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SOME OBSERVATIONS ABOUT THE GREEN PLAN
FOR THE DEVELOPMENT OF LEBANESE AGRICULTURE

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by

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I. PRELIMINARY REMARKS

1. In September 1962, the authors were invited by the Institute of Rural Economics, Beirut, to visit Lebanon for one week to become acquainted with the planned program of capital investments for Lebanese agriculture, called the "Green Plan". The surface impressions received during the short stay in Lebanon have been discussed with different persons and will be resumed in the following report. Therefore, this report cannot be considered as an expertise for which a longer stay and a more intensive study would have been necessary.
2. At the time of the authors' visit there did not exist a final draft of the Green Plan. There were, however, different ones from various steps of its development which were still under discussion. Additional thoughts and suggestions had been expressed by numerous people but had not yet been put together in written form.

The initial idea of the Green Plan outlined investing about 200 million Lebanese pounds in a vast program for soil conservation. A large section of the semi-arid country with its many slopes undergoes much soil erosion at the present time. To finance the plan, 25 % was to be carried by the land owners, 25 % by the state as lost contribution and 50 % by the state as credit to be paid back later, possibly with interest. Additional expenses, for example the cost in procuring plant material, would also be carried by the state. According to the first plans, the owners would have to submit individual applications for grants and credits. After examination by state authorities, a contractor would carry out the necessary work. It had been proposed to employ four contractors, one for each province. The contractors would do the planning as well as the practical execution of the work. They would be authorized to purchase 200 heavy

tractors for which the state would guarantee a minimum working time. There would be no danger that the expensive tractors would not be used to full extent because if applications from private owners would be lacking, then they would do the necessary work of soil conservation and reforestation on state-owned land.

During the discussion it was considered whether or not the danger of erosion could be controlled or diminished by the planting of fruit trees on terraces to be built, in place of expensive reforestation which would yield a return at the earliest after two generations. Thus, the aim of the program was enlarged to a combination of soil conservation and production increase. During the discussions it was also pointed out that only a small percentage of food-stuffs consumed in Lebanon originated from home production. The emphasis came to be placed not on "soil conservation" but on "soil amelioration", i.e. production increase and more productive utilization of the soil with a consequent rise in value. At the same time it also became the aim of the project to procure labour and to combat the disguised or open underemployment in order to slow down or to stop the rural exodus.

3. This diversification step has far reaching consequences. Under the climatic conditions of Lebanon, the production possibilities of agriculture are determined primarily by the irrigation possibilities. At the present the existing water resources are being investigated and are being cartographed in a special project financed by the Special Fund of the United Nations. Coordination of the Green Plan with this investigation of water resources is urgently necessary. Road construction which is necessary for cultivation and marketing requires that applications are not made individually but that planning ought to be done on a communal or regional basis. These tasks will be, without doubt, beyond the capabilities of a mere technical contractor. Thus it was proposed that a larger number of smaller contractors

should be admitted rather than the originally proposed four province contractors, and that their tasks should be limited to the technical execution of the different projects. Planning and supervision should be left to an international consulting firm. Since experience is still lacking on problems of planning and social economy which surpass by far the problems of technical execution, the proposal to start in the first year with 50 tractors in 20 selected villages arose. Only after the second year should the number of tractors be raised to 200, relying on the experience gained during the first year. This requires combined investigations and utilization of experience. At the time of the authors' visit, detailed and concrete ideas as to these problems did not yet exist. During the discussion new aspects were continually discussed, but definite decisions had not been made.

II. SOME REFLECTIONS ON THE AGRICULTURAL DEVELOPMENT IN LEBANON

4. The existing conditions of agrarian structure are very important to future agricultural development. With a certain schematic simplification and disregarding many transitions, the existing structure can be divided among three main types of farming: Mountain, plain and coastal plain. In the mountains covering most of the country there is a majority of small holdings of generally less than one hectare of utilized area. These holdings are generally privately owned. They represent remainders from older times when agriculture provided merely subsistence for a simply-living rural population. In the plains, especially in the Bekaa and the Akkar regions, the holdings are larger and are farmed largely on a share tenant basis, occasionally with hired labour and machines. In the coastal plains, there exist larger and smaller plantations growing citrus fruit, bananas and vegetables. They not only operate under different working structures but are generally intensively farmed and fully orientated

to the market.

