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held at Allahabad, December 1954

SUBJECTS

1. Statistical Concepts in Agricultural Economics.
2. Population and Food Supply.
3. Role of Private Agencies in Agricultural Credit.
4. Economic Aspects of Land Development in New River Valley Projects.

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PREFACE

The current issue of the Journal contains the Proceedings of the 15th Annual Conference of the Society held in December, 1954 at Allahabad. The Conference was attended by nearly hundred members and delegates from Central and State Governments, Universities and Research Institutions.

The subjects chosen for discussion at this Conference were :

1. Statistical Concepts in Agricultural Economics.

2. Population and Food Supply.

3. Role of Private Agencies in Agricultural Credit.

4. Economic Aspects of Land Development in New River Valley Projects.

An unusually large number of papers were received and read on subjects 2 and 3, while on the other two subjects also there were select contributions. The level of discussions was maintained at the usual high level.

The Allahabad Agricultural Institute could provide the Conference the facility of a tape-recorder for recording the discussions. This arrangement has enabled us to incorporate the discussions in this Number. We hope, it will be possible for us to continue this feature in future.

We take this opportunity of thanking the Allahabad Agricultural Institute under whose auspices the Conference met. We specially record our grateful thanks to Principal H. S. Azariah, Local Secretary of the Conference, who had made excellent arrangements and to the Members of the Reception Committee for their generous hospitality.

ROLE OF MONEYLENDERS IN AGRICULTURAL FINANCE

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The results of an investigation undertaken in six villages in the districts of Moradabad and Bijnor to study the role of moneylenders in agricultural finance have been discussed in this paper. All the villages represent a contiguous tract and they were selected for the enquiry because the post-graduate students in agricultural economics who helped me in the enquiry hailed from this area. They had, therefore, no difficulty in visiting the villages or arranging for their stay in them. As they belonged to the same area where the enquiry was made, they suceeded very soon in gaining the confidence of the farmers, which is so essential in an enquiry of this nature.

All the villages except *Mallewala* have good irrigation facilities, two of them *Sadarpur* and *Paharmau*, have both tube-well and canal irrigation, and the remaining three have canal irrigation only. The soil of these villages is quite fertile. The main crops grown are sugarcane, paddy, mixtures of juar, guar and urd, arhar and juar or bajra, and wheat and gram. Sugarcane is sold to mills through the Co-operative Cane Development and Marketing Societies, for all these villages come within the Cane Development Area of the State. In addition to the cane co-operatives there are credit co-operatives also in four of them.

According to the plan of the enquiry all the cultivating families were to be contacted but it could be possible in three villages only, i.e. Paharmau, Mallewala, and Patti-Balla Nagla. In the remaining villages only about 60% of the families could be studied. The total number of the families approached in all the villages was 306.

Extent of indebtedness

The distribution of families in different size-groups of holdings and the number and percentage of families in debt are given in Table 1.

TABLE I

Number and Percentage and Families in Debt

Size-groups of holdings	Total number of families studied	Families in Debt		Total debt	Debt per indebted family
		Number	Percentage	Rs.	Rs.
Below 2 acres	23	22	95.7	2,763	125.6
2—4 "	53	44	83.0	7,508	170.6
4—6 "	51	39	76.5	7,400	189.7
6—8 "	54	40	74.1	10,478	262.0
8—12 "	62	43	69.4	9,766	227.1
12—16 "	26	16	61.5	3,555	222.2
16—20 "	19	10	52.6	3,434	343.4
Above 20 acres	18	9	50.0	2,792	310.2
Total	306	223	72.9	47,696	213.9

It will be seen that the percentage of indebted families is the highest in the lowest size group of below 2 acres. It varies between 70 and 80 in size-groups of 2 and 12 acres and is reduced to 50 and 60 in upper size-groups of 12 acres and above. The overall percentage of indebted families is 72.9. An analysis of otal debt into old and current shows that of the total debt of Rs. 47,696/- about 27.7 per cent comes under the category of old debt. In the case of old debts interest charges amount to about one-fourth of the total, but in the case of current debts their proportion is reduced to only about one-seventh of the total amount of debts. Debts more than one year old have been treated as old debts.

Source of debt

The classification of total current debt according to source reveals that 69.8% have been borrowed from private sources, mainly moneylenders, 18.1% from the credit co operatives, and 12.1% from the cane co-operatives. There are credit co-operatives in four villages only, hence the analysis of debt source-wise has been done separately for these villages and for the remaining two villages without credit co-operatives. The percentage of debts borrowed from private sources in villages having credit co-operatives is reduced to 51.3% as against 69.8% in the case of all the villages, while it rises as high as 94.5% in two villages which do not have credit co-operatives.

TABLE II

Classification of Current Debts according to Source

Source of debt.	In all the six villages		In four villages having credit co-operatives		In two villages without credit co-operatives	
	Amount Rs.	Percentage	Amount Rs.	Percentage	Amount Rs.	Percentage
Moneylenders	19,295	65.1	7,507	44.3	11,788	92.9
Credit co-operatives	5,357	18.1	5,357	31.5	—	—
Cane co-operatives	3,605	12.1	2,910	17.2	695	5.5
Others	1,385	4.7	1,185	7.0	200	1.6
Total	29,642	100.0	16,959	100.0	12,683	100.0

TABLE III

Classification of Current Debts of four villages (with Credit Co-operatives) according to Source

Size-groups of holdings	Moneylenders		Credit co-operatives		Cane co-operatives		Others		Total
	Amount Rs.	Percentage	Amount Rs.	Percentage	Amount Rs.	Percentage	Amount Rs.	Percentage	Rs.
1	2	3	4	5	6	7	8	9	10
Below 2 acres	531	70.7	220	29.3	—	—	—	—	751
2—4 ,, ..	2,350	60.7	956	24.7	255	6.6	310	8.0	3,871
4—6 ,, ..	1,305	48.9	910	34.9	429	16.1	25	0.9	2,669
6—8 ,, ..	1,732	47.5	1,230	33 7	283	7.8	400	11.0	3,645
8—12 ,, ..	1,249	38.5	1,275	39.3	269	8.3	450	13.9	3,243
12—16 ,, ..	300	60.7	100	20.2	94	19.0	—	—	494
16—20 ,, ..	—	—	400	49.8	404	50 2	—	—	804
Above 20 ,, ..	40	2.7	266	17.9	1,176	79.4	—	—	1,482
Total ..	7,507	44.3	5,357	31.5	2,910	17.2	1,185	7.0	16,959

It will be seen that for the farmers in size-groups of below 4 acres, moneylenders are the most potent source of credit and account for about 70% of the total debt. The percentage of co-operative debt in the case of farmers in the size groups of 4 to 12 acres is higher than that in the case of farmers in smaller size-groups, being on an average, about 46, while the percentage of debt borrowed from some private sources comes to about 53. The farmers in size groups of above 12 acres are not much indebted.

Role of various categories of Moneylenders

The moneylenders consist of agriculturists, professional moneylenders, merchants and cattle-dealers. The loans have been classified below according to the different categories of moneylenders.

TABLE IV

Classification of Loans according to Different Classes of Moneylenders

Class of moneylenders	Amount Rs.	Percentage of the total debt advanced by the moneylenders	Percentage of the total debt advanced by all sources
Agriculturists	3,017	14.6	10.2
Professional moneylenders and traders	12,393	59.9	41.8
Cattle-dealers	3,885	18.8	13.1
Others	1,385	6.7	4.7
Total	20,680	100.0	69.8

It will be seen that the agriculturist moneylenders in this tract account for about only 15% of the total loans advanced by the moneylenders, the major share is still of professional moneylenders and merchants, being as high as 60%. The cattle-dealers have an important role and account for about 19% of the total loan advanced by the private individuals. Generally they sell cattle to the farmers on credit basis and charge no interest but charge a higher than the market price for their cattle.

The most important conclusion that emerges from this investigation is that even in a group of villages which are well served with credit and cane co-operatives, the moneylenders' share of the total agricultural finance comes to as high as 51%. As observed during the investigation, the main causes of high percentages of moneylenders seem to be :—

1. Limited membership of credit co-operatives.

2. Inadequacy of funds with them.

3. Insufficient credit-worthiness of the members and so their inability to qualify for co-operative loans in adequate amount.

4. Reluctance of the co-operatives to advance loans for unproductive purposes, *e.g.*, social ceremonies, etc.

In village *Rustampur* where the farmers, in general, are prosperous and have larger holdings, the percentage of co-operative loans is the highest being 46.5% of the total loan as against 10.3% in village *Sherpur*, 21% in *Sadarpur* and 22% in *Patti-Balla Nagla.*

In the four villages it was found that out of the total number of 142 families studied, 72 were members of the village credit co-operatives, and 49 of these had borrowed from both co-operative and moneylenders. Of the total amount borrowed by them, 45.4% was from the co-operative societies and the remaining 54.6% from the moneylenders.

Purpose of loans

The purpose-wise classification of debts shows that of the total current debts, 60.5% is accounted for by loans for agricultural requisites, among which cattle constitute the largest item and account for as high as 49.3% of the total agricultural loans and 29.9% of total loan for all purposes. The percentage of subsistence loans is high and so of loans for social ceremonies in the case of smallholders with holdings up to 8 acres, but it declines as the size of holding increases. Social ceremonies claimed a high percentage, *i.e.* 21.5% of the total debts.

TABLE V

Classification of Loans according to Purpose

Size-groups of holding	Agricultural loans						Subsistence loans		Social, Education and Miscellaneous loans					Total debt.
	Cattle	Seed	Manure	Other agrl. purposes.	Total	Percentage.	Amount	Percentage.	Social	Education	Misc.	Total	Percentage.	
	Rs.	Rs.	Rs.	Rs.	Rs.		Rs.		Rs.	Rs.	Rs.	Rs.		Rs.
Below 2 acres ..	395	231	—	95	721	45.9	80	5.1	670	100	—	770	49.0	1571
2—4 ,, ..	882	539	124	395	1940	45.8	501	11.9	1220	152	420	1792	42.3	4233
4—6 ,, ..	870	689	170	575	2304	48.1	580	12.0	1710	60	140	1910	39.9	4794
6—8 ,, ..	1700	940	307	475	3422	62.0	310	5.6	1000	—	790	1790	32.4	5522
8—12 ,, ..	2840	686	274	640	4440	62.9	285	4.0	1360	100	875	2335	33.1	7060
12—16 ,, ..	552	324	50	100	1026	43.7	200	9.2	200	250	500	950	47.1	2176
16—20 ,, ..	1400	168	236	800	2604	92.8	—	—	200	—	—	200	7.2	2804
Above 20 ,, ..	175	280	911	76	1442	97.2	40	2.8	—	—	—	—	—	1482
Total ..	8814	3857	2072	3156	17899	60.5	1996	6.6	6360	662	2725	9747	32.9	29642
Percentage of various Sub-totals ..	49.3	21.5	11.6	17.6	100	—	—	—	65.4	6.6	28.0	100		
Percentage of total debt ..	29.9	13.0	7.0	10.6	60.5	—	6.6	—	21.5	2.2	9.2	32.9	—	100

Rate of interest

The cane co-operatives charge a rate of $7\frac{1}{2}\%$ on their loans and the credit co-operatives 9% per annum. The moneylenders charge a rate of interest varying between 25 per cent and 150 per cent per annum.

As much as 19.8% of the loan is contracted at as high a rate as 75% per annum or even above. This high rate of interest is charged mostly by itinerent moneylenders. Persons borrowing at such high rates belong to small size-groups.

TABLE VI

Classification of Debts according to Rate of Interest

Rates of interest (per annum)	Amount	Percentage of total debt	Remarks
7½ per cent..	3605	12.1	
9 ,, ...	5055	17.1	
25 ,, ...	4890	16.5	
37½ ,, ...	3807	12.9	
50 ,, ...	1114	3.8	The debt was advanced in kind as seed on *sawai* basis. Out of the total debt Rs. 304/- were advanced by credit co-operative as seed on *sawai* basis.
75 ,, ...	5141	17.3	
96 ,, ...	740	2.4	
150 ,, ...	20	0.1	
Loan from cattle-dealers ..	3885	13.1	No interest is charged but the cattle are sold at a price higher than the market price.
Interest free (from relatives)	1385	4.7	
Total	29642	100	

SUMMARY

An enquiry into the conditions of agricultural indebtedness and course of agricultural finance was made in June, 1954 in six contiguous villages in U.P. The results of the enquiry have special significance as the villages, where the enquiry was conducted, are well provided with irrigation facilities, produce sugarcane, an important cash crop, and four of them have both credit and cane marketing co-operatives. Still the percentage of indebted families in them is as high as 72.9. In four villages which have both credit and cane co-operatives, loans advanced by the moneylenders forms 51.3 per cent of the total. A fair percentage of the members of the credit co-operative societies have borrowed from the moneylenders. The main reasons for such a high percentage of moneylenders' loan and for borrowings by the members of the co operatives from moneylenders are, firstly, that the societies have not yet been successful in embracing to their fold all the cultivating families in the villages, secondly, funds available with the co-operatives were inadequate to meet the total demand of credit, thirdly the members lacked credit-worthiness to qualify them for the required amount of loan, and lastly the fact that the co operatives did not advance freely for unproductive purposes. About 19.8% of the total debt was contracted at as high rate of interest as 75 per cent and above per annum.

This study brings out clearly that even in agriculturally prosperous tract with adequate irrigation facilities, a high percentage of cultivating families need loans for various purposes and that even where credit and cane co operatives exist the moneylenders' share of the total agricultural debt is quite large.

PRIVATE FINANCE IN AGRICULTURE

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For the purpose of the discussion, we shall include besides the professional moneylender, the agriculturists, landlords, relatives, etc., among the agencies of private finance in agriculture. Taccavi and similar other state *ad hoc* finance constituted a nominal proportion in the total accommodation till recently. Only during recent years frequent and sizeable relief has been provided to the farmers by the State Governments. In view of this, we would refer to the co-operative finance as by far the most important agency of institutional finance. It will be appropriate to begin the study with the figures relating to the extent of agricultural finance provided by different private and institutional agencies from some of the recent field surveys. (Table 1).

