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SUMMARIES OF GROUP DISCUSSION

SUBJECT I

MOBILIZATION OF RURAL SURPLUSES FOR DEVELOPMENT

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The following issues were taken up for discussion in the Group : (*i*) The concept of rural surplus and the problems of its measurement, (*ii*) Determinants of rural surpluses, and (*iii*) Methods of mobilization of surpluses.

CONCEPT OF RURAL SURPLUS

By and large, two types of surpluses could be considered : (*a*) The output surplus and (*b*) the input surplus. When we speak of the rural surplus, we need not necessarily consider the farm surplus alone, because, in the rural sector the non-farm activities are also carried on. However, to facilitate discussion of the problems of farm surplus mobilization, the Group agreed to confine itself to farm surplus.

One may consider three types of rural output surpluses: (*i*) Technological surplus or the production surplus, which is the excess of physical output over physical input; (*ii*) Financial surplus; and (*iii*) The marketable surplus.

The Group felt that for the purpose of discussion of the problems of mobilization, the latter two types of surpluses are more relevant. The marketable surplus has to be measured as the difference between the rural output and the sectoral retentions. It was felt that a distinction should be made between the marketed surplus, an *ex post* concept, and marketable surplus, an *ex ante* concept, and the factors causing the divergence between the two should be identified. The main factor causing the divergence is the error in expectations about both the output and retentions. Price changes also played a big role in this connection. It was also felt that productwise estimation of the marketable surplus was much more meaningful than the aggregate surplus of all agricultural crops. While determining the marketable surplus one should find out how far retentions reflected the genuine needs of the farmers. The needs might be both consumption needs and production needs. Care should be taken to separate hoardings, so that genuine needs only were considered. It was also recognized that distress sales did not indicate the existence of a marketable surplus.

While measuring the financial surplus defined as the excess of income over expenditures, one should take care that the borrowings of the farmers are not counted as income. It was suggested that the balance sheet approach might be fruitfully used in measuring the financial surplus. Even though

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there were problems of choice of the right type of prices for valuing inputs, this was not considered to be a difficult problem in the case of valuation of output, as the harvest period prices could be used.

For estimating both the marketable surplus and the financial surplus it is necessary to specify the reference period. In the case of the estimation of average annual marketable surplus in particular it might be advantageous to take the average of the output and retentions for a period of 3—5 years so as to even out the larger retentions in some years and smaller retentions in other years.

It was felt that the magnitude of the surplus might depend upon the system of payment to the factors of production particularly labour. If wages were paid in kind, possibly, the magnitude of the marketable surplus might be reduced, without an equivalent reduction on the demand side.

DETERMINANTS OF RURAL SURPLUSES

There was an extensive discussion about the various determinants of the rural surpluses. The discussion of the determinants of the rural surplus was felt necessary because a clear understanding of the degree of effectiveness of various determinants with regard to the rural surplus might enable the formulation of a suitable policy for mobilization of these surpluses. In other words, a comprehensive surplus function has to be determined which might be useful both to project the quantum of surplus in future and also to help the policy-maker with regard to the measures for mobilization. It was agreed that in any deterministic surplus function model, the following determinants might be considered : (*i*) size of holdings; (*ii*) the price factor; (*iii*) educational level of the farmers; (*iv*) institutional agencies; and (*v*) technology.

(*i*) There was some discussion about the definition of the size of holdings in the context of the surplus function. Should we refer to the area under crop or the area of holding owned by the farmer or the size of the operational holding? It was felt that while the importance of area under crop and the size of the ownership holding cannot be overlooked, the size of the operational holding might be considered as the most relevant concept of the size in this connection. It was agreed that in view of the support from a majority of the studies, the size of operational holdings and the quantum of marketable surplus might be considered to be positively related. However, it might be difficult to determine the cut off size of the operational holdings from which the surplus would start emerging. Further, the viable holding size might be different for different regions, for different crops and for cultivation with different technologies.

While the size of holdings is an important determinant of surplus, the size of family (the number of consumer units in the farm household) is also a significant determinant because the magnitude of retentions is directly dependent upon the number of consumer units.