Each of these regions has its own problems and requires different measures for the development of its agriculture.

a) Small holdings in the mountain region.

5. Within the region of small owner holdings, most of which are situated in the mountain region, the small size of the holdings is the limiting factor for agricultural development. Further negative factors are unfavourable soil and water conditions as well as high investment requirements for soil reclamation. The majority of the farms is so small that even lasting land improvement measures (for example terracing, irrigation, establishment of orchards, introduction of new crops and new varieties in the annual cultivations, etc.) requiring high investments, would not be sufficient to produce an effective and dynamic rise of incomes in agriculture. Even increases in yields of 100 % which would be difficult to obtain on a large scale, could only restrict the rural exodus to some extent. It would neither stop it nor reverse the situation. On the contrary, it must be expected that some years after the realization of the land improvement measures, at least a part of the population will leave the rural areas. On the small holdings it will be impossible to obtain incomes that compare to urban wages. Under these circumstances, the aim of the investments, i.e. to enable the rural population to earn a living comparable to other professions, would not be attained. Thus, the first precondition in agricultural development of these areas is the enlargement of agricultural holdings. This possible development must be considered at the time of planning.

Since uncultivated areas are not available in large quantity, the enlargement of agricultural holdings will be possible only if one part of the population gives up agriculture as a means of livelihood at one

time or another. Thus, these areas could be utilized to enlarge the other holdings. The agricultural development in these areas therefore is interwoven with the creation of alternative employment opportunities for persons leaving agriculture, and is dependent on the general economic development. In answer to this need, an agrarian development program can only be a part of the general plan for economic development of the country.

6. In the light of these considerations, it seems doubtful whether or not improvement measures on very small holdings are useful and deserve priority as a general aim. A restriction of the measures and consequently of the financial aid to holdings above a certain minimum size would, however, discriminate against the smallest and poorest owners as long as corresponding non-agricultural employment opportunities are not created. Also, in the eyes of these classes the non-agricultural employment must represent an improvement compared to the actual situation for which it is worth while aspiring. Furthermore, the question arises whether or not the owners of very small holdings would want to and would be financially able to participate in the land improvement measures. If the development of the country is to be promoted as a whole, with an increase in the national product as well as in the total income, the first criterion for selection is to improve the most appropriate areas. Neither the areas owned by rich persons nor the areas being uneconomic because of the above mentioned reasons have to be preferred. In order to coordinate the prevailing structural conditions with the economic requirements, the creation of non-agricultural employment must be an integral factor not only of a general development program, but of every agrarian development program in Lebanon.

7. Consequently, many areas made or to be made cultivable by land improvement measures will be left by the actual owners. If in these

cases there is a trend to sell the property or to only rent it out as a refuge for times of depression, has to be observed and taken into account. The enlargement of holdings by different measures requires the creation of a land reception institution which buys the land as it becomes free or takes it over in some other way in order to pass it on to other appropriate farms for cultivation.

The resulting problems of redemption payments, credit and tenancy have to be settled without utilizing a large amount of public funds. Due to the prevailing speculation spirit within the country, it must be expected that prices for land will rise as soon as rumours spread of future land improvements within a certain area. When these measures are executed prices will rise even further. The already low mobility of land would become even worse and the enlargement of farms more difficult. To prevent this, measures provided by law would be indispensable. As equally necessary is a sound tenancy system which would allow land to be transferred to a higher extent on a tenancy basis.

8. The pure enlargement of the holdings, however, is not sufficient to introduce intensive, rational agriculture. A combination of land improvement with a consolidation of holdings is necessary in those areas where the splitting of holdings is especially intensive in order to obtain sufficiently large areas and to enable mechanisation. This requires also road construction which has already been planned to a certain extent. We, therefore, only wish to especially recommend a careful selection of the appropriate holdings and areas for improvement, as well as a coordinated attack of various problems. Only coordination of the different measures and aims will be successful. If one important factor is not taken into account, expenditures for ten other measures will be misappropriated.