The broad results of All-India Rural Credit Survey and a recent survey in Gujarat conducted in 1954 revealed a more or less similar pattern of break-down of rural finance according to the agencies of finance.

Region	Year to which the data relate	Coverage of the survey	Private Finance (% to total)				Total private finance (%)	Institutional Finance (% to total)		Total Institutional finance (%)
			Merchants and professional moneylenders	Landlords	Other Agriculturists	Relatives and friends		Co-op.	Taccavi and Govt. Loans	
All-India Rural Credit Survey	1951-52	600 villages	51	2	25	14	91	3	3	6*
Gujarat ..	1952-1953	52 villages	43	15	10	25	93	5	2	7

* The balance of 3 per cent finance is from commercial banks and miscellaneous sources.

A study of the low-income farmer in Kodinar in Saurashtra brought out interesting trends. The landlord has an insignificant place in rural finance while friends and relatives mainly provide unproductive finance. In the Kodinar taluka the co-operative movement made phenomenal progress under the former Baroda State and under its impact the moneylenders' finance dwindled significantly. One very welcome sign of the development was that the moneylender began to actively associate himself in the furtherance of the co-operative ideals. And yet the uppermost strata of the peasantry who need bulk finance for improvements and the low-income farmers who do not command necessary credit-worthiness could not be effectively accommodated by the co-operatives. Further, where the money-

TABLE 1

Agencies of Finance :

The table below shows the relative importance of private and institutional agencies in rural finance

Relative Position of Different Private Agencies in Agricultural Finance.

Serial No.	Region	Year to which the data relate	Coverage of the survey	Private Finance (% to total)					Total private finance (%)	Institutional Finance (% to total)		Total Institutional finance (%)	Rates of Interest on private borrowing (%)
				Merchants and Professional money-lenders	Landlords	Other Cultivators	Relatives and friends	Miscellaneous		Co-op.	Taccavi		
1.	Gujarat	.. 1948	16 villages	67	6	12	3	4	92	7	1	8	
2.	Maharashtra	.. 1949	Morbad Taluka	68	—	27	—	4.8	99.8	0.1	0.1	.2	5 to 25 (12)
3.	Maharashtra	.. 1949	Pandharpur and Sangota Talukas	38	—	37	—	24	99	1.0	—	1	1 to 37½ (6, 12, 24)
4.	West Bengal	.. 1949-50	.. ..	.. 28	—	32	—	28	88	5	7	12	
5.	Saurashtra	.. 1950	34 villages	40	3	16	23	2	84	4	12	16	
6.	Hyderabad	.. 1950	118 ,,	—	—	90	—	—	90	6	4	10	1 to 600 (12, 18 and 25)
7.	Karnatak	.. 1952-53	10 ,,	53	3	—	8	19	83	7	10	17	1 to 24

The figures in the brackets are of rates of interest that are normally charged.

lenders are also merchants and/or dealers even the members of the co-operatives, particularly the more substantial among them, resort to them largely for the sale of produce or purchase of necessaries and incidentally for occasional finance. The taccavi and other government finance are now more and more available and utilised for agricultural improvements, especially by big and medium cultivators, such as extension of irrigation.

It is interesting to find more or less similar conditions in the sphere of finance to the rural labour as revealed by the Agricultural Labour Inquiries conducted by the Government of India sometime ago. Of the total borrowings by labourers, 36 per cent was contributed by professional moneylenders, 38 per cent by friends and relatives, 21 per cent by employers and 6 per cent by shop-keepers. The co-operatives shared only 1 per cent of the total accommodation to landless labourers. Thus, the private agencies were exclusive financiers to rural labour.

Legislation to scale down debts and regularise the methods of private finance began to take shape ever since the popular ministries took office under Provincial Autonomy. Since independence, these isolated enactments were co-ordinated and comprehensive laws were adopted by practically all the States to curb and regulate the ways of the private moneylender and reduce the cost of private rural finance. It has been suggested that these and the tenancy and land transfer legislations along with the laws relating to the consolidation and prevention of fragmentation of holdings and the spate of agrarian reforms to abolish double tenures lead to considerable uncertainty and consequently, shrinkage of private finance to some extent. While admitting that some fall in the volume of private finance to the cultivators did occur, the figures presented above lead one to feel that the argument appears to have been stretched too far. The statistical material presented before shows that even after about 15 years of moneylending and debt conciliation legislation, the pattern of the origin of rural finance has broadly remained unaltered. It might be that among the numerous agencies of private finance, the professional moneylender might have been relegated slightly into the background, while the others close to the agriculturist might have either retained their position or spread their tentacles slightly wider, if not for anything else, out of a desire to assist friends and relatives. The break-down of statistics, however, do not enlighten us adequately on this point.

Rates of Interest

From the table given earlier, it will be noted that in the regions covered by the investigations, the usual rates of interest of private finance are 6, 12, 18 and 24 per cent. The Congress Agrarian Reforms Committee found that usual rates of interest for private finance varied from 15 per cent to 30 per cent. The great variations in the rates of interest reflect different charges for secured and unsecured loans and also for more credit-worthy and less credit-worthy borrowers. The complaint about private finance is that it is excessively costly, both due to high rates of interest and other charges collected, particularly by the professional moneylender, through various direct and indirect ways.

While fully agreeing to the point of view that both as regards the purpose to which it is put, the productivity in agriculture, and in general the agriculturist's capacity to repay both capital and interest, the cost of financing weighs heavily on the cultivator's resources, it may be indicated that this should not be regarded as the complete story. It should also be our purpose to analyse the facts about private finance so that in their light, it will be possible to evaluate the laws on the subject passed by the various State Governments. Incidentally, the discussion will point to the feasibility of a reoriented approach to these agencies in the larger interest of not only adequate financial accommodation for the economy and the peasantry but also the other services that are often interwoven with this function.

Purposes of Borrowing

But, before elaborating the various issues, it is necessary to know the purposes to which finance drawn from private agencies is put. This will help to assess how much of it is actually employed productively.

PRODUCTIVE, NON-PRODUCTIVE AND UNPRODUCTIVE FINANCE

	Productive	*Non-Productive*	*Unproductive*
Saurashtra (1949-50)	26	35	39
Hyderabad (1949-50)	57	3	40
Maharashtra (Murbad-Thana) (1949)	2	81	17

The Agrarian Reforms Committee of the Congress quoting from field research in the country considered 27, 61 and 12 as broadly the proportions of productive, non-productive and unproductive finance respectively. The recent Gujarat Survey referred to earlier roughly indicated that out of the total borrowings of tenants covered by the investigation, 40 per cent was for short and long term productive investment while the remaining 60 per cent was on non-productive and unproductive outlay.

Peculiarities of Rural Finance

The deficit nature of the economy of the bulk of the Indian peasantry is proverbial. Except for a short duration, even the World War II has not brought any substantial relief to the majority of them. In fact, quite large sections of the peasantry have been left worse off by the unfavourable race of cost-price spiral as revealed by a number of war-time rural surveys. Very largely on account of this handicap, quite a sizeable proportion of the borrowings of the peasant remains on non-productive and unproductive accounts, especially by way of consumption credit. These circumstances persisted from year to year and incapacitated the borrowers from repaying capital and interest. In course of time, the debts piled up and the situation became irredeemable. A part was recovered through foreclosure and sale or lapse of moveables held as security against loans. Very often large bad debts accumulate and are written off by the financing agencies, but more particularly by the professional moneylenders. In this connection, an analysis by the Reserve Bank of India of the applications by debtors and creditors of a few talukas of Maharastra in the Bombay State to the debt adjustment boards under the Agriculturists' Debt Relief Act, 1947 and their disposal makes interesting reading. Interest charges bore a small proportion (2 and 21 per cent) of the total of capital and interest covered by the applications. Apart from the manner in which the applications were disposed off, the percentage scaling down (50 and 60 per cent) by the boards and courts, showed that the financing agencies lost a substantial proportion of their loaned capital. The rate of bad debts in the usual course would probably be not so steep. The institutional rural financing agencies are, by their very nature of aims, objects and constitutional set up, precluded from entering the spheres of unproductive and non-productive fields of finance to any considerable extent. Besides, the general results of the Kodinar Survey point out the limitations of co-operatives about the extent and coverage of their finance. The medium and short-term co-operative finance was very largely available for seasonal or *ad hoc* temporary needs. It is in the context of the limitations of institutional finance, the risk involved in private finance and that of sustaining a deficit-subsistence economy for years, and not from the point of view of the rate of interest as computed on the basis of all the direct and indirect imposts alone that one has to view the heavy cost of the moneylender's finance.

It is difficult to visualize a situation of the Indian farmer with a deficit budget without even such unscrupulous private financiers. Under these conditions, it is also difficult to achieve rapid multiplication of the co-operatives without peril, unless the movement becomes truly multi-purpose and embraces the rural activities in their entirety. It is true that with comprehensive legislation and thorough planning in the rural sector, this process will be accelerated but much time will be inevitably necessary before the co-operatives completely replace the other rural financing agencies. It is equally significant that institutional finance has come into relatively greater prominence in the last couple of decades, but more particularly since independence. Presumably, however, the greater business of the co-operatives and larger taccavi finance might have been channelled to meet the increased needs arising out of specific developmental activities and to meet higher costs of cultivation and consumption due to rise in prices.

Merchant-Moneylender

The other significant fact which is often overlooked is that very often the moneylender combines in him such useful functions as a dealer, a petty merchant, and an agency of both the marketing of the farmer's produce and its financing. This is probably more true of areas which till hitherto had not the advantage of modern administration or even limited organisation to discharge a few economic functions such as the marketing departments. In Saurashtra, for instance, there are 40 merchant-moneylender for every 45 villages. When private financing is relentlessly curbed, what infrequently happens is that the peasant feels the impact in other spheres of his business and living. It is probable that while charges for lending and such other services being often consolidated would appear heavy in the aggregate, but considered in their full context, might not be found so inequitous.

Elasticity of Private Finance

The flexibility or elasticity of the accommodation provided by the professional moneylender has often been assailed as a contributing factor for extravagance and avoidable indebtedness on the part of the peasant. The term unproductive debt in this context has, however, no ethical implications, and does not necessarily mean indebtedness which could, or should have been avoided. As pointed out earlier, the non-productive or consumption expenditure should be regarded as inevitable so long as the deficit remains a feature of agricultural business. The view-point that cultivator's outlays on them, therefore, should not be financed is likely to lead to unfavourable repercussions in the day to day life of the farmer. The co-operative movement has of necessity to nurse certain ideals and evolve healthy rural financing agencies and pattern of lending. It can, therefore, undertake to accommodate the rural communities on these counts only at the peril of its own existence and the faith of the population in its efficacy to serve the higher co-operative objectives. It is true that co-operatives can provide certain people both to reduce the costs under these heads and systematise expenditure on quite a few others. But till the business of farming is reorganised and made not only attractive but also self-financing in all spheres except current productive accommodation, the co-operative movement will be able to make limited headway in this sphere.

The Approach

During this transitory phase which is likely to be quite long, it will not be prudent to legislate in the spirit of a crusader to eliminate private rural finance, instead of relying substantially on other methods to bring about healthy practices of finance as far as practicable by the professional moneylender. It should be emphasised even at the cost of repetition that but for the private finance in all its undesirable aspects the deficit farming business would have placed the peasant in an unenviable position in the absence of alternative institutional or official financing agencies. The emphasis here is confined to the professional moneylender lest mistakenly other private financing agencies such as friends and relatives are bracketed with him as pursuing unwholesome trade practices in their dealings with the peasantry to serve their personal ends. Most of these classes of lenders have not been known to adopt unfair methods in accommodating either friends or relatives, largely, if not solely, out of considerations other than monetary gain.

It is not suggested that there should be no restrictions on the moneylender and that he should be allowed unfettered scope in the field of rural finance. The idea in treating his functions at length is that instead of unilaterally proceeding with legislation, it would be desirable to take the private agencies into confidence by bringing to their knowledge the real objectives of the laws relating to moneylending as aiming to systematise rural finance rather than restricting it or eliminating private financiers of cultivators. It will be admitted that an impression of this nature has gained wide currency due to the spirit in which disputes between the debtor and the creditor have hitherto been examined and adjudged. In all agrarian questions on which reform laws have been enacted, but more particularly those relating to moneylending, the common experience seems to be to dispose of disputes with the interests of the peasantry substantially in view. The spirit of administering the laws has created an atmosphere of uncertainty and scared the rural financing agencies with the consequent curtailment of rural finance. Till the business of cultivation with its allied economic activities is firmly rooted and the co-operative movement is progressively able to take over the functions of private financing agencies in agriculture, it is but prudent to proceed to create healthy conditions of agricultural finance after taking the moneylender into confidence. This has been the approach generally in other sectors and it has proved efficacious. There is no reason to feel that it will not be equally effective in the field of agriculture. Such a cautious policy is essential in the transitional phase of planning in the primary sector till the economy has been rid of its deep rooted malaise and the institutional agencies take over rural finance and other functions and services embracing agriculture and cultivator. Simultaneously, a change in the attitude of the peasant with regard to his various non-productive and unproductive outlays will be progressively discernible. If all these proceed satisfactorily, private finance can even be completely eliminated after a stage without any adverse effects on the rural economy.

ROLE OF PRIVATE AGENCIES IN AGRICULTURAL CREDIT*

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Definitions

If by the term "Private Agencies" institutional agencies like co-operatives and commercial banks are excluded—State being, of course, outside the purview of the definition—then the agencies, which can be included under the category of "Private Agencies" are:**

(1) relatives (who give interest-free loans),

(2) landlords,

(3) agriculturist moneylenders,

(4) professional moneylenders, and

(5) traders and commission agents.

