Chapter-VIII

POLICY IMPLICATIONS
8.1 A perspective of agricultural policy

There is no universal general theory of agricultural development which involve the response of numerous agents who participate in the process in different capacities and hence have different perspectives of the objective situations. Alagh (1991) classified the different views of agricultural development into three alternative approaches viz.

(1) Spreading available technologies for agricultural development through the implementation of an appropriate framework of institutions and adjustment of incentive prices.

(2) Operationalising the impact of agricultural and rural development technology at the farm/village level and setting up para-statal and other institutions which support the extension of technology to this level as also agricultural marketing and processing. The state plays a role of energising different components of the growth process.

(3) Transforming the class nature of the principal agents in rural societies. Feudal modes of production have first to be destroyed before economic incentives and economic organisation can play a role in transforming rural society.¹

It is not necessary that the appropriate strategy for agricultural development should be capable of being classified into

¹Alagh, Y.K. (1991), Indian Development Planning and Policy, Vikas publishing House, Pvt. Ltd., p. 106
any one of the three categories in a water tight manner. Agricultural transformation is brought about by a complex combination of price incentives, changes in the social and institutional structure and public investment in research, technological diffusion and rural infrastructure. The relevance of a policy instrument whether it be institutional reform or technological change or research and investment should be discussed only when the characteristics of the problem are unambiguously stated. In this connection Dantwala (1978) noted

"Differing temporal and spatial situations need different policy interventions even within a single country and that there cannot be an invariant judgement regarding the appropriateness, much less the superiority of one policy instrument in relation to another".2

In a technologically advanced region the accent of agricultural development policy should be on institutional reform and in regions with poor endowments the accent should be on endowment enriching and infrastructure investment, development of appropriate technology and proper selection of growth sectors.

Dantwala (1978) further noted 1

"The best policy - six would appear to be a judicious blend of technology, institutional reforms and public investment in agricultural infrastructure depending upon the specificity of the temporal and spatial situations."

Hence agricultural development policy should have the following characteristics

(i) it should be region-specific on account of resource specificities and socio-economic factors.

(ii) the agriculture sector should have an investment strategy explicitly developed for it.

(iii) it should reflect appropriately the whole question of economic incentives and economic policy towards the peasant households which dominate the agricultural sector in most developing countries.

The region-specific approach in planning is reflected in the following passage

"Land and water development strategies and cropping patterns suitable for each region have been worked out as also non-crop based agricultural activities like forests, animal husbandry and

3 Damawala (1973), op. cit., p.1306
4 Alagh, Y.K. (1991) op. cit., p.27
fisheries have been taken into account. Agro-processing activities are to be emphasised. An attempt is being made to develop a package of more appropriate projects for each region, as also involve the financial institutions more directly in the agricultural planning process. The studies/surveys undertaken in these zones would be the basis for the formulation of 8th plan.5

This is one of the key components of the agro-climatic planning process.

Agriculture is a decentralised activity where millions of individual farmers are free to take decisions regarding investment, crops to be grown, input mixes to be used, and the amount of produce to be sold within the infrastructure and policy environment generated by the government. Any planning for agricultural supply should be based on a realistic assessment of available resources, the possibility of the transfer of technology to the field level, given the behavioural constraints of the millions of production agents and also the development of estimates of realisable agricultural potential in the medium term and the long term.6 Besides planning in India has been within a social structure characterised by inequalities in the distribution

5 Govt. of India, Min. of Finance (1990) : Economic Survey 1988-90, p.33
of income and wealth and within a democratic framework which ruled out compulsion. 7

Views on the divergence between achievements and targets range from the view that the existing social structure is not conducive to any planning to the view that agricultural plans are unrealistic and hence doomed from inception. Buttan (1973) argued that

"Any objective evaluation of the policy and program impact on the technical and institutional environment in which producers have been forced to function during the last two decades, both before and after the introduction of HY (modern varieties) would have to concede that producers have had to labour against a series of policies that were based on substantial in the misunderstanding of the production relationships in the rural economy and massive disregard of the welfare of food producers. 8

Land reform, a vital plank in rural development policy, is an account of false premises of continued oppression and misery. 9"


8 Buttan, V.W. (1973) "New rice technology and agricultural development Policy" in IRRI Consequences of New Rice Technology, p.174

Commenting on the role of the social structure, Rao (1991) pointed out that instead of economic planning influencing the socio-economic structure, the plan priorities got distorted in the process of implementation under the powerful impact of the prevailing socio-economic structure through the working of democratic polity with adult franchise. Thus the uncertainties of policy direction and programme administration in terms of enforcement and administration of land tenure, food procurement and land and water resource development policies have added another dimension to the extreme environmental uncertainty that nature imposes on Indian agriculture. The role of the State in this context would be

(1) to educate and improve the farmer as a farmer
(2) to reorganise the production apparatus in agriculture so as to enable the farmer to take better care of his land and water resources.
(3) to create appropriate institutions in order to improve the decision making in agriculture.