(*ii*) So far as the price factor is concerned, it was felt that in addition to the existing prices, the price expectations should also be considered as significant determinants of the farm surplus. The issue in question was how does the surplus behave in response to the change in the price of the output and the price of input—both current and expected? Four alternative formulations of the price factor were considered by the Group :

(*a*) Responsiveness of the surplus with respect to the absolute prices;

(*b*) Responsiveness of the surplus with respect to the price of the output relative to the price of input;

(*c*) Responsiveness with respect to the price of output relative to the prices of competing commodities; and

(*d*) Responsiveness of surplus with respect to certain fixed charges (such as the land rent).

It was felt that the theoretical models depicting the inverse relationship between the farm surplus and the price factor (whatever be the alternative of the price factor that we might consider) presented a picture about the surplus behaviour ignoring production effects. However, if such effects were also considered, one might expect the working of the usual law of supply even with regard to the farm surplus. In other words, favourable prices would promote surplus generation, and favourable terms of trade would be conducive to the augmentation of rural surpluses. This conclusion was reached by the Group keeping in mind the recent contributions based upon the empirical studies in India and other developing countries.*

(*iii*) It was agreed that the educational level of the farmers would be a significant factor in determining the quantum of surplus. Educational level might affect the output through its effect on what were termed as manual skills and allocative skills. Education received by the farmers might also affect the retentions within the farm sector by influencing the food habits. While education might help the augmentation of the marketable surplus, it might tend to reduce the financial surplus of the farm sector, for, the role of demonstration effect, which is made operative on account of education received by the farmers might work in these directions. The demonstration effect might widen the consumption basket of the 'educated' farmers, thus increasing the expenditures and reducing the financial surplus. The question of the degree of effectiveness of education on output generation and on the expenditure and retention has to be resolved by empirical studies so as to suggest a firm

* 1. Pranab K. Bardhan and Kalpana Bardhan, "Price Response of Marketed Surplus of Foodgrains, "*The Oxford Economic Papers* (New Series), Vol. 23, No. 2, July, 1971. 2. A. I. Medani, "Elasticity of the Marketable Surplus of a Subsistence Crop at Various Stages of Development," *Economic Development and Cultural Change*, Vol. 23, No. 3, April, 1975, pp. 421-429.

conclusion. It was felt that all types of education might not be necessary and desirable also for surplus generation. It was suggested that Extension Education or functional literacy of the farmers might be an important factor in determining the surplus. Since functional literacy and Extension demanded a minimum level of formal education, it was felt that primary education and Extension Education would be sufficient from the point of view of the objective of surplus generation.

(*iv*) The Group felt that the role of financial and non-financial institutional agencies should be recognized in augmenting the rural surpluses. It was generally agreed that the establishment of a strong institutional base would be conducive to surplus. The institutional base might consist of marketing institutions, the institutions providing credit facilities, the institutions providing the storage facilities and transportation facilities, etc. It was also felt that the co-operative societies and the rural branches of the nationalised banks have been able to give an impetus to the surplus generation in the rural sector in the country. For, these financial institutions provided credit to the farmers, thus contributing to the incomes or farm output.

(*v*) The adoption of modern farm practices, use of high-yielding varieties, fertilizers, irrigational facilities, etc., are also of great help in promoting the surplus generation in the farm sector.

It was suggested that regionwise studies might be conducted to estimate the response coefficients of various determinants listed. It was also pointed out that the estimation would have to be attempted from the reduced form equation based upon the simultaneous equation system.

METHODS OF MOBILIZATION

While discussing the problems of mobilization a basic question was raised about the objective of mobilization of the surplus from the farm sector. There is a tendency to be obsessed with a view that the farm sector should support the non-farm sector. However, one has to note that the surplus might have to be ploughed back into the farm sector itself in order to promote farm sector development. Hence, the Group felt that various methods of mobilization of the farm surplus to be of use in the non-farm sector would have to be examined keeping in mind the needs of the farm sector itself. The methods of mobilization of the farm surplus could be put under two broad categories : (*i*) Non-fiscal measures; and (*ii*) Fiscal measures.

