of this progress is going very slowly. The increase of the share of the national income absorbed by usurers and other non working elements takes up the best part of the national income which might be used for the realisation of programmes of economic development.

Having very scarce resources and a population which is very poor and illiterate presents the developing countries with great difficulties and only by means of temporary measures can they sustain some political and economic balance. All plans or reforms radically to improve conditions are put off till an unforeseeable future. The result is that reforms which could hold back the exploiting element and give the possibility of regulating national resources for

the benefit of the nation are not undertaken. Without radical reforms the solution of planned consumption and income is quite impossible, and the attack on economic and social question is retarded and hampered and illiteracy of the people increased. The main organisation for attacking economic problems of the countryside in most of the developing countries is a means of providing conditions in which the people can take part in production. The farmers of the countryside have the necessary implements to use for productive resources throughout the year.

However, there exists an element of redundancy–described in terms depending on one's terminology. Professor Myrdal shows that the solution of the main problems for these countries must come from the use of their own resources.

G. G. Kotovsky, *U.S.S.R.*

I would like to make four observations in connection with the outstanding paper of Professor Myrdal.

Here we have representatives not only from agricultural economics but also other applied sciences connected with agriculture in general. One of the main problems which confronts mankind and must be overcome is the gap between the development of the developing countries and the developed countries. Unfortunately due to social, economic and political factors well-known to economists and sociologists this gap is not only not narrowing but is broadening. The fact that this problem is not solved may have such far-reaching social and political consequences that even the futurologist will not be able to envisage them.

The well known fact should be restated that one of the main ways of overcoming this problem is the modernisation of the structure of the main sector of the developing countries–that is, agriculture. But strange as it may seem, there are those who cling to the view that there is a possibility of overcoming this problem by employing a necessary infra-structure, and using the knowledge of the developed countries. The report of the outstanding scientist, Professor Gunnar Myrdal convinces us of the fact that this point of view is erroneous. I cannot quite agree with the critical remarks of Professor Dams that the model presented by Professor Myrdal was over-simplified. Of course all the points which were presented by Professor Dams–planning, mechanisation, the developing of markets–are very important factors. I would like to say to Dr. Dams that he should step from heaven to earth and try to solve the problems which actually face the farm operator, the peasant, the fact that he suffers from malnutrition, and so on. Professor Myrdal directs our attention to the social and economic factors and the aspects of the problem and the modernisation of the economies of the countries of the Third World.

I will concentrate on the question of the countries of Asia. It seems to me that the semi-colonial character of the social economic development of these countries was a kind of a special transformation stage from the feudal to the

capitalist stage of development. And this stage of development has not been overcome by the countries of the Third World. As a result of the deformation of the processes of social division of labour we speak of the creation of a great agrarian over-population. The utilisation of surplus labour, in Professor Myrdal's view, demands wide use of labour intensive production in rural areas. The truth is that this problem cannot be solved without an increase in the average productivity per labour unit employed in agriculture. This means the creation and utilisation of all kinds of cooperative organisations, and agro-technical complexes as means towards a solution of this problem.

Secondly, in such countries, the process of primary accumulation of capital is entangled with the functioning of the system of private ownership. Therefore there is great non-productive use of capital and a deformation of the whole process. Thirdly, in Europe and other developed areas the capitalist countries have passed several stages in development, manufacturing stage, capital stage etc. In this respect it seems to me that Professor Myrdal was not quite correct to talk about the capitalist sector structuring the development of agriculture. Capitalism already exists in these countries of the Third World. Professor Myrdal by all of his paper shows the necessity to solve the problem of the Third World by means of large scale reforms within these countries. But what is the main way of solving the problem when large numbers of the rural poor are becoming landless, property less? I cannot agree with Professor Dams when he speaks of the catastrophe of the hunger crises. We know that food problems can be solved in the Third World. There is the possibility of solving the problem by the import of goods from the highly developed countries. At the same time there is the possibility of overcoming these problems by large scale and far-reaching reforms within the economy of the countries themselves. In this respect I consider that the recommendations on the solution of these problems put forward by Professor Myrdal extra-ordinarily important and must be taken into account. This report will touch on the interest of the individual farmers.

Professor Dams has asked—What about the Green Revolution and he refers to the Japanese economy. The Japanese reorganisation took place in association with a far-reaching agrarian reform and the reform took place in Japan in the process of large scale industrial development. It was necessary to create such conditions, to undertake such reforms, in order to further the interests of the farm operators and the landless—whatever the situation on the Green Revolution.