9. In view of the high degree of underemployment, the mechanisation of agriculture may not appear expedient. However, it is absolutely necessary to take the mechanisation into consideration in all current planning, even if it will not become effective until ten or more years later. The level of wages outside agriculture which is already high will probably continue climbing. Production techniques and sociological reasons will necessarily lead to a mechanisation within rather short time. If this aspect is neglected now, the high investments of the present may be rendered useless and lost after some years. Beside private possession of machines, mechanized farming by contractors which is well introduced in Lebanon, will be of great importance. With this system the total capital requirements are smaller and better utilization of machines is guaranteed. In each case it should be made certain whether or not it is worthwhile improving areas which cannot be mechanized in the future due to their small extension, unfavourable situation or declivity.

10. The above-mentioned tasks and problems, i.e. providing alternative employment opportunities, enlargement of holdings, intensification of the land market, land consolidation and road construction, make it clear that successful land improvement cannot only be done on the level of individual holdings. Rather, it seems that the village, often even a group of villages, represents the framework within which the wishes of individual persons and holdings have to be coordinated with the requirements of the regional economy. For this reason it appears useful not to carry out the measures separately on individual holdings but only as a total in smaller or larger economic units. This would involve at the same time an important saving in the transportation of the machines during the technical execution of the land improvement measures. Due to the increased fruit production in these areas, special attention is to be given to the problem of sales opportunities, since the majority of fruit must be exported. This point will be dealt

with more completely later.

The problems of the farms in the mountains have been discussed here in detail, not because it is thought that there are priorities for the economic development or important production resources. This is true only to a certain extent. The reason is rather that the conception of the Green Plan, at least in its initial phases, gave priority for these economically weak areas. In addition, within these areas certain social problems deserve special attention.

b) The peculiarities of the farms in the plains.

11. The great production resources of Lebanese agriculture are primarily in the plains, especially at those places where there are still unexploited water reserves. In this region there are quite different preconditions and possibilities for agricultural development. In addition to the agricultural advantages of the plains, here are much larger holdings. Some of the farms are managed by the owner; some are managed in share tenancy. In parts these areas are farmed rather extensively and yield low returns. Since climate and soil would enable high returns, there are exceptionally high production resources. The limiting factor is primarily the water. Enlargement and rapid realization of irrigation projects often not only mean a high investment but generally a very profitable one. In some parts of the country these projects are already under construction or even finished; in some parts they are only in planning stages.

It will, however, be rather difficult to make full use of the existing production possibilities, as long as the land tenure system prevents or complicates any modernisation or intensification. It must be investigated whether or not farming the holdings as large-scale farms with hired labour is useful, or if the tenancy system has only

to be consolidated in such a way that the individual tenant has more security and thus greater incentive for investment. In any case certain changes in the land tenure system seem to be the necessary precondition for an exploitation of the production potential of these areas. The mere opening up of the irrigation possibilities is not sufficient.

c) The plantations in the coastal plains.

12. The coastal plains with different types of plantation agriculture are the third agro-structural zone. This region also requires very different measures. Here again, the development possibilities are limited by the available or potential water resources for irrigation. In certain other respects, the conditions in these more advanced areas are somewhat better. In addition to the problems of water the marketing possibilities are also very important. Today 50 % of the citrus fruit and 75 % of the banana crops are exported. This crop production can be increased only to the extent to which the exportation as well as selling to the inland market can be enlarged. This depends on the number and the buying power of the non-agricultural labour force.

III. PROBLEMS OF FINANCING AND PROFITABLENESS

13. The investment of the estimated total costs of the Green Plan amounting to 300 million Lebanese pounds will spread over the next several years. The total sum is considerable for the small country of Lebanon but not beyond its possibilities. It is therefore not only important to have most concrete ideas on the resulting expenses and possibilities of covering them, but also on the improvements which can be obtained by them. As long as the experts' opinions remain as divergent from one another as 1:10, planning is not yet sufficiently founded. Many other items will have to be added to the

expected expenditures. Also the prevailing ideas on the yields expected sooner or later from the investments cannot be considered certain. Furthermore, when production increasing investments are made, it must not be expected that constant prices can also be obtained for increased production. This is especially the case if the increased production has to be sold on the world market. Also one cannot count on the theoretical yields which can be obtained or on those which can be obtained from model farms. Experience has shown that the average attainable production, also on advanced agricultural farms, remains by far below these theoretical yields.