Under the non-fiscal measures the role of the price factor, institutional agencies, etc., was examined. It was felt that the mobilization of the surplus by increasing the prices of the inputs in particular, might not be an acceptable method, for, there was a risk that this might lead to inflationary forces. It was generally agreed that both financial and non-financial institutions like, banks, marketing, storage, transportation facilities, etc., might be significant instru-

ments for mobilizing the farm surpluses. There was no clear evidence to prove the effectiveness of banking institutions in mobilizing the savings from the farm sector as a whole in recent years in our country. However, in certain regions of the country, they have been found to be successful in this task.

The usefulness of the following fiscal measures was examined from the point of view of the mobilization of the rural surpluses : (*i*) Taxation of farm inputs and farm output; (*ii*) Taxation of agricultural income; (*iii*) Land taxation; and (*iv*) Agricultural holdings tax.

There was heated discussion about the taxation of inputs. It was felt that input taxation might adversely affect the output and the generation of surplus itself. In this context a serious controversy developed with regard to the taxation of fertilizers. Some participants felt that the taxation of fertilizers might not adversely affect the demand for fertilizers as the input demand was governed by the output expectations, and hence the farm output and the farm surpluses might not be significantly affected adversely by a fertilizer tax. On the other hand, other participants firmly believed that the demand for fertilizers and output and surplus would be very adversely affected. This controversy was based upon an assumption that the fertilizer tax would not be shifted forward by the farmers also. If the incidence was shifted forward as in the case of any other commodity tax, possibly fertilizer tax should not adversely affect the farming operations. However a fear was expressed that this might aggravate the inflationary forces in the economy.

If the fertilizer tax was borne by the farmers themselves, then, both the small and the large farmers might have to bear the same burden if they used fertilizers. This would lead to a situation of equal treatment of unequals and hence the objective of equity might not be satisfied. From all these considerations, it was felt that the commodity taxation in general and input taxation in particular would not be an acceptable measure for the mobilization of the surpluses. Hence, the role of direct taxation of agriculture was taken up for examination.

The Group felt that of the various direct taxes the choice has to be made between the land taxation and the agricultural income taxation, for, the recently suggested agricultural holdings tax is the land tax itself with certain modifications. Since the agricultural income-tax proved to be a failure on account of the various in-built defects, it was felt that the land revenue system with certain modifications could be considered to be a more acceptable method for mobilization purposes. The agricultural holding tax is based upon the potential ability principle and it satisfied the criterion of progressivity. It also contained an in-built incentive for efficient cultivation as the tax liability under this system for the efficient farmer was likely to be lower. Even though the system of holdings tax required additional data about cropwise

It was recognized that the present methodology for the estimation of demand and supply for milk in the country left much to be desired. It was felt that for obtaining better estimates of demand for milk, pooling of the time-series and cross-sectional data would have to be attempted. It was also realized that we should try to estimate demand functions for different agro-climatic regions separately for the rural and urban areas. While fitting these functions the need for taking size and age composition of the family was also emphasized.

It was suggested that the supply of milk might be estimated for different species, breeds and for different lactations by using time-series data including a dummy variable to catch the effect of the shift in production surface due to the shift in milk production technology.

Regarding the most conducive institutional structure of dairy plants, milk collection and distribution agencies, the general consensus was that the AMUL type Milk Producers' Co-operative Societies should be extensively adopted so as to save the small producers as well as consumers from the exploitation of the middlemen. These societies generally paid fair prices to the milk producers and charged reasonable prices from the consumers besides exercising rigorous quality control. The success of such societies, however, greatly depended on making available input supplies and services, like the supply of cattle feed, provision of artificial insemination, supply of fodder seeds, health cover and other ancillary dairy inputs, and on the integrity and loyalty of the managerial staff. Such a marketing structure could help in achieving both technical and pricing efficiency in milk marketing. The producers could hope to get attractive prices for their milk whereas the consumers would get quality milk at relatively cheaper rates.