On the other hand, the view at the other extreme is that divergence between achievements and targets which are conditional forecasts arises from

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11 Sattar, W.A. (1973), op. cit. p.375
(1) an inadequate understanding of available resources
(2) the inability of the peasant producer to adapt to technological change or policies being pursued
(3) ignorance of binding socio-economic constraints.\textsuperscript{13}

In other words, the divergence therefore need not be interpreted as a failure of planning per se and justification of allowing free market forces in the agricultural sector. It gives all the more reason for planning.

During 1961-1991, population of Manipur has been growing at the compound rate of 2.37 percent per annum.\textsuperscript{14} Net state domestic product at 1970-1 prices has been growing at the compound rate of 3.5 percent per annum during 1960-61 - 1986-87. If the income elasticity of demand for agricultural products is assumed to be 0.5, agricultural production should grow by at least 1.75 percent per annum to meet the increase in demand for agricultural products due to rise in income if the growth of population is also considered, agricultural production should grow by at least 4.5 percent per annum to make Manipur self-sufficient in foodgrains. However the actual rate of growth has been highly inadequate.

\textsuperscript{13}Alagh, T.K. (1991) op. cit.
\textsuperscript{14}The compound rate of growth $r$ has been worked out from the following formula $P_t = P_0(1+r)^t$ where $P_t$ value of the variable in $t$ period $P_0$ value of the variable in base period.
It is not argued that self-sufficiency in foodgrains should be attained at any cost. The deficiency can be met by importing from surplus states through the Food Corporation of India network as has been the practice. It can be a cheaper way of getting foodgrains. However, the problem is with the transport system and the expansion of the secondary and the tertiary sectors to generate sufficient income to pay for the food imports, which seems to be a harder alternative.

Manipur literally moves on its roads. There is no navigable water way. The main transport communication link is the National Highway No. 39 connecting Imphal with Dimapur, a railhead in neighbouring Nagaland. The transport cost on this road is very high in view of frequent landslides on the hill tracts, restriction of transport service during night time and one-way trade movement because of little exports from Manipur. However the regular disruption of surface transport during the monsoon and also the unscrupulous operations of transport contractors in collusion with civil supply officers even during the normal time have repeatedly underscored the need for raising agricultural production to the optimum level.

8.2 **A brief resume of findings**

We have examined the characteristics of change in the agricultural technology in Manipur by observing the dynamics of the growth of the output and yield of rice, growth of irrigation
infrastructure, use of fertilizers, spread of HYV's and mechanisation. We also examined the impact of this change on employment and income distribution. The size related issues regarding productivity and diffusion of new technology have also been discussed. A brief resume of the major findings is necessary for placing the policy implications in sharp focus.

(i) There is no evidence of any deceleration or acceleration in the growth rate of production of rice. It has been growing at the annual compound rate of growth of 1.57 percent between 1965-6 and 1987-88. While the rate of growth of yield is accelerating, that of area under rice crops has been decelerating. The importance of growth of yield in maintaining the steady growth of output of rice is also confirmed by the decomposition exercise in which growth of rice output is decomposed into area effect and yield effect.

(ii) Irrigation infrastructure in Manipur is not properly developed and it is also underutilised. Canal irrigation which is the dominant form of irrigation in Manipur is less efficient than irrigation based on dug wells and tube wells in terms of its effect on cropping intensity. However the exploratory surveys of ground water resources are not complete and the findings so far made are not very encouraging.
(iii) The rate of application of individual chemical fertilizers is low and the ratios in which different types of fertilizers are used also show wide deviations from the recommended dosage. The nutrient consumption pattern is highly unbalanced.