The term 'agricultural credit' is, however, more difficult to define. But, perhaps, it should suffice if we discuss the borrowings of cultivators not only for agricultural purposes (excluding borrowings for non-farm business expenditure, consumption expenditure and repayment of old debts) but also for all purposes—agricul-

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* Statements of facts and comments are made in this note in an individual capacity and these do not have anything to do with the position of the author in the Reserve Bank and hence the entire responsibility for the views expressed is that of the author himself, even though through the courtesy of the Reserve Bank of India and the Committee of Direction of the All-India Rural Credit Survey, data collected by the Survey are reproduced here. The data relating to Agricultural Credit System in the U.S.A.were compiled by Sarvashri D. A. Joshi and I. B. Majumdar,

**Excluding the residual agency 'Others'.

tural or otherwise. The definition of a 'cultivator' so far as the Rural Credit Survey is concerned, is one who cultivates land whether belonging to him or not. Absentee landlords and agricultural labourers are, therefore, excluded from the purview of the definition of 'cultivator'.

With regard to the definition of various credit agencies, it might be noted that agriculturist moneylender and cultivator-cum-moneylender are not necessarily synonymous as sometimes an absentee landlord-cum-moneylender who accommodates cultivators other than his own tenants, can also perhaps be classified as an agriculturist moneylender. Professional moneylender who is also an agriculturist as dis inguished from an agriculturist moneylender is one whose income from moneylending is much more than that from agriculture. Borrowings from 'relatives' were defined, for the purposes of the Survey, as interest-free loans from relatives ; interest bearing loans from relatives were classified as from one or the other agency like agriculturist moneylender etc., appropriate for the purpose. Loans from a landlord to his own tenants were classified as from 'landlords'. Borrowings from a trader or a commission agent were also treated separately.

2. Extreme dependence on private agencies

2.1 *Importance of private credit agencies*

The data collected for the All-India Rural Credit Survey clearly show the great importance of private credit agencies. An idea of the relative importance of various agencies can be got from table No. 1 below.

TABLE NO. 1

Borrowings of Cultivating families—India

Credit Agencies	Proportion of borrowings from this agency to the total borrowings of cultivating families	
INSTITUTIONAL AGENCIES		
Government	3.3	
Co-operatives	3.1	
Commercial Banks	0.9	
		7.3
PRIVATE AGENCIES		
Relatives	14.2	
Landlords	1.5	
Agriculturist moneylenders	24.9	
Professional (private) moneylenders	44.8	
Traders and Commission Agents	5.5	
Others	1.8	
Private Agencies		92.7

It is obvious from the table above that for more than 90 per cent of the total borrowings, the rural families have to depend on private agencies.

2.2 *Dependence of cultivators on private agencies for agricultural credit*

As is well known, agencies like Government and co-operatives give credit largely for certain purposes approved by them, especially for productive purposes.

It is, therefore, important to note to what extent the cultivator's dependence on private agencies for production credit has been minimised, by the part played by Government and co-operatives. The details are given in the table below.

TABLE NO. 2

Borrowings of cultivators classified according to purpose and duration—India

Purpose-duration	Amount borrowed for the purpose-duration from the agency as per cent of the total borrowings for the purpose-duration			
	Government	Co-operatives	Others*	Total
AGRICULTURAL				
Short-term	2.8	11.3	85.9	100
Long-term	6.0	2.4	91.6	100
NON-AGRICULTURAL				
Short-term	—	0.5	99.5	100
Long-term	0.6	—	99.4	100
CONSUMPTION				
Short-term	2.1	2.2	95.7	100
Long-term	1.0	0.9	98.1	100
REPAYMENT OF OLD DEBTS	0.8	8.7	90.5	100
OTHERS	0.8	2.4	96.8	100

* Including Commercial Banks.

It is apparent from the table above that for more than 80 per cent of short-term agricultural credit and for more than 90 per cent of long-term agricultural credit, the cultivators have to depend on the private agencies.

2.3 *Greater dependence of smaller cultivators on private agencies*

Not only are borrowings from Government and co-operatives too small to affect materially the preponderant importance of private agencies, but there are also indications that a substantial portion of the loans advanced by Government and co-operatives goes to the upper class of cultivators. This will be seen from the table below :

TABLE NO. 3

Borrowings of different types of cultivators—India

Types of cultivators	Proportion of borrowings from the agency to the total borrowings	
	Government	Co-operatives
1. Big cultivators (decile 1)	4.5	4.0
2. Large cultivators (deciles 1, 2 and 3)	3.8	3.8
3. Medium cultivators (deciles 4, 5, 6 and 7)	3.2	2.7
4. Small cultivators (deciles 8,9, and 10)	2.0	1.7

The borrowings of the big and large cultivators from Government and co-operatives were generally large as compared to those of the medium and small cultivators ; this was also true in respect of borrowings from commercial banks in most of the districts selected for the Survey.

The distribution of Government finance among the various strata of cultivators, differed to a certain extent from State to State, depending upon the nature of Government finance extended—whether for rehabilitation of displaced persons, scarcity relief or for productive purposes. However, apart from the fact that in special cases distress loans are made available by Government, finance from this agency in a normal year is mainly available only for a limited number of purposes, the more important among which are schemes of land improvement, well digging, purchase of lives-tock, etc. In this context, the purposes for which the upper and the lower strata of cultivators generally borrow, acquire significance. The Rural Credit Survey data indicate that the borrowing requirements of the upper strata are proportionately larger for capital and current expenditure on farm in relation to production than the requirements of the lower strata. On the other hand, consumption and family expenditure are more important purposes of borrowing among the lower strata than among the upper. Thus in a normal year, the upper strata is perhaps in a more favourable position to take advantage of this agency. The insistence on sound securities—immovable property in the case of Government and co-operatives, especially the former, and of sound liquid assets in the case of commercial banks—is also an important factor that operates against the interest of the smaller cultivators. Finally, obtaining finance from these agencies, especially from the Government, requires planned borrowing. The procedure in respect of Government finance requires filling in of forms and approach to Government officials, which might be easier for members of the upper than those of the lower strata.

Analysis of data relating to borrowings from co-operatives also indicates that as a general rule the extent of finance made available by co-operatives to the various strata of cultivators diminishes with a downward progression in the strata. Further, the data relating to certain districts are perhaps indicative of the fact that non-cultivators, among whom are included agricultural labourers and rural artisans, whose general economic conditions correspond to those of the smaller cultivators, are also not equally able to obtain accommodation from co-operatives. Those of the non-cultivators who reported borrowings were perhaps in a superior economic position and were a special class among non-cultivators, the bulk of non-cultivators being evidently not in a position to obtain finance from co-operatives. This is perhaps partly explained by the fact that as the emphasis of co-operative finance is on production loans the ownership or operating control of a unit of production is normally essential before obtaining finance from co-operatives and the quantum of finance might also vary with the size of the production unit. Another special factor limiting the availability of co-operative finance would be the condition regarding admission to membership of co-operative societies. Membership may not be universally available to all in all primary societies, and if membership was confined to special groups or special strata or required certain qualifications such as minimum ownership of land or was controlled by the Panchayat which objects to particular persons, its benefits would be unevenly distributed.

This factor may operate against the admission of the poor and those with no tangible assets.

The disproportionate share taken by the upper strata from Government, co-operatives and commercial banks can perhaps be largely explained as a result of combination of various factors, the more important of which are mentioned above.

3. *The position in the U.S.A. contrasted with that in India*

Analysis of the data relating to agricultural credit published in 'Agricultural Statistics'*—a U.S. Government publication—reveals a position in the U.S.A. which stands in glaring contrast to that in India. Surely, in view of the diverse conditions in the two countries, very little similarity could be expected. But what is interesting to note is the difference in the nature of the role played by institutional agencies, especially commercial banks.

Data relating to debt of farmers in U.S.A. are classified under two heads, "farm mortgage debt" and "non-real estate loans or agricultural loans." The former includes debt incurred mainly for the purchase of real estate, farm machinery, etc., and is generally repayable within a period ranging upto 40 years. The latter category of loans, also sometimes called "production loans" are generally used for purchase of seed, manure , etc. These loans are generally for short duration.

For the purpose of discussion and for convenience, it might suffice if we hold the term "Individuals and others" as synonymous with "Private Agencies", institutional agencies—the commercial banks and insurance companies—being excluded from the purview of the definition of "Private Agencies" in this case. An idea of the role of "Private Agencies" can be obtained from the table given below :

TABLE NO. 4

Role of individuals—private agencies—in the Farm Credit System : U.S.A.

(Amount in billions of dollars)

Year (generally outstanding as on January 1	Farm Mortgage Debt			Non-real-estate loans or production loans		
	Individuals and others	Total debt	2 as % of 3	Individuals and others	Total loans	5 as % of 6
1	2	3	4	5	6	7
1910	2.41	3.21	75	—	—	—
1920	5.92	8.45	70	—	—	—
1930	4.67	9.63	49	—	—	—
1940	2.22	6.59	34	1.50	3.44	44
1950	2.31	5.58	42	2.40	6.96	34
1951	2.50	6.07	41	2.80	6.98	40
1952	2.74	6.59	42	3.20	7.87	41

* Agricultural Statistics—U.S. Department of Agriculture, U.S. Government Printing Office Washington 25, D.C. Reference may also be made to "Agricultural Finance Review" Vol. 16, November 1953, published by the U.S. Department of Agriculture.

It will be seen from the table above that the role of "Individuals and others"—in this case, the private agencies excluding commercial banks and insurance companies—is declining in importance, especially so far as the farm mortgage debt is concerned. In the absence of data relating to volume of non-real-estate loans held from "Individuals and others" for years prior to 1940, we are not in a position to correctly assess the trend in the role of private agencies. Even for the period 1940 and subsequent years the figures relating to loans held from "individuals and others" are more in the nature of estimates, unlike in the case of data relating to farm mortgage debt.

This relative decline in the importance of "individuals and others" can be stated to indicate the declining importance of private or non-institutional agencies in agricultural credit. It must, however, be stated that with the decline in the importance of "individuals and others", the importance of institutional agencies like life insurance companies and commercial and savings banks has been increasing, so far as the farm mortgage debt is concerned. Proportion of farm mortgage debt owed to life insurance companies to the total debt was 12 per cent in 1910, 1. per cent in 1920, 22 per cent in 1930, 15 per cent in 1940, 21 per cent in 1950, 22 per cent in 1951 and 23 per cent in 1952. So also, in the case of commercial banks, the corresponding proportions were 13 per cent in 1910, 14 per cent in 1920, 10 per cent in 1930, 8 per cent in 1940, 17 per cent in 1950 and 1951 and 16 per cent in 1952.

The increasing importance of institutional credit agencies especially in relation to non-real-estate loans is brought out by the fact that the proportion of such loans held from "Operating Banks" to the total non-real-estate loans held from principal agencies was 33 per cent in 1940, 42 per cent in 1945, 44 per cent in 1950, 42 per cent in 1951 and 43 per cent in 1952. That in the year 1952, 43 per cent of the non-real-estate loans and 16 per cent of the farm mortgage debt were accounted for by banks as against only 1 per cent accounted for by these agencies in India clearly indicate the important role played by commercial banks in the U.S.A.

In fact, in India less than 4 per cent of the total advances of commercial banks are for agricultural production.* Further, the role of life insurance companies in agricultural credit is negligible in India. Consequently, the dependence of cultivators on private credit agencies is particularly great. But what is, however, noteworthy is the fact that the role of commercial banks in the financial superstructure behind the private agencies (that is to say, the indirect role) which accommodate the rural residents is quite important. This can be seen from the following discussion based on the Rural Credit Survey data.

That the private credit structure, as is very evident from the problem involved in assessing its role, is too complex to be described in a simplified way needs no mention. It might be said to comprise of the moneylender and the trader chiefly as primary units, and the indigenous banker and commercial bank (which is a *private institutional agency*) a. the higher level. There is a much greater mixture of function in this system, so that the commercial banks may have direct relations with traders and cultivators or may finance the indigenous banker, who in his turn finances the moneylender, and the trader, and therefore, the cultivator in the ultimate analysis. All these relationships are difficult to unravel or express, in.

quantitative terms. However, the summary data throw some light on the general proportion of operations in various fields and at various levels of the different agencies.

Through a questionnaire specially addressed to moneylenders, traders and indigenous bankers, the Committee had collected information as to (1) whether they were able to meet the demand from their own resources or whether they had to borrow and (2) if they had to borrow, what was the proportion borrowed from various agencies to the total borrowings. The relevant data are given in the following table.

TABLE NO. 5

Financing of Moneylenders and Traders—India

	Number interviewed	Number who borrow	Sources of borrowing			
			Commercial banks (per cent)	Indigenous bankers (per cent)	Money-lenders (per cent)	Through drawing of hundis (per cent)
Village money-lenders ..	622	174	4	6	78	2
Urban money-lenders ..	2,854	966	33	9	70	8
Traders ..	5,047	3,246	48	7	45	8

Proportions of traders who said that they could borrow from wholesalers and export firms and processing and manufacturing concerns were 18 and 2 respectively.

The commercial banks play a relatively important role in providing finance to the private credit agencies. True, the indigenous bankers cannot be fully distinguished from the moneylenders largely because the operations of indigenous bankers were not distinct enough from those of "other moneylenders".

Among the conclusions arrived at after analysing the role of commercial banks vis-a-vis indigenous bankers, those listed below are of particular interest in the present context :—

(*a*) indigenous bankers do not perform any function which is not already being performed on a larger scale by either moneylenders or commercial banks,

(*b*) that this class comprised of a large variety of sizes of units and patterns of business,

(*c*) a very high return (rate of interest) on deposits reported by many indigenous bankers may actually be the result of their acceptance of deposits not for relending, but rather for use as working funds in their own business,

*See "Trend and Progress of Banking in India"—1952, Reserve Bank of India, Bombay.

(*d*) it appears that their importance in the credit structure diminishes with the progress of modern credit institutions. By and large, indigenous bankers were found to be prominent mainly in areas where for one reason or another, commercial banking has not made much progress. There are a few exceptional areas where they played an important part in spite of the development of commercial banking such as, for instance in Malabar, Quilon and Coimbatore districts and some of the districts from Gujarat and Saurashtra. Barring these exceptional areas, the progress of commercial banking seems to result in a decline in the business, and the importance of indigenous bankers is reported to be particularly marked in the areas which are backward in the development of modern banking facilities,

(*e*) they appear either to specialise by taking on more and more exclusive trading or other functions or to become mere urban moneylenders or in exceptional cases transform themselves into non-scheduled banks, and, therefore, it is not possible to point out any logical place for them in the functioning of a rural credit system, as it exists at present or in any reorganised form.