For reducing the cost of milk production, we must have dairy animals with better genetic potentials. Further, we should supply the nutrients required for milk production through an optimum combination of green and dry fodder rather than through costly concentrates. The cost of milk production could be reduced by almost 20 per cent by substituting concentrates with nutritious green fodder. A close watch should be kept on various economic indicators like age at first calving, lactation length, dry and inter-calving period which associated with good management would reduce the cost of production further.

In the present context of scarcity of high-yielding milch animals and paucity of sufficient funds, specialised dairy farming could hardly be resorted to by the majority of milch animal keeping households, mainly comprised of small and marginal farmers and landless labourers. What is warranted is that profitable levels of dairy adjustment should be made with crop husbandry. For example, a small farmer owning 5 acres of land could well devote one acre to fodder crop for maintaining 3 cross-bred cows under average management conditions. Such a unit of good cross-bred cows

could contribute about Rs. 1,000 additional income per year per cow. This would also provide gainful employment to the millions of under-employed farmers all the year round satisfying at the same time the cash needs of the farmers both for productive and consumption purposes.

The financial institutions and insurance companies would also have to play a pivotal role in popularising the dairy enterprise with the small and marginal farmers and the landless labourers by providing loans on easy terms and conditions. Apprehensions were expressed regarding the higher mortality rate and lack of health cover for the cross-breds. To overcome these problems a package of scientific management practices should be provided through a network of demonstrations on the pattern of National Demonstrations being organized for various crops. Also short-term farmers' training courses should be organized by the Agricultural Universities and Central Institutes to provide technical know-how in sound dairy management practices for the cross-breds.

It was also emphasized that studies to determine the exact impact of dairy enterprise on income and employment should be conducted for different regions of the country. This would go a long way in demonstrating the vast potential of this industry. In this connection it was mentioned that the National Sample Survey Organization and the Institute of Agricultural Research Statistics were conducting a number of studies which provided breed-wise and agewise data which are expected to fill important data gaps and would prove useful for the purposes of making precise supply projections.

To sum up, the Group recognized the urgent need for a major genetic break-through which might result in the replacement of the low yielding cross-bred cows to usher in the white revolution in the country. In view of the socio-religious sentiments against cow slaughter in this country, castration or sterilisation of the low yielding bovine stock is an imperative necessity. Further, the Key Village Scheme and the Intensive Cattle Development Programme have been in operation for more than a decade now in various States of the country. But the farmers did not have as yet full confidence in the artificial insemination services provided. Further efforts are, therefore, needed on the part of biological scientists to improve the quality of the bovine stock. An urgent need has been felt for providing credit, feeds and technical know-how to the small farmers and agricultural labourers in particular so as to develop the dairy industry at the grass roots. The facility of artificial insemination should be made available at the village level. Insurance and health cover should be provided to each dairy unit with a view to reducing the risk and uncertainty inherent in the adoption of the cross-breds. The implementation of the above measures would give a fillip to the dairy industry and is expected also to result in a greater degree of social justice.

SUBJECT III

PROBLEMS OF SMALL-SCALE FARMING [INCLUDING PRODUCTION, CREDIT, MARKETING (TRADING)]

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The major issues which were considered by the Group to be relevant for its deliberations referrred to (*i*) the criteria for identification of the potentially viable small farms, (*ii*) (*a*) the nature of economic efficiency of the small farms, (*b*) the factors responsible for sub-optimal economic performance of these farms as and where such economic inefficiencies were observed, (*c*) the constraints inhibiting the small farmers from adopting the new technology, (*iii*) the ultimate impact of the smallness of the operational holding on the quantum of and the prices received for the marketings by these farmers as also on their holding capacity and (*iv*) the measures that could help rectify the economic inadequacies under which the small farms operate.