(iv) While the area under HYV paddy is growing, it shows signs of deceleration. It should, however, be pointed out that compound growth rate of area under HYV paddy in Manipur is higher than that of All India.

(v) While hand operated implements predominate the implement and machinery portfolio of cultivators in Manipur, the intensities of power-operated implements are also rising. It is related to the development of irrigation infrastructure.

(vi) The share of implements and machinery in the asset structure of rural cultivator households is much lower than that of agriculturally advanced states like Punjab. It is growing at a much slower rate than that of All-India which implies the possibility of the gap in the intensity of mechanization getting wider.

(vii) The percentage of paddy area treated with fertilizers and the rate of application of chemical fertilizers by size-group do not show the marginal and small farmers in bad light. While marginal and small farmers treat as such as 70 percent of irrigated area with chemical fertilizers, it is only about 20
percent in the case of large farmers. It is even less in the case of medium farmers.

(viii) Small and marginal farmers are found to use fertilizer more efficiently by concentrating its use in irrigated portions of their land. On the other hand, medium and large farmers are found to use more fertilizer in unirrigated portions of their land and similar dosage in irrigated and unirrigated tracts. The field survey of Kakching indicates that not only is the amount of fertilizer applied in kg/ha high in the small size holdings but also the coefficient of variance is low. It indicates this to be a characteristic trait of small sized holdings.

(ix) Marginal and small farmers are least mechanised. However, the field survey shows that farms of all size groups use tractors by hiring their services. The inability to own tractors does not preclude marginal and small farms from using them.

(x) The percentage of area under HYV paddy to total area under paddy both for irrigated and unirrigated land does not show any inherent bias against marginal farms. However, the small farmers are found to devote minimum percentage of irrigated area under HYV paddy and maximum percentage of unirrigated area under HYV paddy.

(xi) While the relationship between size and productivity as measured by yield per hectare is insignificant in traditional
agriculture, it is negative and significant in modernised agriculture. In traditional agriculture the relationship, though insignificant, is direct, not the well known inverse relationship.

(xii) If the census results and the NSS results are considered together, we find that the new agricultural technology has become labour-displacing while the two sources considered separately give conflicting results for agricultural workers. The instability of the number of female agriculture workers is endorsed by both sources. When the technology becomes more labour intensive, more female workers are employed in agriculture and when it becomes labour displacing, more female workers are displaced.

(xiii) At the village level, new agricultural technology has a higher elasticity of human labour days with respect to output than that of traditional agriculture.

(xiv) Tenancy is found to be associated with lower labour input in agriculture in areas using new agricultural technology. There is no such evidence in areas of traditional technology. Predominance of tenancy in traditional technology areas may be interpreted as its being an obstacle in the adoption of new agricultural technology.

(xv) Tractor-users in areas using new agricultural technology are found to be use more labour than non-tractor users.
(xvi) Both large and small farmers have gained absolutely due to change in agricultural technology. However the higher share of land in the asset structure of cultivator households and the high degree of inequality in the distribution of land among them imply that the large farmers have gained proportionately more.

(xvii) Small farmers are placed in a disadvantageous position by the nature of their market participation. Small farmers obtain a lower average price for their products than do large farmers who by virtue of their staying power can take advantage of the seasonal variations in price. Small farmers are further handicapped by the fact that they also purchase the grain from rural markets at a price higher than what they had obtained for the same paddy when they sold it immediately after harvest. Thus the distribution of gains from technological change via market price is adverse to the small farmers.

(xviii) Female agricultural labourers constitute as much as 62 percent of agricultural labourers in 1981. The growth rate of female agricultural labourers has been faster than that of male agricultural labourers.

(xix) The seasonal nature of labour hiring, the growing importance of female agricultural labourers with its attendant weakening in their bargaining power, low extent of migration, lack of unionisation together with the fall in share of labour in value
added create a situation conducive to stagnancy in money wage rate and possibly a decline in the real wage rate. This leads to intensification of this class.

8.3 Policy implications in relation to Manipur

The policy implications of our study may briefly be presented with reference to the following variables.

