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tion the Agricultural Officer will be able to act smoothly. Agricultural Officers successful in such a scheme should be rewarded by way of increment in pay or promotion, etc. Those who fail and cannot show the reasons of failure should be debarred from such incentives.

There are 161 community development blocks in Assam. So the resources might not allow to take up such model units all at a time. At the initial stage such units can be taken up at sub-divisional level and gradually extended to block level. If such an endeavour fails, agriculture in Assam will remain traditional for years to come.

CONCLUSION

The stagnancy of agriculture in Assam can be attributed to the farmers, on the one hand, and the agricultural extension programme on the other. The recommended improved methods failed to prove their technological superiority over the traditional methods and thereby failed to impress the farmers. The farmers have shown little eagerness to improve their agriculture. But the package programme in the Cachar district has made a break-through to a great extent. As the package programme cannot be extended to all the districts, a village level intensive area development unit for each development block will go a long way to tackle the problems of traditional agriculture at the micro level.

SOME ECONOMIC IMPLICATIONS OF THE INTENSIVE AGRICULTURAL DISTRICT PROGRAMME

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The Intensive Agricultural District Programme has been in operation in the country since 1961-62 and has yielded some fruitful results. In the State of Punjab,¹ for example, where the programme has been in operation in the Ludhiana district, development in agriculture has been much higher and faster than that in the State² as a whole. This is brought out by the following data on yield (measured in kg. per hectare) of some important crops from 1960-61, i.e., the pre-package year to 1964-65.

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1. State as it existed prior to the recent bifurcation between Haryana and Punjab.
2. The State of Punjab as a whole including Ludhiana district.

TABLE I—YIELD PER HECTARE OF SOME IMPORTANT CROPS

(in kilograms)

Crops	State		Percentage change in 1964-65 over 1960-61	Ludhiana		Percentage change in 1964-65 over 1960-61
	1960-61	1964-65		1960-61	1964-65	
Rice	1047	1280	22.35	1530	1235	-19.29
Maize	1114	1334	19.75	1427	1452	1.75
Wheat	1207	1407	16.57	1484	2233	50.47
American cotton	267	320	19.85	235	339	44.25
Desi cotton	259	220	-15.06	238	318	33.61
Sugarcane	3767	4196	11.39	3916	4315	10.11
Groundnut	824	860	4.37	931	1513	62.51
Gram	823	791	3.89	1070	1245	16.36

The yield of almost all crops has risen much faster in the intensive district than in the State of Punjab. The only exception is rice where the yield has gone down by 19.3 per cent. This is quite understandable because this crop is raised in this district only on a limited area which is not very suitable for growing rice.

These differential results have been achieved through more and better utilization of scarce inputs and resources such as fertilizer, insecticides, credit and other production requisites as well as extension staff and training facilities. This intensive use of inputs and production requisites has been made through the diversion of these resources from the overall availability of State to the intensive district. A scrutiny of the progress of irrigation facilities, for example, brings out that in the district of Ludhiana, which was already much ahead of the State of Punjab even in 1960-61, the rate at which the area under irrigation has increased is much faster compared to that for the State as a whole. Ratio of change as worked in Table II is higher for Ludhiana.

TABLE II—PERCENTAGE OF GROSS AREA IRRIGATED IN THE STATE OF PUNJAB AND LUDHIANA DISTRICT

Year	Ludhiana District		Punjab State*
1960-61	..	59.3	39.9
1964-65	..	64.5	44.4
	Change	5.2	4.5
	$\frac{\Delta L}{\Delta S} = 1.16$		

Source : * Statistical Abstract of Punjab, 1965-66, p. 103.

† ΔL stands for change in Ludhiana and ΔS stands for change in the State throughout this paper.

Similar is the case with respect to other investments made through the Intensive Agricultural District Programme.

This differential allocation of resources has an economic justification. Commensurate with the ideology of the programme, the district selected was one which had the highest potential for growth and was most progressive in the field of agriculture. Table III compares the potentialities of generating additional returns per rupee of developmental expenditure in agriculture in the five districts of the State. It has not been possible for us to work out these data for all the eighteen districts of the State. This, however, is not necessary because the areas studied here fully represent the different regions of the State. The comparisons of the production plans obtained on the basis of existing level of techniques and optimum production plan with improved techniques indicated that the Ludhiana district has the highest potential of generating additional income, if improved technology was introduced and management aspect improved, addition of an extra rupee to the variable cost gave a return of Rs. 4.72. This is highest followed by Rs. 3.87 in the Ferozepur district, Rs. 3.21 in Jullundur, Rs. 2.61 in Hissar and Rs. 1.83 in the Amritsar district. There is thus full economic justification for higher investment in this area, criterion being that a dose of investment must find its way to the most productive channel.