At the outset, the Group took note of the fact that even under a given technology and for a homogeneous agro-climatic crop zone, the definition of a "small" holding in terms of physical acreage could be only arbitrary and notional. What was more relevant was a concept of economic viability of a farm unit. That physical size of farm which, expressed in terms of a measure of efficiency, would correspond to a norm of subsistence, would be the dividing line for distinguishing the viable farm from the non-viable farms. One could choose from among alternative measures of efficiency as also between conventional and scientific norms of subsistence. Also, while developing a composite yardstick comprising of a measure of efficiency and a norm of subsistence, the purist approach would require only the income accruing from crop husbandry to be taken into account; reality however is, and would be in the medium term, far removed from this in so far as most of the small farms derive additional incomes from non-farm sources. Moreover, for any accepted definition of viability, the minium size of the viable farm would tend to differ under varying situations of resource endowment and technological matrix. Further, whereas non-viable farms might be generally small, all small farms are not necessarily non-viable. From the policy point of view therefore, the small farms which have to be identified are those which are in the zone of potential viability.

Quite a few of the papers contributed for discussion had analysed the economics of small-scale farming. While some of them had examined the optimality of resource allocation on the small farms under traditional and new technology, others had made a comparative study of the resource productivities on the small and large farms. Though no conclusive evidence was forthcoming from these studies, it was however observed in certain cases that,

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even under existing technology, a readjustment of production expenses could help the small farms optimize their returns. Sub-optimal levels of production performance were also noted in regard to the small farms using new technology. Further, perhaps as a consequence of the nature of factor substitution permitted by the new technology, the generally observed phenomenon of a relatively higher level of productivity per hectare on the small farms compared to the large farms under the labour intensive traditional technology, semed to be gradually disappearing.

Given the scope for sizable increases in the farm business incomes of the small farms, it was important to identify the crucial factors which inhibited these farms from exploiting these possibilities whether under traditional or new technology. The Group recognized the complex nature of the problem inasmuch as the small farmer had to operate under economic, technical and institutional handicaps. The limited availability of the essential resources of irrigation and working capital, the gaps in the 'knowledge' about the management of the modern inputs and the traditional nexus of tenurial, marketing and credit arrangements still operating in the subsistence sub-sector of Indian agriculture were serious disabilities of the small cultivator, not to mention his inadequate land base.

In view of the above, the Group agreed that for transforming the potentially viable farms into economically viable units, it was necessary to have a three-pronged approach comprising of measures aimed at (*i*) the enhancement of the productive efficiency of the available land base *via* the provision of non-land production inputs, (*ii*) the integrated development of subsidiary activities linked with crop husbandry and (*iii*) the augmentation of the land base through a speedy implementation of the ceiling legislation and the land redistribution programme.

Considering the measures required for strengthening the productive efficiency of the existing land base of the small farmer, the Group identified the three principal components of irrigation, knowledge and credit. In view of the catalytic role of "water" in lifting the production possibility curve for the small-scale farm operator, it was felt that conscious efforts were required to regulate the future utilization of water in a socially desirable manner. In this connection, the prevalent tendency for a pre-emptive use of water by the larger farmers—which was made possible by the skewed distribution of land holdings and the consequential leadership pattern in the village—was referred to. In regard to the exploitation of groundwater potential, the technical problems connected with the installation of a tubewell on small, fragmented holdings were highlighted. To overcome the 'size diseconomies,' it was suggested that the technical feasibility of a tubewell could be appraised with reference to a group of small farms in the area and group loans could be extened for the purpose. In this connection, the importance of setting up a risk fund for insulating the small farmer against the risk of failure of a well was stressed. A view was expressed that besides a proper spacing of the wells on the basis of the available geological information, there was need for exercising

an effective social control on the future use of underground water, with a definite tilt in favour of the small farmers. In the context of the observed time-lag in the adoption by the small farmers of the new groundwater technology, any further postponement in the implementation of policy for a proper spacing of wells would only go against the interests of these farmers. Another viewpoint was that a more even distribution of land through the implementation of the ceiling legislation would indirectly lead to a regulated use of underground water.