1) Growth of agricultural output
2) Agrarian Reforms
3) Employment
4) Market participation of the small and marginal farmers

8.3(a) Growth of agricultural output

The rate of growth of yield is found to be accelerating. It can be enhanced by making the farmers adopt the components of the new agricultural technology in an efficient manner. We have mentioned that in the case of Manipur farm size is not a hindrance in the adoption of new agricultural technology. Besides the HYV technology has helped to lower the threshold of viability of small farmers. On certain conditions being fulfilled, a two-acre farm can be a viable unit with the new technology. In other words the new technology destroys the stereotype image of farms classified

\[15\] Dantwala, M.L. (1978), op. cit., p. 1279
as marginal or small on the basis of the size of operational holdings. Small farms use as much fertilizer, if not more, per ha as their large counterparts. They have also adopted HIV seeds much more than the large farms. Even though small farms do not own tractors they hire tractor services. Thus the predominance of small farmers has not hindered the diffusion of the new technology. What prevent them from reaping optimum returns from their adoption of these components of new agricultural technology are as follows:

(i) the fertilizer input per ha is highly unbalanced in the sense of having little to do with the nutrient requirements of the soil.

(ii) the system of irrigation is highly inadequate in terms of adequacy and timeliness.

It is common practice to use more and more of Nitrogenous fertilizers which are generally washed away in the monsoon. Use of fertilizers in tune with the nutrient requirements of soil calls for the development of a strong extension network manned by well-trained and highly motivated village extension workers. Both qualities are indispensable and necessary for an effective extension network. These extension workers can teach the farmers the optimum mix of fertilizers and they can also help them in the
choice of proper varieties of paddy to be grown in their fields. The farmers should be made to realize that the benefits of the new agricultural technology cannot be reaped by piecemeal adoption of one or two of its components. For example, no amount of fertilizer without complementary inputs will raise the yield of traditional variety seeds significantly. Similar is the case of using HYV seeds and fertilizers without proper irrigation.

Regarding canal irrigation which is the dominant mode of irrigation in Manipur, it should be mentioned that it is inefficient in terms of adequacy and timeliness. Crops require irrigation water adequately and also in time. More often than not, the farmers find it difficult to synchronise their operations with the irrigation water supplied by canals. Most of the canals are fed by seasonal sources and hence are highly seasonal. In other words, there is too much of water in the rainy season and there is no little in the dry seasons. Because of the inadequacy of ground water resources we have to depend on canals. What is required is to keep the deficiencies of the system under check and to ensure that it becomes a reliable source of water in the fields.

In this context I am tempted to quote Alagh (1991) who argued that
Irrigation engineers have to learn to design water delivery systems differentially for the different regions of a canal command. For too long, commands of large irrigation projects have been treated as homogeneous and uniform entities. Soil conditions, temperature and its distribution, rainfall and its distribution, the ground water regime, existing tanks and minor rivers and drains are all features which need to be paid very detailed attention. This will normally require that a command is regionalised into components.\(^{16}\)

Different kinds of water resources management strategy may not be sustainable in the long run and can generate environmental costs if the technological issues are not adequately integrated with socio-economic and production system relations which reflect the farmers' behaviour individually and in groups and interest, particularly of the small farmers. In general the design of development has to augment the sustaining capability of the environment and to provide for a more active interaction between man, technology and the available land and eco-resources.\(^{17}\)

Growth of agricultural output can also be accelerated by reversing the decelerating trend in area under rice crop. Since there is no evidence for any significant change in the cropping

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\(^{16}\) Alagh, Y.K. (1991), \textit{op. cit.}, p.136

\(^{17}\) Alagh, Y.K. (1991) \textit{op. cit.}, p.148
pattern, the deceleration in the growth of area under rice crop can be interpreted as more and more agricultural land getting diverted to non-agricultural uses. The rapid pace of urbanisation has undoubtedly placed strong pressure on the valley land which is more suitable for cultivation than the hilly land. The needs of urbanisation can be met by developing urban centres in the low lying hills and foothills. It can be further dispersed to the five hill districts by establishing government offices and residential complexes in the districts. In addition to stopping the diversion of arable land in the valley for non-agricultural purposes every effort should be made for reclaiming the shallow lakes in the valley. It has been mentioned in chapter II that as much as 31,000 ha can be added to the State’s arable land stock by bringing shallow lake areas and shore areas of lakes under cultivation. The Loktak lake alone can provide about 10,000 hectares of land when its water recedes in the winter and this land will be suitable for rabi cultivation.