14. Besides the problems involved by the funds required, there is the problem of where and under which circumstances the intended investments would be justified. This question has been already referred to but has to be treated in more detail here. The decision of which area is to be improved by terracing, removal of stones and other measures, cannot be left to the individual owner or petitioner. Rather the planning and financing authorities must compare the necessary costs with the yields to be expected. In cases where the relation is not favourable, or where it must be expected that too long of a time will remain between investment and raising of yields, the petitions will have to be rejected in favour of other more favourable projects. There must be no irrational mistake about this. Especially in the mountain region the input-output relation will be often unfavourable. When it is the case that from pure reasons of erosion prevention and soil conservation in certain areas economically unprofitable areas are to be improved, then more often will the expenses have to be met by the State, often up to 100 %. Unprofitable investments must not be charged to private owners who hope to receive an increase of income from these improvements. On the other hand, the social aim of the plan would not be achieved if governmental aid would be given exclusively to those owners who

possess more favourable areas. Also here all factors have to be thoroughly balanced. Instead of investing capital in uneconomic projects, it is often preferable to offer new employment opportunities outside agriculture to the owners of those areas which are not worthwhile improving because of economic reasons. By this measure, social hardships and injustices can be avoided or at least mitigated.

Also the improvement of dry land requires a previous thorough calculation of the possible profitability with respect to dynamic aspects of the total economy. Frequent crop failures have to be taken into account. Perhaps here also in many cases only the government can be expected to bear the risk. It has to be considered, however, whether the bearing of these risks is worthwhile in light of the public interest. It is always doubtful whether or not an investment is useful in cases where the risk for the private person would be too high, i.e. in cases where the individual with his private money would have negatively decided. This is especially true, if, as in many areas of Lebanon, there lie good possibilities for highly productive investments. These possibilities would have to be neglected if the limited funds would be utilized less productively or even unproductively.

15. A great share of the expenses has to be raised by credits. Besides the question of whether or not the common forms of credit and credit institutions will be sufficient, special attention must be paid to the question of whether or not the credits actually arrive at a point where they are needed. If, for example, owners having ample means can also claim credits utilizing their own money in other transactions which offer a higher rate of interest, the total sum of the public funds would have to be higher. The total requirements rise without rendering any corresponding return if the repayments are delayed due to irresponsible debtors or crop failures

and thus only a smaller amount of credit is revolving. It must be investigated how a maximum of private capital can be invested utilizing at the same time the smallest possible amount of public means. For all investments with public funds a sufficient service of capital must be secured.

16. Estimates concerning the credit requirements have to be necessarily inadequate as long as exact knowledge on the equity capital to be invested by the owners is not available. With the small owners of the highlands living only on their income from agriculture the credit requirements will be rather high, as neither sufficient capital accumulation from their own income is possible, nor can their participation in work be valued very highly. The manual labour has to be finished each season at the very latest before the next rain period in order to prevent the soil from washing away. For reasons of profitability the tractors have to do all work in one village at the same time. Immediately afterwards there rises a great demand for manual labour which can only be met in many cases by hiring labour. Also the chances of mutual aid must not be over-estimated. Occasionally, one has the impression that soil work is looked upon as an inferior work by a part of the population, and thus only from reasons of prestige other persons, especially workers from Syria, are hired. In spite of these observations, the problem of how the largest possible percentage of costs can be raised by owner contribution, not only in money but also in work, deserves careful consideration.

IV. LABOUR PROBLEMS

17. On the whole, all labour problems deserve special consideration. It must be clear that in the course of the execution of the Green Plan, additional permanent employment is created only to a certain extent. Since the operations shift continuously to other areas and

since only a small percentage of the persons concerned can accompany the tractors from one village to the other due to housing and family ties, the additional labour force requirements are primarily temporary. Thus there is mainly a need for manual workers who would be prepared to work temporarily in the surroundings of their place of residence as well as for persons who could live in work camps migrating from one place to another. These work camps would not only be difficult to organize but could also have negative psychological effects.