Discussing the existing lacunae in the small farmers' knowledge regarding the level and mode of application of modern inputs, the Group felt that a smooth transfer of the technology generated in the research stations to the holdings of the small farmers required a highly competent and well-informed extension service which would not only build up a sound communication system with the cultivators but also infuse confidence in them about the economic profitability of the new technology. The particular need for minimizing the gap between experimental and field results pertaining to agronomic practices was stressed with special reference to the small farms. A larger number of demonstrations had also to be conducted on the plots of small farmers. Further since, *inter alia*, a proper management of input application was a desideratum for derving the full benefits of the new technology, it would be useful to institute a farm management consultancy service for the small farmers.

The Group recognized that whether it was a phenomenon of limited availability of water or one of lack of sufficient perception about the elements of the new technology, the underlying constraint was that of capital; true, the shortage of capital on the small farms was itself attributable, in the ultimate analysis, to the diseconomies of the tiny and fragmented land base. Given the fundamental role of capital in the economic betterment of the small farms and considering the virtual absence of investible surpluses on these farms—not to mention the process of disinvestment taking place on a large number of non-viable farms—,it was imperative to ensure the timely provision of adequate production credit to these farms on liberalised and concessional terms. In this connection, the Group took note of the fact that considerable degree of flexibility had ben recently introduced in the terms and conditions of institutional credit advanced to the small farmers. It was also observed that the distinction between the commercial and co-operative sectors in respect of rural finance was disappearing. In regard to the appropriate agency for extending direct finance to the small farmers, it was felt that the co-operatives alone, being the farmers' organization, could effectively perform the function. Some participants observed that institutional credit should also be increasingly made available for consumpion purposes; it was however cautioned in this context that the criteria for repayments had to be introduced, since unconditional and unlimited supply of consumption loans would not be an economically worthwhile proposition for financial institutions running on commercial principles. The Group also examined the concept of a single agency approach for an

integrated supply of inputs, technical knowledge, credit and marketing services to the small farmers. While conceding the merits of such a scheme, it was, however, felt that the requisite organizational nucleus for a unified approach had yet to establish itself.

After considering the issues pertaining to the strengthening of the existing land base of the small farmers, the Group discussed the scope for diversifying the activity-mix on the farms with a view to enhancing the total income of the farmers. The integrated provision of subsidiary activities which were linked up with crop husbandry and which were consistent with the asset structure of the small farms would not only expedite the process of transformation of the potentially viable farms into viable economic entities, but would also contribute to the economic betterment of the non-viable small farms. However, the economic feasibility of mixed farming had to be assessed in the light of the availability of associated inputs required for the subsidiary activities and the element of risk involved. Also, the programmes for subsidiary enterprises for the small farmers should be supported by an adequate marketing complex for the products of these enterprises. An opinion was expressed that considering the capital and resource constraints on the small farms and the unfavourable cost-benefit ratios under certain farming situations for some of the known subsidiary activities such as milk production, the provision of off-farm employment was perhaps a better proposition for increasing the total accruals to the small farmers.

There was a brief discussion on the marketing problems faced by the small farmers. It was suggested that the price disadvantage experienced by the small farmers could be rectified through the organization of co-operative marketing societies of exclusively the small farmers. Such a society would enable the small farmers to reap the benefits of bulk operations. On the other hand, it was emphasized that in order to ensure the viability of the sale operations of the society, it was necessary to adopt an open door policy in respect of membership.

Finally the Group focussed its attention on the possibilities for pushing up the potentially viable farms into the category of economically viable units, *via* the extension of the land base. In this connection, it was observed that in the redistribution of the land available consequent on the implementation of the ceiling legislation, priority should be given to the potentially viable farms; it was therefore necessary to have a minimum size of holding too. It is, however, doubtful if this prescription could work, given the massive problem of the large number of subsistence farmers and landless labourers living below the poverty line. The permanent solution to the problem of subsistence agriculture therefore seems to lie in a speedy rate of economic growth which in its turn would step up the non-farm employment opportunities for the farmers operating uneconomic holdings and thus help promote an efficient and progressive agriculture.