8.3(b) Agrarian Reform

A major cause of rural poverty is lack of access to land ownership and land use. The only requirement any type of land reform should meet is that it should create a relationship between man and land that does not thwart his incentives to work and to invest his own labour. If this relationship between man and land
is not established, attempts to improve technology in agriculture and to raise yields will never have great results. This type of reform is also important for making other complementary institutional reforms serve the mass more effectively. The original policy of land reform in India was based on the famous slogan 'Land to the tiller' and consisted of the following elements:

(1) abolition of intermediary tenancy or Zamindari rights
(2) redistribution of land under a 'Ceiling' legislation laying down the maximum amount of land to be held by land owning cultivators.
(3) consolidation of small holdings to counter one of the effects of extensive fragmentation of land
(4) security of tenure for the tenant
(5) reasonable non-penal rate of rent.

The abolition of Zamindari is the only part of the programme that has been fully implemented.

Policies on land reform have always been influenced by big farmers both at the formulation and implementation stages. The wide diffusion of land ownership among the urban upper class and non-cultivators in the rural areas, both groups including many

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government servants in all ranks, creates a formidable anti-land reform bloc. This bloc is powerful not only because of its voting strength and also because it includes almost the whole literate and articulate population in the urban as well as in the rural areas. In the case of tenancy reforms (security of tenure and the regulation of rents), any such legislation has contributed to driving tenancy underground in the absence of effective implementation and the scarcity of land relative to demand. Attempts to regulate rent without the effective regulation of wages have proved to be self-defeating because when the wages are not raised it is more profitable for land-owners to resume land for self-cultivation through hired labour instead of accepting lower rents.¹

There are very different types of tenancy whose contracts imply very different incentive structures. Fixed rent tenancies are legally recognised, involve written contracts and confer a variety of rights on the tenants, the most important of which is security of tenure. On the other hand share cropping contracts involve oral lease without any right of the tenants who can also be evicted at the end of the season. Tenants may be dynamic larger farmers who, appreciating the profitability of the innovation, lease in yet more land. On the other hand, illegal share tenancies may not be recorded as tenancies. It implies that the particular type of contract most likely to be associated with

failure to innovate may be unrepresented in a general sample. On the one hand any inference on the innovative potential of tenants is misleading unless it specifies the type of tenancy and on the other hand it is in any case difficult to distinguish empirically between different explanations of non-innovation thus reinforcing the need of both scrutinising the theory to see if it is analyti-
cally plausible.20

Regarding the role of tenancy, we have already noted that most of the cultivators in Manipur are owner-cultivators and tenancy is not rampant. The major form of tenancy is fixed rent in kind which has a smaller disincentive effect on innovation than in the case of sharecropping tenancy. However, it is found to have certain regressive characteristics. It is associated with traditional agriculture. In areas using new agricultural technology tenancy is found to be associated with lower labour input than in the case of ownership holdings. Tenancy also implies further leakage of the benefits of technological change accruing to the small farmers in the form of rentals, in addition to the leakage due to their market participation. The issue of tenancy needs closer scrutiny in the context of diffusion of the new technology and creation of more jobs in cultivation.

The problem of agrarian reform in general can also be examined with institutions as endogenous. Ruttan (1978) after reviewing the literature on the role of economic factors in the process of institutional change suggested two broad hypotheses with respect to the direction of institutional change.

1. Growth in the income flows available to a community or society induces institutional changes that weaken the control of the community or of society over the allocation of resources and the partitioning of income flows.

2. Stagnation or decline in the income flows available to a society induces institutional changes that expand the control of the community or the society over the allocation of resources and the partitioning of income flows.\(^{21}\)

This perspective further stresses the increasing hindrance to agrarian reforms by social institutions.

While the predominance of small and marginal operational holdings in the agrarian structure has not hindered the diffusion of the new agricultural technology, field data suggest that the inverse relationship between farm size and yield per hectare becomes significant in areas with new agricultural technology. In the chapter on the Agrarian structure of Manipur we observed

\(^{21}\textit{Ruttan, V.W. (1978) , op. cit. p.369}\)
that large farms keep large proportions of their land fallow
and in the chapter on size-related issues we mentioned that large
farms use fertilizers less economically than smaller farms in the
sense of treating larger proportion of their unirrigated land with
cheaper fertilizers. This implies that a policy of breaking up of
medium and large operational holdings into smaller yet viable
holdings will be highly productive. This is also endorsed from
the viewpoint of equitable distribution of the gains of technolo-
logical change. This policy is related to the question of optimum
farm size and the nature of the relationship between farm size
and yield.