TABLE III—POTENTIALITIES OF GENERATING ADDITIONAL RETURNS IN SOME DISTRICTS OF THE PUNJAB: 1965-66

Districts		Existing production plan	Optimum plan with improved techniques of production	Additional returns/expenses	$\frac{\Delta Y}{\Delta X}$ (Rs.)
		1	2	3	4
Ludhiana	Y	16012.11	25755.87	24143.76	4.72
	X	8603.79	13719.32	5115.53	
Hissar	Y	7043.75	9893.99	2850.24	2.61
	X	2036.98	3131.10	1094.12	
Jullundur	Y	5645.88	8949.92	3304.04	3.21
	X	2303.36	3333.37	1030.01	
Ferozepur	Y	17508.22	37944.50	20436.28	3.87
	X	5282.29	10559.29	5277.00	
Amritsar	Y	14089.56	20676.35	6586.79	1.83
	X	7929.05	11514.12	3585.07	

Source : These figures are derived from the M. Sc. Agriculture (F. M.) theses of the students of the Department of Economics and Sociology, Punjab Agricultural University, Ludhiana.

ΔY = Net farm earnings.

ΔX = Variable costs

This criterion and so the policy, however, is not always justifiable from the welfare point of view. In this case the scarce resources are diverted to the most productive district at the cost of the benefits which could have accrued to other districts if these resources were distributed equitably. It is agreed that the total increase in production would have been lower in that case compared to what it is

now, yet a major part of the welfare which could have gone to the share of other districts has been shifted to the intensive agriculture district. This leads us to a situation where there is an increase in the welfare of the community as a whole but every member or group within the community does not get his due share in the welfare thus generated.

This is clear from the study made in Table IV where gross income from certain selected³ crops in the Ludhiana district and in the State of Punjab⁴ have been calculated at constant (1960-61) and varying prices for these crops. Columns 6 and 11 of the table indicate that the rate at which incomes have grown is much higher in Ludhiana compared to the State in all the years ever since the starting of the programme. The only exception is the year 1962-63, which was an exceptionally bad year for agriculture all over the country. In this year, at constant prices, the farm incomes showed a decline in both the intensive district as well as the State. Here again, however, the fall in incomes in the selected district was much less compared to the fall in the State.

TABLE IV—CHANGES IN VALUE OF PRODUCTION OF IMPORTANT CROPS IN PUNJAB AND
LUDHIANA DISTRICT : 1960-61 TO 1964-65
(in rupees thousand)

Year	Income at varying prices		Percentage change over 1960-61		$\frac{\Delta L}{\Delta S}$
	State	Ludhiana	State	Ludhiana	
1	2	3	4	5	6
1960-61	30,01,701.25	1,47,844.53	100	100	
1961-62	31,60,816.00	1,63,471.20	105.30	110.57	1.99
1962-63	31,92,782.20	1,65,597.68	106.37	112.01	1.34
1963-64	38,89,953.60	2,64,334.69	129.59	178.79	2.88
1964-65	52,21,019.00	3,86,444.50	173.94	261.39	1.86

Year	Income at fixed prices		Percentage change over 1960-61		$\frac{\Delta L}{\Delta S}$
	State	Ludhiana	State	Ludhiana	
	7	8	9	10	11
1960-61	31,56,472.50	1,55,756.00	100	100	
1961-62	31,57,199.00	1,63,471.20	100.02	104.95	247.5
1962-63	30,64,345.20	1,60,392.47	97.08	102.98	-0.67
1963-64	31,65,407.30	2,28,088.95	100.28	146.44	13.58
1964-65	37,15,280.40	2,81,127.59	117.70	180.49	1.96

3. Rice, jowar, maize, wheat, barley, gram, sugarcane, potatoes, groundnut, rape and mustard, desi cotton, American cotton.

4. State income does not include the income of Ludhiana district.

Politically and socially, this would mean giving benefits to some people at the cost of others. The logic of this needs to be examined. The situation is not such where the share of one is given to another to save the latter's life without adversely affecting the health of the former. On the contrary, it is a case where this adversely affected the growth of the one in order to add a shine to the already healthy face of the other. Any such policy which affects some persons favourably at the expense of others calls for inter-personal comparisons of complicated nature.