As regards the role of the moneylender, the Committee state : "It is certainly obvious that the moneylender can be allotted no part in the scheme, important or insignificant, notwithstanding a dominance which today is overwhelming. Thus, it would be a complete reversal of the policies we have been advocating to give him a position in the co-operative banking structure, when the whole object of attempting to develop and strengthen that structure is to provide a positive institutional alternative to the moneylender himself, something which will compete with him, remove him from the forefront and put him in his place. . . . As the moneylender does sometimes get into the co-operative society and use it for his benefit, this has to be guarded against and not provided for ; to follow the latter course would be to court disaster for the whole scheme here put forward. We would not by any means be understood to convey that the moneylender serves no useful purpose, or that he belongs to some wicked and anti-social class distinguishable from the rest of Indian humanity, or that his class does not contain good people and perhaps good citizens just as much as any other. On the contrary, we have been at pains at more than one place in this Report to emphasise that what needs to be tackled is different from, and stronger than, just individuals or classes of individuals ; that it is a whole impersonal system which has grown up, and that it is this which gives rise to inequities and needs to be rectified. It is not only that there is no point in denouncing the moneylender ; there is no reason for denunciation."*

The above discussion would indicate that in the opinion of the Committee of Direction of the All-India Rural Credit Survey, the problem of rural credit is really that of reducing the dependence of cultivators on the private agencies and increasing credit extended by the co-operatives. In other words, the Committee recommend a gradual transformation of the rural credit system into one of lesser and lesser dependence on private agency ; this gradual transformation has, however, already taken place in the U.S.A. over the last 40 years or so.

* pp. 481-482—Volume II, the General Report.

ROLE OF PRIVATE AGENCIES IN AGRICULTURAL CREDIT—RISE AND FALL

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Agricultural credit is an important facet of the industry of agriculture but it is characterised by peculiarities and special features which distinguish it from credit for industry, trade or any other sector. Being a seasonal industry in which there is an inevitable time-lag between the investment and the outturn, credit is of the very essence of successful agriculture and suitable machinery for the provision of credit to agriculture is the measure of its success as an industry. Indian agriculture is marked by certain peculiarities which add to the hazards of an already risky venture the world over. The fact has been repeated *ad nauseam* that Indian Agriculture is a gamble in the monsoons with one good year followed by a bad and many indifferent years. Owing to inheritance laws and land hunger the small and uneconomic nature of holdings accentuate the risk element while the uncreditworthiness of the ryot—owing to low per capita income and his being soaked in prior debt—furnish the coping stone to this edifice of danger. But the credit requirements are pressing and can be classified under the categories of cultivation expenses, expenses for maintenance of his family and prior interest obligations earmarked for former debts.

Demand for credit:

It has been estimated in the Monograph on "Rural Problems in Madras" that Rs. 30/- will be the cash requirement per acre for an irrigated crop, of course cash requirement is different from cost of cultivation but it can be taken as the basis for the purpose of estimating the credit required by the ryot. 12 million acres of irrigated crops in the Madras State will require Rs. 36/- crores. The total cropped area under dry crops is 25 million acres. Dry crops are seldom manured except with cattle manure which is available with the cultivator himself. There are no irrigation or water charges to be met. On the basis of Rs. 15/- per acre the total cash requirement for raising dry crops on 25 million acres amounts to Rs. 38/- crores making a total demand for credit of Rs. 74 crores for cultivation alone. The ryots who are rich do not require any credit and can manage under their own "steam". Many prudent cultivators require only partial help and the ranks of this category have been swollen by the prosperous state of agriculture engendered by the boom after 1942. It is only the small holders constituting over two-thirds of the cropped area owned– the marginal cultivators—who badly need credit. Hence ryots owning one-third of the cropped area in the State may not need any outside financial help leaving Rs. 50 crores to be financed by outside agencies.

Maintenance of the family is a nebulous item depending as it does on the size of the household, the standard of living of the family and the diet the members are accustomed to. Hence it has to be presumed that the previous harvest proceeds are available for this purpose, though they may not be enough and may just suffice to meet the land revenue and the interest charges on previous debts. In other cases the holdings are too small to yield an adequate income which may have to be supplemented by subsidiary avocations or borrowing. In recent times agriculturists have not been doing badly owing to the favourable monsoons and only special occasions as marriage or death ceremonies would have necessitated recourse to borrowing. There were 5 million male agricultural labourers in the Madras State and 13 million other male agricultural classes as per the 1951 census report. It is assumed that the 5 million labourers have a deficit budget of Rs. 150/- of which roughly Rs. 50 may be made up by borrowing from outside sources giving a total of Rs. 25 crores. If 60% of the other agricultural classes are assumed to borrow Rs. 50/- a year for ceremonial expenditure and he like Rs. 40 crores will be borrowed from outside gi ing a grand total of Rs. 65—70 crores as the amount borrowed for family expenses.

The third main item of expenditure is payment of interest on prior debts. Mr. W.R.S. Sathianathan estimated the amount of indebtedness among the ryots of Madras State at Rs. 200 crores in 1935. Owing to the favourable monsoons of the past two years and the buoyancy of agricultural prices some ryots have discharged their debts and the present indebtedness may be of the order of Rs. 100 crores, though this is only a guestimate. The interest charges and sinking fund allowances on this debt can be estimated at Rs. 10 crores per annum. Hence the total agricultural credit requirements of the Madras State may be estimated at Rs. 125-130 crores per annum. Though it is difficult to arrive at an exact figure in the absence of a statewide survey the order of magnitude involved furnishes a working basis on which to proceed.

Supply of credit by private agencies : (a) Village moneylenders

Unlike many countries of the West there has been no institutionalisation of credit for agriculture in India. "Laissez faire" in its literal sense has held the field for a long time without any attempt by the State at regulation of the agencies, their mode of working or price charged for their "wares". Nevertheless private agencies have played a great role in filling the gap between requirements and assets at the disposal of the ryots. The atomistic nature of Indian farming with its attendant and peculiar vagaries and hazards and the absence or unwillingness of institutional credit to embark on the uncharted seas of agricultural credit provide the raison d'etre of private agencies especially the moneylenders so much in evidence till lately on the rural scene. However much abuse may be hurled at their selfishness and usuriousness and, in spite of the derision and scorn in which "Shylocks" may be held by the Gentiles, it is beyond question that moneylenders have succoured the peasant from many an illwind for generations. "Nothing ventured, nothing gained" seem to be the motto of the village moneylenders and with their intimate connection with the cultivators and consequent knowledge and willingness to keep small accounts open with high overheads, ease of access and informality they were in a unique position to finance Indian agriculture. Mr. W.R.S. Sathianathan in his Report on Agricultural Indebtedness estimated that 93% of the credit requirements was met by moneylenders in the Madras State. Hence their elimination or "withering away" would leave a gap which would be hard to fill unless vigorous attempts are made to foist a new plant of equal hardiness and vigour. The grosser forms of moneylending against which charges have been levelled arose only after the depression of 1930s when moneylenders found their sheet anchor—the profitability of agriculture—toppling down and were driven to foreclosure of mortgages. A distinction has therefore to be drawn between the professional village moneylenders of the predepression era and their counterparts of to-day who have all the disadvantages but none of the redeeming features of the former. It was found from enquiries conducted in Coimbatore District, to which reference is made later that village moneylenders as a class have become a rare and almost extinct species. It is the richer agricultural classes in the villages who have started the task of financing agriculture. As is known from the experience of the Punjab the transformation has not been an unmixed blessing. The newer moneylenders seem to be more grasping and selfish than the class they have displaced, out for their pound of flesh waiting for a chance to dispossess the debtor and turn him into a tenant or a labourer on his own holding and stooping to any dishonesty to achieve their ends. Most of the ryots in Coimbatore district seem to be, in varying degrees of indebtedness to their more fortunate brethren in the villages. Such moneylenders in rural areas are agriculturists cum traders and are 7 times as numerous as the professionals. They own lands themselves and belong to the same community as the ryots of the locality. Their rates of interest range from 9 to 15%. Loans are given on pronotes, on personal security or on joint security and on mortgages of land (most common now-a-days). Periods are fixed for payment of interest and repayments of loans which are seldom adhered to and hence penal rates of interest are usually charged. The three years period of limitation for pronotes leads to renewals and the new principal is the sum total of the previous principal, unpaid interest and penal interest. After a few renewals the original principal will have been doubled or trebled leading to foreclosure and loss of land. This has been the sorry tale behind the downfall of many ryots to the status or mere tenants-at-will or labourers. Of course this picture is only partially true now owing to the intervention of the state by moratorium, debt conciliation and other legislation and the prosperity enjoyed by agriculturists during the war and its aftermath which enabled many ryots to discharge their obligations.

Among village monevlenders are found a class of persons who have capital and wish to invest in safe outlets. This consists of absentee landlords, lawyers and widows with small means. In large towns as in Coimbatore are found erstwhile cultivators who have found cultivation a backbreaking job and the sirenlike calls of towns too tempting. They took the easiest way out and let their lands on a cash rental-cum-share basis and departed from the village mostly to pursue the legal line as an adjunct to moneylending business. Such classes are the most rapacious of lenders, being only parasistes living on unearned income. It was found from personal enquiry in Coimbatore, Satyamangalam, Erode, Gobichettipalayam and other towns that these purveyors of agricultural credit have been hardest hit by the Relief of Indebtedness Act passed in March 1938 by the then Rajaji Ministry and the Moratorium declared in October 1953 freezing recovery of debts and are fuming and fretting at the cutting of ground from under their feet. Exact figures are naturally hard to come by but most of the petty cultivators enquired into seemed to be indebted to richer agricultural classes, non-cultivating landowners in the village itself or moneylenders cum absentee landlords residing in the neighbouring towns. These two broad categories of private agencies seem to be the most important in the agricultural sector while Marwaris, Nattukottai Chettiars and Kalladaikurichi Brahmins are localised and hardly take any interest in financing agriculture.

(*b*) *Indigenous Bankers*—The marketing or merchanting credit, has to be distinguished from production credit. Sometimes the two may coalesce as when a moneylender lends money on the stipulation that the produce will be sold through him or to him. Generally for commercial crops, especially cotton and sugarcane, the mills provide an outlet for the produce. The growers bring most of their cotton or groundnut in the few months after harvest and the processing e.g. ginning of kapas and pressing the bales, decorticating groundnut kernel or curing tobacco has to be done in the interval. Many agencies are engaged in financing the crops. Some of them begin advancing from the time of the standing crop and some advance on the stocks with the trade. In the Co mbatore or Cambodia cotton area it was found in a private enquiry in 1950 that 1/8 or 12% of the cotton crop was assembled by village moneylenders and 15% in the Tinnies area.

The financing of crops in the assembling stage is done by agencies in the large markets in the growing area. Generally ryots sell for spot cash to a village merchant or in the market. The "tied" loans of the village moneylender or richer landlord at half rate locally called arai vaddi 9—12% for well known customers have fallen into decay owing to the high prices of groundnut (dry lands) cotton (garden lands) sugarcane and tobacco (wet lands). The cultivators are able to manage without loans and are also in a position to hold up the crop longer for better prices. Now-a-days commission agents in the large assembling markets form the most important agency for financing cash crops in the villages. They advance money to growers and to village merchants. Some of them, as referred to above, are big landowners who have migrated to towns for enlarging their income. Besides these landlords there are also professional moneylenders acting as commission agents (Tharaka mandies). They combine two lines of business—sale on commission and interest on loans. They operate even from the time of cultivating the crop and before the crop arrives on the market by advancing upto 70% of the expected value. They also advance on cotton and other crops stocked with them which is held up for a rising market. They get large acommodation from the banks on the strength of their running stocks. These are the indigenous bankers whom the Reserve Bank has been trying to shepherd into the fold of the organised banking system since 1935 without success. So far as Madras is concerned their business as bankers with their instruments of credit or 'hundis' are restricted to townsmen and trades people apart from a few mortgages of land. The movement of agricultural produce especially cash crops to mandis alone interest this fraternity. The census of India Paper No. 3, 1953 gives the number of employers and independent workers engaged in moneylending, banking and other financial business as 130,663 males and 9,930 females for India as a whole though this figure has not been split up into the rural and urban components.

(*c*) *Commercial banks* :—The part played by these institutions in financing agriculture is very limited. Their operations are limited to urban areas and whatever credit is extended to agriculture is confined to the marketing of the crop or to help the indigenous bankers and some of the bigger landholders on their personal credit. "Agriculture is a biological industry influenced greatly by climatic conditions, whereas industrial processes usually are unaffected by them. It is subject to the vagaries of weather against which the farming class for the most part are powerless. It works under conditions of uncertainty and with many it is not so much a profession as a mode of living" said the Vijayaraghavachari Committee on Co-operation in Madras 1939-40 p. 8. Hence, all the world over commercial banks are unwilling to finance agriculture. They lack the expert knowledge required to assess the value of the securities offered by the cultivators which are the land and the standing crops. Besides loans for improvements require financing over long periods which implies the locking up of funds for a considerable time. Prudent financial policy prohibits such a hazardous procedure. Nevertheless the Rural Banking Enquiry Committee recommended the opening of branches of scheduled banks in taluk headquarters and big villages and this is being slowly done. Not only to tap the rural savings caused by the shift of the savings sector to the villages but also to play an increasing role in the biggest industry in India the extension of branch banking is essential especially to loosen the stranglehold of the rapacious nouveau riche on the peasantry.

In the Coimbatore district there are many banks small and large and also in the cotton growing districts of the State. They usually advance on the pledge of produce to the trade but rarely to cultivators. The Commission agents draw often from the smaller banks. The cotton in the godowns is sealed by the bank and the shops of the commission agents will bear the sign boards of the bank displayed prominently which means the cotton is pledged to it. Even in the godowns of the market committee at Tirupur, where commission agents have shops the banks advance money. The large banks like the Imperial Bank give loans to the spinning mills and the better class of commission agents. The banks advance upto 60 or 70 % of the value of produce at current rates which may vary according to the status of the borrowers. Because of the accommodation given by the banks the commission agents who have always a running stock are able to meet their constituents and command a large volume of business as compared to their investments.