According to the 37th round survey of NSSO, there were
1,57,300 operational holdings in Manipur operating over 1,52,300
ha leading to an average size of 0.95 ha. The desirability of
an egalitarian distribution of operational holdings can not be
straightaway examined without an idea about the optimum size of
a farm. It varies according to the type of land and the types
of crop as well as which factor of production we wish to econo-
size the cost. It is necessary to answer the following questions

(1) How do numbers and sizes of farms affect economic incen-
tives, the adoption of improved technology, capital forma-
tion and other conditions necessary for generating sus-
tained increase in resource productivity?
(2) What are the interrelationship between farm size structure and the complex of supporting institutions for education, research, credit, marketing and other agricultural services required for increased productivity in farming?

While we have a general impression of growing efficiency as size decreases, the optimum farm size is still elusive. However, the optimum farm size can be made smaller by adopting land augmenting technology.

That the redistribution of land from the large to the small farmers will raise output and employment depends not just on the fact that yields and rates of labour absorption decline with increased size of farm but also on the speed with which these rates decline. Reduction in the size of the above-average farms is likely to increase employment and output per hectare in those farms. On the other hand, the increase in the size of the below average farms will reduce their output and employment per hectare. Total output and employment will be increased if output and employment on the average sized farm are greater than the average output and employment per farm in the initial situation. Output and employment will rise if output and employment per farm are concave functions of farm size. They will remain the same if output and employment per farm are linear functions of farm size.
These will contract if output and employment per farm are convex functions of farm size.22

In the case of Manipur, an egalitarian distribution of land will imply a clear decline in the size of 43 percent of the operational holdings. For the operational holdings in the marginal category, some farms may even contract. The final outcome will be the net result of these changes.

It is admitted that a major cause of rural poverty is lack of access to land ownership and land use. We have also outlined the formidable array of obstacles to earlier agrarian reforms which have proved to be practically insurmountable, given the democratic framework of our policy. It is, therefore, necessary to have an assessment of alternative strategies which will also be feasible. Infeasible policy measures are meaningless. The basic objectives of land reform in particular and agrarian reform in general are equity, growth and poverty alleviation. The time has come to identify other policy variables which are stably related with these objectives measured in a suitable manner.

Even though a marginal redistribution of land may significantly enhance the three objectives, it is practically useless since landlords, the other party involved, can also out manoeuvre it.

Therefore, any agrarian reform in a democratic set up to be meaningful should be dominated by elements of consensus and the ability of the policy makers to convince all parties about the commonality of the objective.

The strategy should be to capitalise on the advantages of marginal and small farms taking the inequitable distribution of land as an unalterable fact of reality. The foremost priority should be accorded to land-augmenting technology which will help in marginalising the importance of land as a factor of agricultural production. It will reduce the share of land, the most inequitably distributed asset in rural India. Land-augmenting technology will help in ensuring the viability of marginal and small farms. One can recapitulate the objective conditions in rural Manipur.

(1) The degree of inequality of distribution of operational holdings in Manipur is much less than that in India.

(2) The proportion of agricultural labourers in agricultural workers is also not high.

(3) Marginal and small farmers use fertilisers and HYV seeds as efficiently as the large farmers, if not more. The inverse relationship between farm size and yield per hectare is significant in modernised agriculture.
These conditions provide scope for concentrating on capitalizing on the advantages of marginal and small farmers. The policy measures should cover the entire gamut of credit, inputs, extension and marketing.

3.3(a) Employment

Both the population and the development problems of India essentially have the same remedy - employment - intensive growth which must, in the early stages at least, be predominantly rural.\(^{23}\) However, generation of adequate employment and also the mitigation of poverty will be difficult in the context of the slow growth of the wage goods sector like agriculture.\(^{24}\) Besides the employment plans should take into account the distribution of the unemployed in different regions and their composition in terms of status, age, sex and education, their abilities, aptitudes and attitudes.\(^{25}\) Both are pointers to the inherent difficulties in any employment policy.