In spite of the low primary increase in permanent employment opportunities during the execution of the land improvement measures, it can be expected that as a result of the land improvement, additional labour requirements will arise. Later on the rather intensified economy, as long as it is not linked with ample mechanisation, will require an increased utilisation of workers on the intensified farms. This will contribute on the one hand to an elimination of unemployment in the country. On the other hand, new employment opportunities will be constantly created. A numerical clarification by case studies would be desirable.

18. From the above-mentioned reasons it can be expected that a part of the workers to be employed have to be hired from other countries, i.e. from Syria. This means that a part of the invested money will go to foreign countries, i.e. it would be lost for the national economy. However, macro-economically within a country with as high an import surplus as Lebanon, it can be nevertheless expected that a high percentage of each invested fund will flow to foreign countries after a certain time. As a great percentage, even of the basic necessities such as food and clothing, is imported, the multiplier effect of the investments can only be small. Correspondingly, there are no great differences between national and foreign

labourers. If foreign labour is less expensive than national labour, the objections against its utilisation are even less important.

19. When estimating the required labour force, one labourer must not be equivalent to one working day unit. If 100 working days of manual labourers are required for each working day of a tractor, this does not mean in any case a requirement of 100 labourers even if the tractor works every day, but only of 100 working-day units. Practically, these can be performed by different means. If the tractor has worked one day, the manual work can not be done only by 100 workers on the following day, but also by utilizing ten workers during ten days. As the work has to be performed constantly at another place, the real requirements of workers diminish according to the number of the working day units that can be performed by the owners and their own families.

20. Besides the quantitative aspects of the problem of labour forces there are also qualitative aspects which must not be neglected. Of course, it will be more difficult to find the necessary persons for planning, instruction and direction than for unskilled labour.

V. SECURING THE SUCCESS OF THE INVESTMENTS BY AN ADVISORY SERVICE

With the planning and execution of the measures, even if all important factors, not all mentioned here, are taken into account, no satisfactory outcome from the investments can be expected if the utilisation of the created production capacities remains with the farmer himself. His knowledge in farm management and adaptation of scientific principles of agronomy is lacking. Thus, there is a special need for adequate counselling of the farmers. The existing irrigation methods are being changed by land improvement

measures, dry areas are being irrigated, and often completely new crops are being introduced. Farmers who are working up to now with rather primitive methods will be forced to learn and to use new production techniques, until now unfamiliar to them. New crops have to be introduced. Without a special intensive advisory service, success justifying the expenditures cannot be expected. It must be investigated, therefore, whether or not and how a special advisory organisation which could advise on the change and adaptation, can be created for the land improvement area. Thus the object on which to advise is different from those handled by the existing advisory service. Besides that, the existing advisory service might be overcharged by the new tasks and thus the best intentions might be spoiled by routine work.

21. If in certain cases one shifts to production of especially high-grade products, for example nursery products and seeds for inland consumption as well as for export, an intensive advisory service is even more necessary. The production of these crops should be especially aimed for since the Lebanese, considering their better knowledge and educational standard, have a comparative advantage to the other Arab countries. Especially in Lebanon, due to the prevailing intellectual capacities of the population, the prospects in this area are especially favourable. However, it must be also examined whether or not certain measures, for example pest control, selection of seed, utilisation of water, etc., which are being recognized as necessary by the advisors, should be compulsorily executed individually or collectively. The high public investments would justify considerations of this kind, even if they are contrary to extremely liberal ideas.

VI. MARKETING OF THE RISING PRODUCTION

22. Since Lebanon has been dependent until now on high imports of food-stuffs, it appears as though the marketing of the rising production would not create any problem. The import requirements exist, however, primarily in basic foodstuffs, especially cereals and animal products; that is, in products whose production could be raised in the great plains after having provided for irrigation and better production methods. Up to now people have been accustomed to importing from the world markets at the lowest possible prices and to influencing at the same time the inland prices for agricultural products by the development on the world market. With the different products, however, there already result deviations from these principles. For some products manipulated prices lying above the level of the world market are paid already.