(*d*) *Nidhis and Chit Funds* are a peculiar feature of Madras State and have played a great part in canalising savings into productive channels. Owing to their antiquity they are known to all and sundry though the exact proportion of their contribution to Madras Agricultural finance is not known. The Madras Indebted Agriculturist Temporary Relief Act 1954 had affected the progress of the Fund since on the date when the Act spent itself out it was feared that the borrowers would find that their accumulated arrears were beyond their capacity to pay. The nidhis secured registration under the Indian Companies' Act, receive deposits, lend to non-members and manifest a gravitation towards the model of the joint stock banks. The Madras Banking Enquiry Committee found that 12 to 15 % were charged by the nidhis. In rural areas they serve the useful purpose of encouraging thrift among members, collect small savings and promote co-operative endeavour. The Central Banking Enquiry Committee recommended the passing of a special Act to be called The Nidhis and Chit Fund Act, to govern their working as the Companies Act was not suited for the purpose. As the president of the board of directors of the Madura Hindu Permanent Fund Limited Shri V. Sundararaja Iyengar said in his report recently the fund is neither a co-operative society nor a commercial bank. No action has been taken so far but a separate measure will ensure a continued existence of nidhis. In 1929 there were 218 nidhis with a paid up share capital of 2.45 crores and deposits from the public of Rs. 1.17 crores. Nidhis are very popular in Coimbatore district where half the total number are located.

The Chit Fund is of more ancient origin than nidhi and is an institution for raising small amounts of money on the principle of mutual help. It is a terminating fund to which contributions are made by the members every month, or periodically for a definite period according to number of shares taken and the money thus collected periodically is made available through different methods to the members. The person who runs the chits or the promoter is responsible for collection and disbursement and reaps his reward by getting the first instalment without discount. There are two principal types of chits, the auction chit and prize chit. The chit fund is a popular institution in Malabar, Travancore and Cochin and also widespread in Tirunelveli and Coimbatore districts. But no recent figures are available of the number or the amount of capital involved to judge and evaluate the contribution made by these two unique institutions to the agricultural financial structure.

(*a*) *Regulation of Role of private agencies at present—Moneylending*

The heyday of the private agencies in financing agriculture seems to have passed and the picture on the canvas is blurred by many changes taking place since 1947. The regulation of moneylending, of rates of interest charged by the moneylenders and their registration, need to keep accounts is only a facet of the transition from the laissez faire to the welfare state and need not be recapitulated here. The plight of the peasants was crying aloud for redress in 1930s and the Madras Government undertook measures along with other states to relieve the incubus of debts on the ryots. The Madras Debtors Protection Act 1935 was the 1st legislative enactment intended for the protection of small debtors who had borrowed sums below Rs. 500/-. The object of the Act was to fix a reasonable maximum rate of interest and to secure as between certain classes of moneylenders and debtors an improved system of keeping accounts which would give the latter means of ascertaining periodically how their accounts stood and how they were composed. The Madras Debt Conciliation Act, 1936 provided for voluntary and amicable settlement of debts by bringing together agriculturist debtors and their creditors through the medium of Debt Conciliation Boards constituted for the purpose. The most comprehensive, drastic and far reaching legislation was the Madras Agriculturists' Relief Act, 1938. In the case of the debts incurred before 1st October 1932 all interest outstanding on 1st October 1937 was wiped out and only the principal or such portion of it as might not have been paid was payable where an agriculturist had paid twice the amount of the principal to his creditor by way of interest or principal or both the entire debt (principal and interest) was wiped out. Where the repayments exceeded the principal but were less than twice the principal, only such amount as would be necessary to bring up the amounts repaid to twice the principal or such portion of the principal as was outstanding, whichever was less, was required to be paid. Where a debt had been renewed and a fresh document had been executed, only the principal originally advanced with the sums subsequently advanced as principal was to be regarded as principal. As regards debts incurred on or after the 1st October 1932 the principal or such portion thereof as might be outstanding was not affected and had to be repaid. Relief was given only in respect of interest. The interest to be allowed was fixed at 5 % per annum simple interest. All payments made by agriculturists towards interest were to be deducted from the interest and only the balance was payable by them. This compulsory liquidation has roused the ire of the moneylenders in the Madras State and they aver that it has shaken the foundation of the rural credit structure. The Act also prescribed the maximum rate of interest to be charged on debts incurred by the agriculturists after it came into force at $6\frac{1}{4}$ per cent per annum simple interest. The relief afforded to indebted agriculturists by courts under the Act during the period from 22nd March 1938 to 31st March 1946 was Rs. 5 crores.

Another landmark in the control of unregulated moneylending was the Madras Indebted Agriculturists (Temporary Relief) Ordinance promulgated on 15th December 1953, later passed into law declaring one year's Moratorium with immediate effect in respect of debts of agriculturists in order to provide temporary relief for them. It aims at protecting agriculturists against "Distractions and expenditure involved in litigation launched by their creditors, in order that the maximum possible advantage may result to the State in the matter of production of food crops." It prohibits for a period of one year institution of suit for recovery of such debts and execution of money decrees made by courts and also stays pending proceedings in suits and applications in respect of such debts. Provision is made to safeguard property under attachment enabling courts to pass orders for the custody and preservation of such property or for disposal of the same in certain circumstances. Agriculturists had borrowed or added to their debts during the years of droughts and might if freed for a year from the pressure of creditors be enabled to rehabilitate themselves and hence the Act came into being. This legislation coupled with fears of land reform, ceilings on holdings and other drastic welfare enactments have led to insecurity and lack of confidence on the part of agriculturists' creditors. Many found ways and subterfuges to circumvent the 1938 Act, but they have been fighting a losing battle and it is generally held that rural credit from this important private agency is drying up though the exact magnitude involved is anybody's guess. A large proportion is switching its funds to safer forms of investment as houses, ornaments or industry in a petty form. Hence the conclusion is inescapable that village moneylenders including absentee land-owners as a class are shrinking in importance at the present time. Licensing of moneylenders has not been tried in the Madras State, unlike in the Punjab, Bihar, Madhya Pradesh and Uttar Pradesh. There is little evidence to show that licensing will so improve matters as to give valuable additional protection to debtors. Suggestions have been made to improve the moneylending system by their absorption in the Co-operative movement. The report into rural indebtedness in Madras by Dr. B.V.N. Naidu proposes to compel all moneylenders in a locality to join the Co-operative Society and form a separate moneylenders branch of the society. All lending by moneylenders will thereafter be through this branch and the society will put its stamp of approval on all transactions. But negotiating for loans will still be between individual borrowers and lenders, but when they are completed, the society has to be notified with full details as to terms. The society will give publicity to all the information received, in order to invite competition from other lenders. The disbursement of the loan to the borrower will be through the society for effecting which, the lenders have to maintain a running account with the society. Thus borrowers and lenders are given the freedom to choose their creditors or debtors, while the competition between the moneylenders ensured under the scheme is expected to make the terms of loans more favourable to the borrower.

The Central Banking Enquiry Committee proposed that moneylenders should be induced to join the Co-operative Societies as ordinary members and deposit their funds in the society or alternately they should be persuaded to form Co-operative Societies of their own to function as financing banks to primary societies. To prevent clandestine dealings outside the society a suggestion is made that promissory notes and other documents of credit, not bearing the endorsement of the society, should be made invalid by law.

These novel proposals are ingenious but partake of the character of inviting traditional enemies to share the same bed or to drink from the same stream of rural credit. There is nothing in the plan to prevent diversion of moneylender finance to other investments or to ensure an adequate flow into productive channels. There is also the danger that moneylenders may get the control of the society and use it to further their own interests thus frittering away the confidence and goodwill engendered by the Co-operative movement in the 50 years of its existence and bringing it into disrepute. The remedy seems to be more drastic than the disease. Only enlightened self interest, greater bargaining power with increased income and the inculcation of habits of thrift can curb the monopoly power of the moneylenders and harness their resources at remunerative but not too extravagant a price to the services of the nation.

(b) *Co-operative Institutions*

This downfall of the moneylenders from the pinnacle which they have achieved has been accentuated by the growth of the Co-operative movement and especially the increased tempo of development after the report of the Saraiya Committee in 1946. The Planning Commission has reported that short term loans advanced by agricultural Cooperative Societies increased from Rs. 28.53 crores in 1949-50 to Rs. 37.65 crores in 1951-52 a rise of over 33 % in one year and the latest figures must make still more cheerful reading. Reports received from the States indicate that loans to cultivators have continued to increase since 1951-52. The figures received from the Reserve Bank of India also confirm this trend. Whereas in the year 1951-52 and 1952-53, the Reserve Bank advanced Rs. 12 crores annually to State Co-operative Banks loans sanctioned in 1953-54 amounted to Rs. 14.7 crores. The number of regulated markets—to ensure the farmer a fair price for his produee and to protect him from unauthorised deductions and to obviate the need for merchanting credit and market credit from private sources—increased from 283 in 1950-51 to 356 in 1953-54 for the Indian Union. Co-operation in all its aspects, especially co-operative farming can be expected to play an increasing role in the financing of agriculture for short and medium terms and land mortgage banks for long term loan and thus play an increasingly aggressive and competitive role instead of second fiddle to the ubiquitous moneylenders unlike of yore. The Planning Commission has stressed the vital role of the Co-operative movement in the rural body politic and thus the supply of credit may be catered to by new sources.

(c) *Prosperity of Agriculture during the war and the post-war boom*

Not only has the supply side been augmented by extra recruits as the Co-operative institutions and commercial banks but also the demand for credit from private sources has been falling in recent years. The high prices of commercial crops and also food crops, though not to the same extent, during the war years and again during the post Korean boom has led to the liquidation of past debts and the freedom of ryots especially the richer and the medium land owners from the clutches of their brethern. This has been vividly illustrated by the Report of Dr. B. V. Narayanaswami Naidu in 1946 regarding Madras State. This view has been endorsed by the Rural Banking Enquiry Committee. If the view is correct that we are in for an era of rising prices and if the anticyclical weapons in the Governments' armoury are kept ready this cheerful period for the agriculturists may continue. The Takkavi loans of the Government under the 1883 and 1884 Acts and for Grow More Food Campaigns will also help the ryots in a small way.

FUTURE OF PRIVATE AGENCIES IN AGRICULTURAL CREDIT

(a) *Demand*

It is hazardous to venture any guess regarding the future role to be played by agencies which once accounted for over 90 per cent of rural credit. It can be stated that these agencies will have a lesser role to play in future even though the species may not become completely extinct. As the multipurpose and other irrigation projects are brought to fruition the vagaries of Indian agriculture associated with the monsoon will steadily diminish. With this will disappear the raison de'tre of moneylenders whose one justification for "live and let live" was the risk element in agriculture.

The economic condition of the ryots can be expected to improve due to a favourable parity price caused by deficit financing and the creation of employment opportunities leading to a lessening of pressure on land. Subsidiary industries—"second strings to the bow" of the peasants—are also receiving increasing attention from the Khadi and Village Industries Board, the All India Handloom Board and other Central Institutions. As these industries are resuscitated, the income potential of the rural family unit will increase leading to more of self-financing for cultivation operations and expenditure on maintenance of family.

Rationalisation of domestic expenditure may alter the hitherto gloomy picture portrayed by Sir Malcolm Darling and others regarding the wastefulness and extravagance of the peasants. Increasing adult education may lead to habits of thrifts especially in community project areas under the impact of social education organisers, and home economic guides. The canalisation of rural savings to productive local works as in the Manimuthar Project in the Tirunelveli district of Madras may lead to the reduction of surplus money to be wasted in the hands of agriculturists and also may lead to an appreciation of the role savings play in the economy.

Standardisation of produce and the increase in storage capacity associated with the construction of warehouses, the extension of regulated markets and Co-operative Sale Societies may increase the holding power of the peasants and reduce their dependence on the whims and fancies of brokers, commission agents, and indigenous bankers who form a league generally against the peasants. It is recognised that an improvement in the economic condition of the peasants alone can solve the problem of financing agriculture. No amount of debt legislation or regulation of private agencies can remedy the defects and at best it can only be a negative approach.

AGRICULTURAL CREDIT ENQUIRY IN CERTAIN VILLAGES IN COIMBATORE DISTRICT

S. No. 1	Name of the village 2	Taluk 3	Importance of moneylenders 4	Co-operative credit society in the locality 5
1	Kalikkanaickan-palayam	Coimbatore	15 moneylenders (cultivators) and 20 rich landlords who do not lend regularly	Co-operative credit society at Tondamuthur and Peelamedu Co-operative Land Mortgage Bank
2	Somayampalayam	,,	6 Moneylenders	Co-operative credit Society at Edayarpalayam (2 miles from the Village) and Peelamedu Co-operative Land Mortgage Bank
3	Vedapatti	,,	6 Moneylenders	Veerakeralam Co-operative Credit Society. Land Mortgage Bank, Peelamedu
4	Kullampalayam	Govichetti-palayam.	Very few	Village credit society, Gobichetti-palayam Weavers Co-operative Production and Sale Society Ltd., and Gobi Land Mortgage Bank
5	Kangayampalayam	Palladam	4 Widows and two Gounders Total indebtedness Rs. 20,000	Kangayampalayam Co-operative Credit Society, Land Mortgage Bank, Sulur
6	Mannarai	,,	A handful of Vellala naickers and chettiars in the village	Co-operative Credit Society Mannarai Tiruppur Co-operative Land Mortgage Bank
7	North Budinatham	Udamalpet	Money lenders in Udamalpet town	Udamalpet Land Mortgage Bank
8	Pukkulam	,,	A handful of gounders, naickers and Nattukottai Chettiars	Pukkulam Co-operative Credit Society. Udamalpet Land Mortgage Bank
9	Sinnakkampalayam	Dharapuram	A few gounders	Co-operative Credit Society
10	Kuppepalayam	Avanashi	A few rich landlords	Tiruppur Land Mortgage Bank and the Annur Co-operative Sale Society

(b) *Supply of Credit*

As pointed out earlier private agencies are seeking safer outlets for their funds which can be characterised as a "flight from agriculture". Owing to the air being thick with rumours of impending land reform legislation the attractiveness of agriculture as a repository for the idle funds of the richer sectors in the rural areas will diminish and the tendency to find a haven of refuge in other sectors can be expected to continue. Hitherto it was assumed that private agencies still have a part to play in the financing of agriculture but independent enquiries conducted in 10 villages of Coimbatore District seem to point to a slow disappearance of the private agencies and thus belie this view. "One swallow does not make a summer" nor do ten villages constitute more than an infinitesmal section of the Indian villages but the conclusion is there for whatever it is worth.