Dantwala & Visaria (1974) argued that

"Macro policies of development, such as changing the level and pattern of investment, equitable distribution of ownership of


\(^{24}\) ibid, S.M.B. (1975) op. cit., p. 174.

productive assets and incomes, proper pricing of factors of production, institutional reform of land tenure, credit, marketing, transport etc. must be consistent with the micro-policies of employment generation.\textsuperscript{26}

In other words a policy for higher absorption of labour in the agricultural sector should form a consistent part in the overall employment policy in the economy, which in turn should be consistent with the general economic policy. It should be supplemented by other economic policies and should be flexible enough to incorporate the non-economic constraints in a positive manner.

The evidence on the relationship between the new agricultural technology and employment at the farm level in Manipur is not unambiguous. The census based macro-results are consistent with the field survey based micro-results of Sakching and Suranthul and both endorse the view that the new technology is associated with higher farm level employment. On the other hand, the NSS based macro results endorse the opposite view that the new technology is associated with lower farm level employment. These differences can not be explained by conceptual differences alone and the ambiguity will remain until the difference is properly taken care of. Thus while it is not clear whether the new technology clearly displaces or absorbs more labour, the absorption of more labour can definitely be brought about by raising

\textsuperscript{26} Ibid., p.254
the cropping intensity. There will be more agricultural work irrespective of its labour intensity.

Shortage of agricultural workers and the weakness of irrigation infrastructure have been the major constraining factors in the growth of cropping intensity. Some farmers avoid double cropping in irrigated tracts because of the uncertainty of labour supply during the peak season. Some farmers avoid it because neighbouring farmers do not practise it. It is common practice to let loose the cattle once the harvesting is over. The fields do not have any fencing which render any attempt for double cropping uneconomic. Most of the cultivator households hire labour during the peak season. In the absence of well-directed migration of agricultural labourers, cultivators are confronted with the uncertainty of the supply of farmhands when they are needed most. The migration process may be interpreted as a more efficient geographical relocation of labour emerging as an outcome of returns - maximising private choices of individuals. The characteristics of a migratory process such as who migrates, what pattern and type of migration is generated, what consequences - short or long - follow for the livelihood status of the household depends upon the following initial conditions.

(1) the resources at the command of the household, or the anticipated labour needs for the on-farm or household activities in relation to the household supply of labour.
(2) the overall labour-demand situation in the village (i.e. availability of work opportunities - agricultural and non agricultural).

(3) the work situation and conditions of labour at the destination and access to information, contracts etc.

(4) the 'history' of migration, the presence of institutionalised linkages with the outside work places and historically established mobility patterns.\textsuperscript{27}

Seasonal rural - rural migration appears to have received a thrust in recent periods with the growing inter-regional inequalities in agricultural growth. The relative cheapness of the migrant labour as compared to the local labour and the change in the labour process affording the employer a better and assured control over labour both local and migrant - are the factors that made employing the migrants attractive.\textsuperscript{28}

In this connection, the Government should encourage rural to rural migration from agriculturally backward zones to agriculturally advanced zones. For a small state like Manipur, the dangers of getting swamped by migrant labourers from U.P., Bihar are there. Hence the migration policy should distinguish between inter-state migration and intra-state migration and it should be in favour of the latter. It will be meaningless to try to absorb

\textsuperscript{27} Bharadwaj, K. (1989), \textit{op. cit.} p.35
the vast mass of agricultural labourers in the main-land. The Government should try to minimise the dislocations in the intra-state migratory process through comprehensive policy measures. The details of these measures will be based on in-depth studies of hindrances to the migratory process in Manipur.

We have already discussed the requirements of an irrigation regime which has the potential of making the farmers realise the full potentials of the new agricultural technology. These definitely are feasible. It is in this context that a rural works programme designed to strengthen the land base of agriculture e.g. soil conservation and minor irrigation through consolidation of holdings is of relevance. This will provide the basis for the sustained growth of output and employment when such works are completed. It is different from the crash employment programmes which only offer the promise of an immediate gain. Such a rural works programme should also be supplemented by a definite mechanisation policy based on selective mechanisation of operations and also proper sequencing as was done in East Asian countries. However the process of mechanisation should not be based on individual ownership but on co-operative ownership. Small farmers cannot be expected to own lumpy investments like tractors and use them efficiently. It is also well known that if the farmers do not have access to these tractors when
they need them most, the tractors are practically useless. One should also take into account the general aversion of farmers to interact with the bureaucracy even at the lowest level. Hence whatever arrangements are made to encourage selective mechanisation, the elements of red-tapism should be, to the extent possible, minimised. This will enable the farmers to increase cropping intensity and also to use more labour in agriculture.