If an increase in production which corresponds to the possibilities aimed for by the investments is to be reached, special attention must be paid to the price, market and selling problems. The question of whether or not a price and marketing regulation system is adequate needs very thorough examination. Such a system would need to guarantee to the inland farmer sufficient, not overly fluctuating prices without over-burdening the consumers by forming a middle price among the often high home and often low import prices. Not only the prevailing liberal commercial points of view, i.e. of the cheapest commodity coverage, but also the development of the country in the long run has to be considered.

On the improved and irrigated areas, in the coastal regions as well as the mountains, fruits and vegetables will probably be cultivated before any other crops. There already exists today an export surplus of these crops. An increase in production would have to be

exported rather than consumed at home. Certainly with the rising full employment and rising buying power of the agricultural as well as the non-agricultural population, the demand on the home market will rise. It is probable, however, that the production will rise even more rapidly. Profitableness and utility of the land improvement measures are thus very much dependent on the export possibilities. Over-optimistic judgements must be avoided. An institution to investigate the export possibilities and their development tendencies should form an important part of the administration of the Green Plan. It would have to procure the planning documents for the execution of the land improvement measures. At the same time it would have to estimate the price chances for the future, and it would have to investigate the possibilities for price adjustments between home consumption and exports. The program for intensified production would be in danger if, due to an important decline of the prices on the world market which can occur at times, exporting would no longer be possible. The consequences would be a break down also of the home market due to its being overburdened. The important thing to be investigated is whether or not by creating certain funds being maintained by home sale, an export loss can be balanced without Lebanon having to retire from the market.

23. When estimating the export possibilities, it must be taken into account that also other Mediterranean countries are actually expanding their production of vegetables, fruits and citrus fruit to a great extent. The export of frozen and canned fruits and vegetables will lead to basic changes of the competition situation. It is not impossible but needs careful examination that from the additional production aimed for in all countries, there will arise in the long run rather a decline than an increase in the export prices for fruits and vegetables from Lebanon. Investigations of these tendencies and of the varieties most suitable for export, as well as on the most

modern techniques of conservation are necessary. In different countries different qualities are required. Undoubtedly the highest prospects are in the production of high quality fruits and vegetables produced out of season. In addition, the processing to high quality delicacies would promise success.

24. The great number of products which can be delivered only in small quantities from individual producers, requires an organisation for the collecting, assorting, standardisation, packing and marketing in great quantities. This organisation would have to be charged also with the advertising, market investigations and opening up of markets, as well as with the creation of trade marks etc. Whether or not these tasks will have to be done on a private basis, by cooperatives or on a semi-governmental basis, and whether or not regulations by law will be necessary, will require in any case certain market policy measures by government. The necessity to investigate the possibilities of a price and market balance system has already been mentioned.

VI. ORGANISATION

The Green Plan lies within the tasks and competence of different ministries. It would therefore be necessary to form an inter-ministerial board. It would be desirable to create a fully-authorised top-level administration, subordinate to the highest governmental authority and independent of the different ministries. It would be in charge of coordination. The Tennessee Valley Authority or the East Ghor Canal Administration in Jordan could serve as examples. Without such powers of authority, there is the danger of paralyzation by jurisdiction disputes and office routine. Even more so there is a need for this authority since due to the great enterprising spirit of the commercial population in Lebanon the initiative for new

projects came generally from commerce rather than from government. The guiding assistance of the government is, however, indispensable and must be utilized with the initiative of private enterprise.

26. The Board could have two departments: the planning department and the technical department. The planning department would be responsible for planning, investigation and evaluation, as well as the constant adaptation of the plan to the results already obtained. This involves also general planning; reviewing of petitions from superior, macro-economical points of view; calculation of profitability; balancing of economic and social requirements; settlements of industries in rural areas; etc. The technical department would have to care for the technical execution of the project as intended by the planning department, placing of orders to the contractors, supervision of the execution and auditing. In both departments, foreign advisors could help to fill-in for the shortage of adequate personnel. The decisions, however, especially in the planning department, being of political character, should be made by highly qualified Lebanese experts and Lebanese economic specialists. The roots for such an organisation already exist today. Valuable preparatory work has already been done. Thus, the authors do not reveal here an essential new idea, but wish to strengthen endeavours which have already come into effect during the last years.
27. In view of the lack of experience and the multitude of problems to be solved, it would be useful to first begin the project in a limited area or in some pilot regions. Only according to the experience gained should the project be extended to a larger area and the working pace accelerated. It must be recommended that those villages or regions should first be selected which offer the best chances for

success due to their technical and human resources. Areas with less favourable preconditions should be deferred, even in those cases where social points of view would claim a special priority.