A trend in the financing of agriculture is the increasing institutionalisation of credit instead of private credit which has the rule hitherto. This has been shown by the role played by the Co-operative structure especially of the multipurpose variety and this can be expected to continue. Whether joint stock banks can play a greater role in the villages remains to be seen. Nevertheless the tendency noted above may lead to a gradual extinction of the personal basis of credit and the intimate relationship which characterised the moneylender—professional as well as non-professional and the peasants. Whether a tear need be shed at the atrophy of an ancient and familiar institution is open to question bearing in mind the malpractices and rapacity of many of the members of this body.

PRIVATE AGENCIES OF RURAL CREDIT IN ANDHRA

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In India, the moneylender who is supplying the bulk of agricultural finance, is acclaimed to be the most important and indispensable among the private agencies of rural credit. The Central Banking Enquiry Committee had asse ted that he is the only financing agency readily available to the agriculturists. The moneylender is thus an essential limb of Indian rural economy. He is by far easily accessible, more dependable (at times of emergencies) and his business methods, though nefarious, are yet simple. The personal contact of his, with kith and kin of the rural folk, enables him to accommodate even the uncreditworthy rural debtor without any tangible security. Though he is the 'fountain' of rural credit, everready at the disposal of the rural debtors, with winning sympathy till the loan is taken, yet his usurious rates of interest, his questionable practices and nefarious methods, his manipulation of accounts, his avarice to annex the land, his ways and means to evade the laws of the state have been so notorious that he is despised and looked down upon.

Either because of the legal sanction to restrain his avarice and curtail his activities or because he is looked down with contempt, it is seen from a study of village surveys in Andhra that the moneylender as defined in the moneylenders' acts is never met with in the rural parts of coastal Andhra. These pawn brokers may be plying their trade in urban areas and catering to the needs of the townsmen, the industrial proletariat and the bulk of the middle class. From the observations made it will be more apt to say that the moneylender of the type contemplated in these acts is rarely existent.

The term "Moneylender" is a wider one. In the villages studied that term connotes, not the "moneylenders by profession" but the agriculturist class, big and small, the business and trading class, pensioners and widows, and sometimes doctors and teachers who do lend money as a subsidiary means of occupation. These were not ostensibly labelling themselves as moneylenders and moneylending as their vocation but their business is always shrouded and secret. The professional moneylenders of the type of Kabulies, Multanis etc. have practically never been come across in the villages studied. Thus it can be safely assumed that none brand themselves as moneylenders and that these non-professional moneylenders are drawn mainly from the strata of the richer landowners and well to do agriculturists.

Borrowing from private creditors has certainly the advantages of secrecy, elasticity and quickness. Institutional credit on the other hand throws much light on the solvency of the borrower and commonly debtors fight shy to divulge their financial position lest they should run down in the esteem of the villagers. Private credit is usually elastic. Depending on the security offered and credit-worthiness of the borrower, the creditor is prone to advance more sums, unlike institutions which are always judicious and cautious in lending. They usually give a percentage of the value of the security as loans. In the land mortgage banks, it is often said, as a drawback, that the valuation on prewar basis and a percentage of such value advanced as loans, falls too short of the expectations of the borrower. Quite contrarily the moneylender is prepared to advance larger sums on the same security easily. Added to this, the quickness with which the business is done gives a decided advantage over institutional credit. It is seen that for sanction of loans by a village co-operative society it takes anything from two to three months and a land mortgage bank rarely within three months and mostly a year. The elaborate details and the protracted procedure involved in obtaining institutional credit, all the more drive the needy borrower to the doors of the private creditors, who advance loans quickly when once they are convinced of the solvency of their clientele.

The moneylending classes of the village though not confined to particular sects of the rural folk yet it could be perceived from a study of the villages in Coastal Andhra, the bulk of private lending is done by the rich agriculturist classes of Kammas and Kshatriyas in the Circars district and the Reddies or Kapus in the Rayalaseema Districts. In them is vested the majority of the landed property and they do the business of moneylending, as a source of diversion of surplus incomes earned and unearned by them.. The Banias or the trader castes (Vysias) rank next and the brahmins and others having only a minor share. The richer of these castes and sects have always been doing moneylending.

The savings of the agriculturists are usually found distributed as money lent to fellow agriculturists. It can be stated that even in the "deficit" industry of agriculture due to the rise in the price of agricultural produce, the "myth of rural prosperity" is after all true and on the whole the exchanges are favourable and a margin has been available for savings as seen from the statistics of Co-operative societies, reduction in the volume of rural debt and increase in the post office savings bank balances. Savings have been substantial in the delta areas of Krishna and Godavari and zones growing commercial crops like Tobacco, Turmeric, Chillies etc. Barring a few years of downward market trends as at present, the position of these commercial crop growers has been by far satisfactory. The savings have been offset by reduction in debts, repayment of prior debts, purchase of gold and silver ornaments, and improved agricultural equipment and improved conditions of land. A definite improvement in the standard of living and style can be noticed among the richer of the rural folk. There is also an increased participation of the bigger landlords in moneylending and trade. To them only the benefit of debt reduction has accrued and on them only, the incidence of direct taxation is less. Consequently their savings have found a safe investment in moneylending to fellow agriculturists, tenants, and landless labourers.

Business Methods

The agriculturist creditors do not have any methods of business, but thrive in questionable practices. Accounts are neither maintained nor furnished. Only in the case of scripts, they take care to see that they are not barred by limitation and renewed periodically if necessary. The questionable practices include the collection of interest in advance, understating of the rate of interest in the pronotes, man pulation of accounts depending on the illiteracy of the debtor, forced sale of produce to the creditor etc. The demand for "Katnams" and "memanus" i.e. advance deductions towards the interest and other charges is so keen that there is competition among the creditors. It is said in some villages that brokers mediate for getting loans with less deductions. Understating the rate of interest is mostly done. Forced sale due to financing by moneylenders is a condition with the trader-cum-moneylender. The creditor thus gets the double advantage of getting back the loan and getting produce at lower rates at harvest times. In most of the villages studied, forced sale was found to thrive.

Types of Loans

Four classes of loans were found in the villages. 1. Thakattu or mortgage loans. 2. Loans on promissory notes. 3. "Chebadulu" or hand loans. 4. "Jettis" or loans for agricultural purposes to be paid back in grain.

1. "Thakattu" or mortgage loans are mostly predominant. The bigger of the debtors show the security of land or other immovable property. These are done for amounts over rupees thousand. These are mostly for clearing their debts, purchase of houses or other property or construction of houses, payment of dowries which are very high among certain castes in Andhra. The property so mortgaged will provide the necessary insurance against the risk of losses. For loans of less amount, the pledge of gold or silver is insisted. The loans so advanced will vary from Rs. 200/- to Rs. 500/-. These loans are mostly meant for meeting domestic, educational and agricultural expenses of the debtor. The tenant cultivators are sometimes forced to borrow for payment of lease amounts. Such advances are also made for trade purposes. Usually the women folk are engaged in this line of business. This gives the debtors the secrecy of the transactions and the creditor the security required. Loans, on the pledge of produce, have been met with in the villages. The pledge is sometimes extended to big vessels, jewellery of small values and agricultural implements, if the sums to be advanced are small meant for minor adjustments in domestic expenditure.

2. *Loans on Promissory Notes :* These loans are mostly advanced with collateral securities, among land owning classes possessing the requisite reputation. They are not so common unless backed up by some form of tangible security. Loans are rarely given on mere pronotes, though it is commonly thought so. Only smaller amounts for short periods are made available at higher interest rates to creditworthy persons.'

3. *'Chebadulus' or Handloans :* This is said to be a common form of transaction between fellow agriculturists. All working expenses are mutually adjusted in this way. These are given and taken on trust and hence they are given without security for short periods. Usually no interest is charged, but if any interest is charged, the rate depends on the degree of relationship between the debtor and creditor.

4. 'Jettis' or loans for agricultural purposes to be paid back as grain. The duration of such loans is from four to six months. No security is asked for except that the produce should be sold to the creditor only usually at less than market rates. This is practically financing for forced sale.

Rates of Interest

The problem of interest rates is controversial as no fixed rates are usually scheduled, nor the rates at which the transactions are done, di.ulged. No generalisation can be made in this regard. But it can be categorically stated that a normal rate of interest of $6\frac{1}{4}$ per cent is not ordinarily met with. Even if so met with, the rates might have been understated. The rates of interests vary with the type of security offered, the purposes for which the loans are advanced, the period of such advances and the relationship between the creditor and the debtor. The presence of competing agencies also tells on the cost of credit. In the villages studied the following rates were prevalent.

(A) PERCENTAGE RATES OF INTEREST ACCORDING TO THE TYPE OF SECURITY

No.	Village	District	On Mortgage of land houses etc.	On pledge of gold etc.	On Promissory notes.	On hand loans.
1.	Chendurthi ..	East Godavary ..	10	12.5	12.5	15 to 16
2.	Madugula ..	Vizagapatam ..	6	12.0	15	12.5
3.	Gurujanapalle ..	East Godavary ..	6 to 8	6	12 to 25	20
4.	Ungutur ..	West Godavary	10	12	12.16	18
5.	Vuyyur	Krishna ..	8	$18\frac{3}{4}$	12.5	12.5
6.	Kaikaram ..	West Godavary	9 to 12	18	9 to 12	10
7.	Ravikampadu ..	Do.	9 to 12	18	24	7 to 10

(B) PERCENTAGE RATES OF INTEREST ACCORDING TO PURPOSES OF BORROWING

No.	Village	District	Domestic expenses	Agricultural Expenses	Business needs
1.	Throvagunta	Gurtur	9	9	12
2.	Challapalle	Krishna	9	9	15 to 18
3.	Nelapadu	Guntur	9	6	18
4.	Gudlavalleru	Krishna	9 to 10	9 to 12	10 to 12

(C) PERCENTAGE RATES OF INTEREST ACCORDING TO DISTRICT

No.	Village	District	Long Term	Short Term
1.	Phirangipuram	Guntur	8 to 10	12 to 19
2.	Zampani	Guntur	9	12

In some rare cases interests upto 85 per cent have been reported, depending on the urgency of the borrower. Mortage of land and other property, do get loans at lower rates of interest. Jewellery and other pledges rank next in the interest rates. Pronotes and handloans require higher rates to be paid. In the second category there seems to be no sharp differences in the interest rates for domestic and agricultural purposes. The business needs are usually charged a higher rate over the other two. Long term credit is charged at less rates than short term credit.

Repayments

The repayments though not punctual are being effected and creditors being mostly natives of the villages are careful to collect their dues during the harvest time. Especially during the marketing season of commercial crops like tobacco in Guntur District, the circulation of money is high when compared to the growing and curing seasons. All the borrowings are repaid soon after the produce is marketed. Gold pledges are redeemed and clearance of other debts is also undertaken. Forced sale of produce invariably involves the redemption of debts of the cultivator. Though the ryots have a bad reputation for dilatory and unpunctual habits, yet of late, there has been clearance of loans.

The need of the time

Though "a necessary evil" the private moneylender is quite essential and necessary for the easy flow of rural credit. The other, (institutional credit by the

Co-operative Societies) has touched one or two per cent of the population in the villages studied. The private creditor gives facile credit, not so judicious and cautious as with institutional credit. As the private creditor performs and plays a major role in agricultural production, he takes away a greater slice of the profits of agriculturist. Interest payment is made to him for risks of trade and not as pure profits. He is thus a vital part of Indian Rural Economy.

Often he is fettered by various legal sanctions and bound by many measures which, while restricting his usury, curtail his business and induce him to evade the laws. The various legislative measures like registration, licensing, maintenance and furnishing of periodical accounts, limiting interest charges etc., are meant to end him and not to mend him. Suggestions are offered for his compulsory enrolment as a member of Co-operative Society in the village, supervision and surprise audit of his accounts by a paid inspectorate and the unification of moneylender with the village banking system. These suggestions overlook the facts that such legislations and regulations have already driven a large number of moneylenders out of business and have encouraged them to resort to evasive practices, resulting in restricted and costlier credit, particularly to the smaller agriculturists. Nothing would be gained by thus depriving the majority of agriculturists even of the existing credit facilities long before alternative supply can be arranged. It would be imperative to examine the effects of such legislations and give adequate protection to the creditors and enable them to take interest in the recovery of the dues by sale of land or crops and not acquiring or holding the land.

The need of the time, is a more humane approach on the part of the creditor. He should not extract his pound of flesh and should realise that he is performing a noble obligation to the village community. As the purveyor of facile credit, he shall be modest in his demands and honest in his dealings. The creditor can also become a member of the village credit society and his deposits of surplus savings can be utilised for other needy members. Until such time alternative credit sources are adquately available and until such time they are able to compete with each other by offering credit at lower rates, these private agents of credit shall have to play their due role. As the attempts and methods to curb usurious lending by legislative restrictions in U.S.A. have revealed," a lasting solution to the problem of usury, lies in the availability of credit at competetive rates and the low rate lender, if his facilities are adequate or his terms constructive, can drive out the high rate lender."

The private creditor can better be mended by centralised control of moneylending, uniform throughout all states and making forced sale punishable as an offence. The Central Banking authorities can bring about a reduction in the rates of interests by judicious measures. Privileges should also be given to these private creditors as inducements to observe the legislative regulations. Remittance and recovery facilities for just dues may be made available. Above all, the Reserve Bank of India can successfully tackle the problems of private credits by stringent and sufficient sanctions.