On the question of matching job opportunities with the characteristics of the unemployed in Manipur, a parochial view is justified on the ground that the realities of a small state like Manipur are generally glossed over in any policy formulated at the general level. We have already shown that female agricultural labourers constitute the major share in agricultural labourers. It is likely also that their share in the unemployed will also be large. In this context the job opportunities should as far as possible be compatible with the characteristics of the unemployed females. They should also be compatible with the characteristics of the agricultural labourers to remove under-employment. The need for matching the job opportunities with the characteristics of the unemployed is underscored by the fact that the percentage of females of age 5 and above usually engaged in domestic duties and willing to accept work in the household at the All India level is quite different from that in Manipur. At the All India (rural) level, dairy, poultry and other animal husbandry can accommodate 63.67 percent of currently
married females seeking regular full time work. For regular part
time work it is 59.09 percent. However in the case of Manipur
(rural) the corresponding percentages are 7.84 and 7.87 respec-
tively. Spinning and weaving accounts for 92 percent and 82.6
percent of regular full time work and regular part time work of
currently married females in Manipur (rural). More agriculture
jobs is irrelevant when those who seek work in spinning and wea-
ving in which 79.69 percent of female job-seekers at the house-
hold have skill.  

Another aspect to be taken care of is the safeguard of the
agricultural labourers against exploitative terms by the employers.
Several factors like dominance of females, lack of migration,
seasonal nature of work and lack of trade unionism make them highly
vulnerable. Hence they should be organised in trade-union lines
to enable them to safeguard their own interest

3.3 (d) Market participation of the small and marginal farmers

Small farmers are adversely affected by the nature of their
market participation. They are compelled to sell major part of
their produce immediately after the harvest and they also buy from
the market during the lean season at a higher price. If they
take paddy loan to be repaid in kind at the end of the harvest of

29, 33SO (1981) "Tables on Survey Results relating to women usually engaged in
30, Ibid., p. S223
their crop, they are charged exorbitantly high rate of interest. The new technology necessitates greater interaction of the farmers with the markets. Owing to lack of purchasing power and the non-availability of sufficient quantities of foodgrains through the public distribution system, the poorer sections are compelled to borrow for consumption from private money-lenders/grain lenders at exorbitant rates of interest with all the consequences for alienation of their assets and regression of marginal land holders to agricultural labourers.

According to the 42nd NSS round survey on social consumption, during July 1986 – June 1987, the percentage of persons purchasing rice from any source in rural India was 57.19 and it was 82.35 percent in urban area. In rural India only 16.76 percent of total purchase of rice was from public distribution system (PDS).\(^{31}\) The dependence of the rural poor on the open market is much higher than on the apex public distribution system for most of the commodities distributed under the PDS. Under the existing practice of providing subsidised grain to everyone, we cannot be certain that the poor are benefiting on balance because they still have to buy large quantities of foodgrains in the free market at higher prices. The poor are likely to be worse off as

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they have to pay a higher average price than they would have paid in the absence of a dual market system.

These adverse effects of technological change via market prices can be reduced by the following policy measures.

(1) Establishment of a strong network of Public Distribution System in the rural areas.

(2) Release of those varieties of rice which the rural people prefer because one of the main reasons why rural people do not buy the rice from PDS is its inferior quality. This calls for more intensive procurement drives.

(3) Providing consumption loans to marginal and small farmers linked to the crop to be harvested through the Regional Rural Banks. Loans in this case should be provided to the farmers on short term basis to be repaid at the completion of harvesting.

Thus agricultural policy should be directed towards helping the numerous marginal and small farms attain economic viability. Policy variables should help in capitalising on the advantages of these farms without antagonising the deeply entrenched interest in rural India. Agrarian reforms to be viable should have role for every section of rural society. Since the inequitable distribution of land is a major source of class differentiation in rural
India and little can be done to change it. Policy measures should marginalise the importance of land in agricultural production. These will take care of equity, growth and poverty alleviation. Regarding employment which also has implications for poverty alleviation, measures like strengthening of irrigation infrastructure, positive rural-to-rural infra-state migration policy and selective and properly sequenced mechanisation hold out substantial hope by way of raising the cropping intensity. In other words, the impact of change in agrarian technology can be mediated purposefully to subsieve optimally the objectives of planning for economic development.