VII. THE GREEN PLAN AS INTEGRATING FACTOR OF A COMPREHENSIVE CONCEPTION OF DEVELOPMENT

28. During their short visit the authors formed the conviction that a pure agricultural plan will not satisfy the development requirements of the country. In a country where the small production potential and the extremely small farm sizes of large regions would prevent any real success of pure agricultural measures, larger farming units will develop by themselves in the course of development of the total economy. It is, however, more logical not to leave this process to itself but to create already now larger farming units or at least to take them into account when elaborating the plan. As this will be possible only by creating alternative employment opportunities, industrialisation in rural areas has to become an integral factor of the plan. This goes far beyond the framework of single agricultural measures. The Green Plan becomes part of a comprehensive conception or of a plan for the economic and social development of the country in which the agricultural part is of great importance. If it is intended only to realize an agrarian program for investment without taking into account the structural data and future aspects, and if at the same time economic aims and principles are neglected in favour of technical and other preferences of individual leading personalities, it must be expected that the turn-out of the investments will be very low and thus will remain within the framework of the bottle neck given by agrarian structure. The main aim, that is to give a productive existence and rising incomes to the greatest possible number of the population, would not be reached. It cannot be investigated here if the investments in agri-

culture within the Green Plan or the investments outside agriculture have to be higher. Special attention, however, has to be drawn to this question. Only the two together can lead to the desired success.

29. In the framework of the conception for the economic development of the country, when utilising all means, it is important to check not only their justification and utility, but also their priority within the framework of the total economy. First priority always has to be considered at the beginning. It is doubtful whether or not all land improvement measures provided by the Green Plan are of first priority from general economic considerations and, on the other hand, whether or not all projects which have to be considered of first priority within and outside agriculture are included in the plan so far. Irrigation and other measures of land improvement in the great plains as well as in some mountain regions are of course as far as the optimal utilisation of the production potential is secured, in the first priority category. But whether or not the terracing and irrigation of all mountain regions which have been visited by the authors will be given first priority within the total economy remains doubtful. Pure calculations of profitability from the point of view of private economy have to stand aside in cases where combatting erosion in decisively important areas is justified. Economically seen, however, all investments in projects of second priority are unjustified as long as there is not enough money for all projects of first priority. An incorrect placing of priorities for investments does not make the country richer but poorer. As a decision on the utility and priority depends to a great deal on the results of the evolutionary work for the Plan, intensive investigations and analysis work are necessary. It is recommended also to start slowly and to extend the project according to the knowledge and experience gained.
30. "Green Plan" is the term given to programs in highly industrialised

countries which have the aim of adjusting the earnings of an agricultural population which is reduced to 5 - 15 % of the total population to the income level of other professions. This requires rationalisation and structural changes. This applies to some extent also to Lebanon. In addition there is the necessity of combatting erosion. In any case it must be taken into account that the economic structure of the country is not only weak in the agrarian sector, but the small size of the industrial sector of the economy is at least as great a weakness. It is true that important trends of development and prosperity can be seen within the economic life of the Lebanon due to the commercial and enterprising skill of a great part of the population as well as to different favourable aspects, especially during the recent years. However, it is known that this wealth is not consolidated and perhaps is even of a temporary kind. Each improvement of the agricultural productivity is therefore only justified when the measures to overcome the non-agricultural difficulties in the economic structure go hand in hand. A coordination of liberal and private economic aims with concepts of the total economy, i.e. of private initiative with planning, even of a real control, would be desirable. In order to provide for an adaptation to all possible changes within the economical conditions of the world, a more balanced economic structure will have to be aimed for by a very careful selection of the crucial points for investments.

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