INSTITUTIONALISING THE MONEYLENDER

Dr. S. B. Mahabal

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The moneylender to date remains the most important agency of rural credit, inspite of the growth of other forms of credit agencies like the co-operative organisations. The Davis Report on Rural Credit in India discloses, that according to the Reserve Bank's Survey, the private moneylenders, professional and others provided agricultural credit to the tune of 600 crores of rupees or as much as fourteen times of what the Co-operative agencies and Government sources did together in 1951-52.

The private moneylender is thus the main supplier of rural credit ; and judging from the pace of development of other credit agencies, bids fair to remain so in the forseeable future. We must give him the importance his position warrants and do nothing to discourage an honest moneylender in the pursuit of his business.

The moneylenders are a heterogenous lot ranging from a casual lender, and a Pathan moneylender to a well-established professional moneylender. The most important amongst these are the non-agriculturist professional moneylenders, the agriculturist professional moneylenders and the moneylenders-cum-traders. We might well confine our attention to the business of these classes.

The Moneylender Problem

The moneylender poses an economic problem on three accounts. It is alleged that the moneylender charges a high rate of interest, even disproportionately high in relation to the risk involved. Secondly it is alleged that many of the moneylenders indulge in unfair practices and frauds, and deceive the illi erate and gullible borrower. Thirdly it is alleged that the purpose of the moneylender is not to help the borrower in his need or to supply him productive credit, but to keep him in debt perpetually and work with a view to acquire the borrower's land and property by all means, fair and foul. It cannot, of course, be true that all moneylenders can be guilty of these offences. But many of them certainly are and thus require measures to safeguard the borrower-agriculturists.

In the past, in many States of India, legislative measures have been taken with a view to regulate the rates of interest charged by the moneylenders, to cause the maintenance of proper and fair accounts, to restrict the transfer of the borrower's land and property to the moneylenders, to modify the terms of contract of a loan in favour of the borrower and so on. We might conc de that these measures might have been effective to some extent. But it is equally clear that they have not provided any adequate answer to the problem of the evils of private moneylending. The private moneylender continues to be with us with all his evils though abated in intensity.

There was a time when it was believed that what was wrong with Indian agriculture was the rapacious moneylender. If only the agriculturist was freed from the clutches of the moneylender, it was fondly hoped that Indian agriculture would march to prosperity on its own inherent strength. This, of course, was an inverted view of the situation. It is curious that while the real shortcoming was the lack of capital investment in agriculture, the only source that could have supplied this capital and at any rate was supplying the 'deficit' finance was pilloried as the sole course of trouble. During the last twenty years, however, we have moved away from this stand and have increasingly realised that the private moneylender still plays a vital and useful role in the economics of Indian agriculture ; and it would be extremely imprudent to work towards his annihilation in the near future. What is required is that conditions should be created where honest and fair private moneylending may have full scope to operate and at the same time, dishonest and rapacious business of the moneylender should become extremely difficult and unremunerative, if not impossible.

Institutionalising the Moneylender

With this realisation coupled with the experience that mere legislative measures do not deliver the goods, the current trend of opinion is that means may be found to institutionalise the moneylenders' business. The Gadgil Committee preferred institutional credit to private personal credit and favoured the development of "as varied a system of institutional finance as possible for financing agriculture." Later Commissions and Committees tackling this question have in general echoed the same view. The latest Davis Report too suggests that "the possibility of developing private community institutions out of what in the past has been personal finance should be explored."

It is necessary at this stage to be clear to oneself as to how institutional form of moneylending would be free from the evils attendant on personal and private moneylending, what other objectives it can achieve and what consequently should be the basic features of such an institution.

The main evils of private and personal moneylending as noted above are (a) an unreasonably high rate of interest, (b) unfair practices and (c) lack of emphasis on productive credit. Can an institution formed by the moneylenders, merely because of the insitutional form, be a guarantee against these evils ? It can, of course, be expected that an institution required to keep accounts in a prescribed form will be more amenable to supervision and audit than the individual moneylender and the evil of unfair practices may be removed considerably. It may also be that there will be less temptation for and inclination on the part of men running an institution to indulge in unfair practices for the benefit of the institution as such. An institutional form of moneylending may therefore be a good improvement on the personal form, as far as the evil of unfair practices goes. In respect of the two other evils noted above, it is doubtful if institutionalising the moneylender would serve any useful purpose. Rates of interest may be brought down by three means ; firstly by building up a competing agency—preferably a co-operative one—supplying adequate finance at lower rates ; secondly by reducing the risk involved in moneylending and thirdly by legislative regulations. The first two methods are certainly very desirable and can be tried irrespective of whether the moneylenders are working individually or institutionally. The third method of legislative regulation has already been tried and found not fully effective. There is no reason to believe that it will be more effective with institutions than with individuals. The loophole in the legislative measure is that a moneylender can compel a needy borrower to pay a higher rate of interest in fact than is written in the document by deducting a sum at the time of making a loan. Institutionalised moneylenders would be still free to do so. As for the third evil of lack of emphasis on productive loans, institutionalised moneylenders would hardly make any difference simply because of the institutional form.

Thus it should be clear that giving an institutional form to the moneylenders' credit will have no appreciable effect in removing two of the three main defects of private and personal moneylending. The rates of interest, if they are disproportionately high in relation to the risk involved in agricultural moneylending can be brought down only by developing other competing sources of agricultural credit ; and there are no two opinions about the advisability of developing the co-operative form of credit. In the new set up, attempts are also being made to increase the productivity of agriculture and make it remunerative. The sub-marginal cultivators are sought to be helped towards remunerative agriculture. As these efforts will bear fruit, the risk involved in agricultural moneylending will decline and consequently the rates of interest may tend to decline. The attempt to bring down the rates of interest must therefore proceed on these lines. Legislative measures have not in the past been fully effective in preventing the rates of interest being higher than the prescribed minimum. An institutional form, by itself, will not be able to do the trick in future. The emphasis on productive credit too will develop with the development of co-operative form of credit and in an atmosphere of increasing agricultural prosperity.

To criticise the institutional form in this way is not, of course, to say that it will be altogether useless. It has been already said that it will help in checking the malpractices. It will also be useful as a connecting link between the moneylenders and the higher institutions of organised credit, including the Reserve Bank of India. The prospects of such an institution developing as a rural bank are also promising. In the Five Year Plans also, institutions of moneylenders may be able to play a useful role. It may therefore be desirable to develop institutional forms for moneylenders' credit, without expecting that they will be an answer to all the present evils of personal moneylending.

Measures for Promotion

To lay down any precise form for the moneylenders' institution would be less than useless. According to local conditions, material and human, such institutions must take various forms. One of the forms can be that in a certain area moneylenders might form a joint-stock limited liability institution. The member moneylenders may work as agents of the institution in their own areas on commission basis. All documents may be in the name of the institution, which also may keep accounts and furnish receipts. Payments by the borrowers should be made at the institution's office, so also the disbursement of loan moneys to the borrowers. The institution may be allowed to accept deposits and to borrow money from other sources. The member moneylenders may be prohibited from doing moneylending business of their own.

The above are the features of one type of institution that may be developed. As has been stated above, such forms may be many ; and it must be left to the ingenuity of the moneylenders themselves to conceive forms suitable to them. The next question, however, is what measures the states might take to develop such institutions. It is beyond question that there can be no compulsion on moneylenders to form such institutions. It would also be unwise to ban personal moneylending by law. What the State, however can do is to induce the formation of such institutions by bestowing certain privileges and preferences on them. Concessions in stamp duties, preferences to the institution's claims in proceedings in Law Courts, the help of Government's revenue officials in the matter of recoveries of dues from the institution's borrowers etc. may go a long way in inducing the moneylenders in organising such institutions.

ROLE OF PRIVATE AGENCIES IN PROVIDING AGRICULTURAL CREDIT IN THE BOMBAY KARNATAK

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The chief object of this paper is to assess :

(*i*) the role played by the private agencies in the past and present in providing agricultural credit, and

(*ii*) the effectiveness of Government measures to provide agricultural credit and to regulate the business of moneylending in the districts of Bombay Karnatak.

Moneylending is one of the oldest businesses in this part as elsewhere in India. In the past the private agencies played a most significant role and in fact monopolised the whole business till the Government came forth with measures to restrict and to regulate their activities. The chief private agencies which provide agricultural credit in this part are the village moneylenders and the general commission agents. Much has been said in the various enquiry committee reports about the activities of the private agencies, their methods of business, usury, and the various malpractices associated with them. There cannot be two opinions with regard to the need for finding out suitable agencies to provide cheap, easy and adequate credit to the agriculturists and to regulate their dealings in the interest of the improvident borrower.

Before dealing with the measures adopted by Government it is worthwhile to assess the extent of the need for credit and the role the private agencies have been able to play. The Bombay Provincial Enquiry Committee during the course of their enquiry, in 1928, in the three natural zones of the Dharwar district, *viz.* the Malnad, the transition and the black soil tracts, have found that 76.6 per cent of the agriculturists borrowed money, most of which was provided by private agencies. With a view to finding out the number of persons who borrowed money during the period of war and after, an enquiry was conducted in 10 villages of the Dharwar district. This enquiry revealed that out of 727 cultivators 401, *i.e.* 56.3 per cent of the cultivators borrowed money from outside agencies and that 64.8 per cent of them derived their credit from private agencies and the remaining 35.2 per cent from Government sponsored agencies and the borrowings for every borrowed family from the respective agencies were Rs. 246 and Rs. 133 respectively. These facts show that the private agencies still play an important role.

With the object of providing agricultural credit at a reasonable rate of interest, co-operative credit organisations have been established throughout the country. It is needless to point out that the co-operative movement first took its root in the soils of Bombay Karnatak. The first co-operative credit society was organised at Kanginahal in Dharwar district. The progress achieved by the co-operative movement in the area is remarkable. On 30th June 1952 there were 2,863 co-operative societies with 3,37,605 membership and a total working capital of Rs. 10,23,61,111. Of these, 1878 were agricultural credit societies which include 463 multipurpose societies. The membership of the agricultural credit societies stood at 1,10,468 and that of multipurpose societies at 50,456. The Bombay Karnatak consists of 4 districts. The total population of these 4 districts comes to 52,16,259. Out of this 29,21,104 agricultural population forms 56 per cent of the total population. Taking on an average 5 members per family this population works out to 5,86,221 agricultural families in Karnatak. Calculating the credit requirements at Rs. 300 per family as suggested by the Nanavati Committee, the total requirement of credit would be Rs. 17,58, 66,300 but looking to the resources available at the disposal of the co-operative banks and agricultural credit societies, we find that the maximum credit they can provide is upto Rs. 3,87,79,410 which is merely 22 per cent of the total credit requirements of the agriculturists in the area. Another agency providing credit to agriculturists is Government. The Government advances in the year 1952-53 in the form of Takavi loans stood at Rs. 47,11,389. Thus the total amount of credit that the public agencies can provide comes to Rs. 4,34,90,799 which is quite meagre as compared to the total credit requirements. It is thus evident that the remaining credit requirements must be met by the private agencies unless the Government or the Reserve Bank comes forth with liberal finances, which under the present circumstances is well-nigh impossible. It can therefore be seen that the private agencies have still to play their own role even in the near future.

Another significant measure taken by the Bombay Government has been to regulate the business of moneylending by passing an Act known as Bombay Money-Lenders' Act. Among other provisions the act requires the moneylenders to possess a license for doing the business of moneylending. There is provision to fix the rate of interest charged by the moneylenders. The moneylender has to keep the account in the prescribed forms and is liable to punishment for any breach of the provisions of the Act. The Act is in operation since 1946 and is administered by the Registrar General of Moneylenders and Registrars and Assistant Registrars of Moneylenders. The responsibility for the general administration of the Act devolves on the Registrar of Co-operative Societies who has been appointed as Registrar General of Moneylenders under the Act. The Personal

Assistants to the Collector and the Mamlatdars and Mahalkaries perform the functions of the Registrars and Assistant Registrars of Moneylenders respectively, within the area under their jurisdiction except in Hubli City where a fulltime Officer has been appointed. But there is no special supervisory staff appointed for the administration of the Act.

The total number of moneylenders holding valid licenses in the Bombay State as on 31st July 1953 was 15,865 and the figure for Bombay Karnatak was 733. There are in all 5,737 villages in the Bombay Karnatak. Even a casual enquiry reveals that there is at least one moneylender in each village, which means that there ought to be over 5,000 licence holders. These facts go to prove that nearly 85 per cent of the moneylenders have not come into the fold of the Moneylenders' Act and are carrying on their business without proper authorisation.

The various committees appointed from time to time have stressed the need for the regulation of the business of moneylending and some of the committees which have inquired into the working of the Act have stated that there has been contraction of credit in rural areas as a result of the enforcement of the Money-Lenders' Act. But our enquiries prove contrary. There was, of course, apparent contraction of credit soon after the promulgation of the Act. But the money-lenders have not been slow to find out the loop-holes in the act and its administration. They have been advancing liberally as before but the methods followed by them are different. Taking interest at the rates higher than the one prescribed by the Act is not uncommon. But the same is received in cash and is not accounted for in the books. As is revealed in the annual report on the Administration of the Act for the year 1952-53, it has not been possible to institute proceedings against persons carrying on illicit trade in moneylending due to absence of an independent administrative machinery. Most of the prosecution cases launched are for breaches of the Moneylenders' Act which came to light during summary inquiries into application of licences. Some other cases came to the notice of the officers during enquiries into complaints made by the debtors to the Departmental Officers. There is also a mention of the fact that the moneylenders are resorting to a number of subterfuges in evading the provisions of the law. The instances as these reveal the fact that there is not only a need to enforce the act by appointing a special staff, but also to organise and mould them to suit the new requirements of the country.

In the end it may be stated that the private agencies have continued to play an important role inspite of various measures adopted by the Government from time to time. They will continue to hold the field so long as the measures taken by the Government are inadequate. A resume of the measures taken by the Government to provide agricultural credit and to regulate the business of money-lending leads to the inevitable conclusions that the agricultural co-operative credit societies have not been able to meet adequately the credit requirements of the agriculturists and that the response to the Moneylenders' Act is meagre owing to various reasons already enumerated. The measures adopted by Government only serve as palliatives. What is needed is a basic cure—a multilateral approach to the rural problem and the re-organisation of the whole of the rural economy.