These problems, however, can be visualized even otherwise. For this we have to examine the basic logic behind the Intensive Agricultural District Programme. After ten years of planned effort, it was realized that the much needed breakthrough in Indian agriculture is not coming up, through various attempts to develop this sector as a whole. It was, therefore, thought advisable to put in extra effort in certain selected areas where the results could be achieved more visibly to serve as incentives and guide-posts for the others. The objective of realizing visible results has been achieved but it remains to be seen if the benefits will find their way to the other areas as well where the rate of development so far has been comparatively low. Here the logic that the demonstration effect of increased production and productivity in one area would automatically flow to the others needs to be taken with reservation in view of the not very good contacts between the farmers in one area with those in the other areas, and also because of the slow adaptability of the farmers to the new techniques of production. We cannot, therefore, depend solely on the automatic working of the forces for compensation to these at whose cost, in the form of low growth, the programme benefited a selected section of the community.

This seems to have been realized to some extent now. An Intensive Agricultural Areas Programme was initiated in 1963-64 whereby a planned effort at diffusion of improved techniques to boost up production and productivity in agriculture is being undertaken, though again in selected areas, throughout the State. This programme however does not envisage to do for these areas what the Intensive Agricultural District Programme did for the intensive district.

The problem is in fact wider than the one of mere distribution of the extra benefits realized through a particular policy. Some of these less conspicuous aspects of the problem can be appreciated better once we recall that the already depressed areas are left to themselves or comparatively less efforts are put for their upliftment. This has its economic, social as well as political implications. The accelerated process of development in a selected area not only creates extra incomes for a selected group of people, but also the gap between existing inequalities of income and income generating capacity for the future further widens. Again certain social anomalies which have economic implications are created or the existing ones further aggravated.

The tradition bound and fatalist farmer under our conditions is likely to turn still more of a fatalist when he does not find his due share in the development investment. This might further drive him to speculative activities in order to 'catch up.' This is important in the context of a developing economy characterized by under-nourishment and low living standards where consumption in these non-

package areas may even increase beyond current production resulting into dis-saving contrary to increased savings in the districts covered by the programme.

Further the increased incomes in the Intensive Agricultural Districts are supposed to, normally, result into creation of a better social order and social facilities such as health and education and also an increased desire on the part of the people to avail of these facilities. The growth of these facilities and desire to avail of them would be slow in other areas unless special efforts are made to bridge up this gap. The implications of this in terms of economic development hardly call for any detailed discussion.

These and such other considerations are important in view of the broader objective of economic development we have set towards the realization of which the Intensive Agricultural District Programme is one of the means. Economic development, as we know, is a function not only of investment expenditure in the most profitable channel but also of social, cultural, psychological, religious and political forces. To the extent the Intensive Agricultural District Programme has contributed towards changing these factors more favourably in the selected area, other areas not only have been put behind in the race, but also the desire for development and the "passion to go ahead" has been curbed. There is, therefore, a sound case for finding out ways and means of compensating those areas which are not covered by the programme and to mop up a part of the extra benefits accrued to the intensive districts. Care, however, needs to be taken that while we create incentives for development in new areas the already created incentives do not fall to the ground. This whole problem calls for a separate study. A few suggestions are, however, offered which may be taken in the nature of guidelines for further work rather than as recommendations.

One approach is to think of ways whereby the disparities in income or in the income generating capacity for the future can be minimized. Under this, "point rationing" approach needs to be examined. In this approach, a standard equivalent of investment expenditure would be allocated to different areas which each area could utilize in the most profitable channels depending upon its unique situation. In order to reach a general standard for the allocation of these resources to different regions factors such as population, geographical area, existing disparities in incomes need to be given due weight. Once this allocation is made the investment might be directed to the channels justified by economic considerations. This may not always be possible or even desirable if an overall priority exists for a certain sector of the economy. The point, however, is worth consideration and calls for further work and thinking.

In case a strict apportioning of investment between areas is not considered desirable or practicable, comparatively larger portion of the investment meant for creating social overheads and other programmes of social and economic welfare such as education and family planning would need to be directed to the regions not covered by this economic programme. This means, while we help one area intensively in developing its agriculture, we devote more attention to other areas for developing their social and economic values in the desired directions. Such a step will make sure that the existing gaps in the social and economic values do not aggravate further and no new gaps develop.

Another approach is to mop up a part of the extra benefits accrued to the intensive areas as a result of this differential investment policy. In this direction betterment levies in cash or kind need careful consideration. What is needed is a carefully thought out policy in this respect which may not be altogether free from value judgements when it comes to deciding about the exact nature and extent of such levies.