DISCUSSIONS

*Dr. D. S. Chauhan**

The problem of agricultural debt and rural credit is stupendous. Sometimes one wonders whether this problem can at all be solved. In the light of attempts made in foreign countries, I feel that at least the problem of rural credit can be solved. Research on the subject carried out by us in U.P. brought out some interesting results. The issue is fairly simple where credit is associated with the volume of agricultural activity. It is, however, extremely difficult to deal with the problems of rural credit created by agricultural hazards. A study of the case history extending to 25 to 40 years of two artisans and a cultivator did not reveal any specific causes of indebtedness. It appears to my mind that generally in regard to the very badly involved cases there is something which cannot be explained by the normal economic behaviour, something we can call a succession of unfortunate events, just as these three families which could not repay their debts over a long period were frequently affected by agricultural hazards and other accidents during the period under review. With regard to the relation of the available credit needs of the farmers to credit supplies, I found that the gaps were much less where the extent of credit supplied by the village moneylender was considerable. The gap was, however, greater where both the institutional credit and the village moneylender's finance were available to the cultivator to draw upon. Lastly I also feel that since the immediate problem is more of reorganisation of the existing credit than of substituting the village moneylender completely by an alternative agency I am, therefore, not inclined to favour drastic measures to control the business of private moneylending.

*Prof. K. M. Mukerji***

I am speaking of both pre-partitioned Bengal as well as of West Bengal in particular and India in general. In Bengal a variety of people practice moneylending. They may be licenced or unlicenced, professional, non-professional and agriculturists-moneylenders, traders, shop-keepers and friends and relatives. According to one estimate in the pre-partitioned Bengal there were 5,000 licenced moneylenders. In West Bengal, roughly from 2,000 to 3,000 moneylenders may be licenced. Although the moneylender has got to hold a licence, it appears that a large number of them who are unlicenced pursue moneylending informally. If their loans are to serve as an index, the moneylenders perform a useful function. According to the All-India Rural Credit Survey, about 75 per cent of the credit needs of the cultivators are met by the moneylenders. However, the high rates of interest charged by the moneylenders and fraud and bond slaving are illustrations of the cost of private finance and the severe handicaps to the peasantry. Laws such as the Moneylenders' Act and the Debt Conciliation Acts have been enacted to counter these bad practices. Under the Bengal Agricultural Debtors Act, 1935, as many as 34 lakhs of applications were received by about 4,000 Debt Settlement Boards set up throughout Bengal and about 29 lakhs of applications were disposed of including 13 lakhs awarded which (latter) involved a total debt of Rs. 52 crores ; this debt was scaled down to

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Rs. 19 crores or by 63.5 per cent by March, 1945. Thus, 5 lakhs of applications were then pending. The consequence this was of that the moneylender went underground and would lend to only known borrowers who enjoyed his confidence. The finance available to the agriculturists shrunk. In my opinion, this is true of the country as a whole. We cannot, therefore, ignore the moneylender. The picture to-day is that out of the estimated total rural credit needs of Rs. 750 crores per annum, Government supplies only 3.3 per cent and the co-operatives 3.1 per cent bringing the share of institutional finance to only 6.4 per cent. The integrated credit sturcture envisaged in the All-India Credit Survey Report will take time to evolve and to take over bulk of the functions of the private financing agencies. My suggestion for the transition which is likely to be fairly long is to open branches of the Government sponsored State and Co-operative Banks in the strategic rural areas with a view to financing the cultivators. In the initial phases these agencies might expand institutional credit supply from the existing Rs. 40 to Rs. 50 crores to, say Rs. 200 crores roughly, thus raising its proportion to over 25 per cent of the estimated total annual credit needs of Indian agriculturists. If the new integrated institutional finance located in strategic areas can do this, it will impart a healthy influence on the interest rates and practices of the moneylenders. In fairness to the private finance, it will, however, be agreed that the present rates of interest in Bengal of 10 per cent on secured and 12½ per cent on unsecured moneylenders' loans permitted by law are obviously unfair in the face of rates of 19 per cent to 22 per cent charged by the Co-operative Agencies. The moneylenders may be licensed and stringent regulations imposed on the practices after giving them a fair deal in the form of reasonable rates of interest on their lending. If this could be achieved in the next five years, we would have taken a big step forward towards regulating and controlling the moneylender and fruitfully utilizing private finance which yet occupies a significant place in rural credit.

*Prof. M. L. Dantwala**

I want to make only a very brief point. My submission is that the whole question of the place of private agency in rural credit must be considered in relation to two very disinct classes of borrowers, the creditworthy and the non-creditworthy. My second suggestion is that the policy in this regard should be to shift the private agencies from the non-creditworthy sector to the creditworthy sector. My reasons for suggesting this is that any agency, private or public, which tries to finance the sub-marginal farmer, has only two alternatives: to become usurious or get bankrupt. If it is a private agency it is bound to be usurious ; if it is a public agency it is likely to suffer losses. The point then is : Who is to bear this incidence of an admittedly unsound position ? Formerly, the institutional agencies did not help the sub-marginal farmer and the incidence was borne by the farmer himself. My suggestion is that this incidence should be borne partly by the individual and partly by the State. Even if the co-operative agency undertakes to finance a sub-marginal farmer, it will involve an element of subsidy for the transitional period of rehabilitation. This subsidy would mean that the deficit will be made up from the general revenue, and the community will, to some extent, share the misfortune of the uncreditworthy farmers. When the private agency is sub-

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stituted by the public agency what happens is that the community agrees to share to some extent the losses involved in the unremunerative financing of the non-creditworthy sector of the peasantry, with a view to putting him on a sounder basis, as a part of the process of rehabilitation and development of the agrarian economy.

*Dr. N. S. R. Sastry**

I want to clear possible misconceptions about the statistical estimates given by my colleague, Dr. S. G. Madiman. We were interested in studying only the patterns. Our experience of the All-India Rural Credit Survey confirms the findings of some of the friends who spoke on the subject. We, who were associated with the All-India Survey were not more successful in getting quantitative information from private credit agencies. The sampling procedure in the investigation of 600 villages was evolved more to avoid bias in sampling rather than to get any precise estimates. We found that only in 231 out of 600 villages people interviewed were prepared to declare themselves as moneylenders ; and we were able to collect information for about 622 moneylenders. We approached the urban moneylenders also. We covered about 375 taluka and district headquarters and contacted about 3,000 moneylenders. We also contacted about 200 indigenous bankers. From this limited coverage, only broad conclusions can be drawn. The results in the All-India Rural Credit Survey in regard to moneylenders and indigenous bankers thus relate to those who supplied the information and no attempt is made to generalise for all the moneylenders and indigenous bankers in the whole country. I am glad to find that the experience of Prof. Agarwal who has contributed a paper is in broad agreement with our experience. For private credit agencies such as traders and moneylenders, instead of using detailed schedules for eliciting quantitative data, we only asked general questions to elicit qualitative information. For quantitative information collected from rural families calculation of estimates and their probable errors has been attempted for the future guidance of those interested in sampling. More experience, however, has to be gained through more work before we can recommend proper sampling procedures.

Shri B. L. Agarwal†

As a student of Agricultural Economics and as one interested in the study of problems of agricultural credit, I wish to put before you my thoughts on the subject. In the early eighties Takavi Land Improvement and Agricultural Loans Acts were passed to meet the credit needs of the farmers in India. Unfortunately, even after 75 years, these and other efforts have not made the moneylender redundant in the field of rural finance. Legislation has been passed from time to time to restrict the obnoxious and undersirable activities of the moneylender, but no effort has been made to change the psychology of the moneylender and channel his resources in the right direction. There will be certain good and bad points in private financing just as there are drawbacks in the co-operative system which are responsible for the present state of affairs.

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I am working on the problem of agricultural co-operatives, and I hope that by the next Conference I will be able to give some results. In the U.P. a large number of credit societies were converted into multi-purpose societies since 1939-40. But their complexion did not change. It is not possible to achieve reorganisation of the movement by a stroke of pen. Less than one per cent of the reconstituted credit societies had really become multi-purpose. Even the authorities concerned frankly admitted that the societies are multi-purpose in name but are working as credit primaries only. No statistical studies have been made so far. There is no data, for instance, about the classes from which membership has risen, types of cultivators, size of their holdings and their economic groups who have been most attracted to the credit agencies and which section or sections have received the bulk of the assistance. From the survey of 2 or 3 societies, I found that it is the richer holders largely who appropriated the benefits because the administrators of the societies were from good families with certain influence. It is therefore, at this point, that the moneylender enters rural finance and helps the cultivator. The village shopkeeper finances most of the needs of the cultivators only to be sure of securing their harvests. I therefore submit that instead of legislating against the moneylenders, all the institutional finance should be channelled through co-operatives to replace the village shopkeeper and the *Beopari.* Services of the co-operative societies should be made attractive as to make moneylender's credit redundant. If once this stage is reached, the problem will be solved. The moneylenders will then have to think of the investment of their idle money. And at that stage they may easily be persuaded to deposit their surplus funds with the society at reasonable rates of interest and the amounts collected in this way will flow to finance the peasantry.

*Prof. S. A. Sherlekar**

The moneylender is being licensed and registered at present, but in most cases the legal provision is not strictly enforced. This can be done by measures such as keeping legal recourse for recovery of loans open to such licenceholders only. The moneylenders may also be induced to form themselves into limited liability partnerships. This arrangement will automatically lead to the maintenance of systematic accounts and evolution of wholesome practices. For the provision of long-term finance for the agriculturists, I would also favour the creation of Agricultural Development Corporation on lines more or less similar to the Industrial Finance Corporation. At present, except in a couple of States such as Bombay and Madras effective land mortgage credit agency does not exist. This will also leave the proposed State Bank of India in conjunction with the Co-operative banks free to meet the bulk of the short-term credit needs.

The President

We have already exceeded the time limit set for closing down by 15 minutes, that we have actually closed down so much in time is entirely due to the hearty co-operation of members in my extremely restrictive activities. I do not propose to summarise the discussions. Rural credit is a very large subject. The All-

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India Rural Credit Survey with which I was closely connected will give you a considerable quantity of material on it. Most of the constituent elements of credit are well known. Private moneylenders are the most important agencies today. That they are non-discriminating and give loans for all kinds of purposes can be taken for granted. That they cannot be made an agency for discriminating canalisation of rural credit is also a fact. That existing experience of legislation on all kinds of activities especially those which relate to a small dispersed agency like moneylenders makes it quite clear that in their ranks it is impossible to separate the sheep from the goats. It is impossible to operate effectively stringent regulations. If you legislate fairly stringently, the moneylenders will evade regulations and at the other extreme, if you say that they will all be registered and allowed to charge say 25 per cent then it becomes doubtful whether there is really any point in regulating them. The very fact that the moneylender does his business secretly and he is always available for any type of accommodation, makes it impossible for the Government to regulate him. It is the advantages of the moneyending agency that make proper legislation impossible ; so that the only thing to do is to provide an alternative agency. I do not suppose that anybody with any sense of realism suggests the abolition of the moneylender or that anything drastic be done him. There is no point in attempting anything drastic. All that you can do is to provide an alternative agency. What you really have to do is to find out in what variety of ways that alternative agency can serve. That alternative agency cannot be personal like the moneylender. So you have to frame a diversified institutional framework so as to serve different strata for different purposes including the so-called non-productive expenses. Consumption expenditure being understood as a very important factor in the situation some provision has to be made for financing it. This is really a very complicated problem. In the Rural Credit Survey Report, we have tried to tackle it and I believe next year we will be able to discuss the subject of the reorganisation of rural credit more fully.

Dr. Sastri's comments may have given the impression to those not acquainted with the Rural Credit Survey that there was a very large element of non-response in it. This was not so. Where the cultivators were concerned, there was almost no element of non-response as such. On the private moneylending side there was occasional non-response in two senses of the word. From the ordinary moneylender, the trader and the commission agent there was no actual non-response in the sense of denying being a trader or a moneylender. But quite obviously the more searching type of questions were not fully or explicitly answered. Thus non-response affected only a part of that questionnaire. There was vagueness or in some cases very definite mis-statements also, but this was specially so when we tried to distinguish the indigenous banker from the rest of moneylenders. The indigenous banker is a very vague description and he is very difficult to identify. We made a number of attempts at identifying and getting at him. Here non-response was the greatest. It was the indigenous banker who very definitely refused to give information and more than anywhere else gave obviously wrong information relating to such things as deposits, rates of interest, resouces, etc. Dr. Sastri's exposition of the subject I thought may give you an idea that there was a very large element of non-response generally in the survey. That is not quite so. Not that Dr. Sastri said anything which was wrong. I merely felt that without the full background supplied by me people may not carry a correct impression.

This is the end and I have now got nothing else to do but to thank members for the great courtesy they have shown to me and for their very valuable co-operation. I think it was made very clear by the way people made their points, that even in 5 minutes you could really say quite a lot if you attempted to put things briefly. I think here, as in a number of other spheres, a little discipline increases the efficiency a great deal. You put me in the very responsible position of exercising that measure of discipline here and your co-operation in that behalf was of the utmost use in making the discussions useful.

ECONOMIC ASPECTS OF LAND DEVELOPMENT IN RIVER VALLEY PROJECTS

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Some General Considerations

Modern scientific land management aims at a threefold objective : to put every piece of land to the use for which it is best fitted ; to get as much output and income as possible from such use ; and to attain both on a sustained-yield basis, for which the productivity of land has to be built up and maintained at a high level. The aim, as has been neatly summed up, is to achieve maximum *Protection, Production* and *Profit.*

This general satement of objectives of course holds good for *all* lands, no matter where they are located. Why, then, should we isolate the land development problems in our river valley projects and consider them as a separate category? For this there are some good reasons. These projects not only offer greater opportunities, but also create greater urgency for wide application of modern land-use methods.

First, there is the problem of protecting the storage reservoirs. A multipurpose dam costs crores of rupees. This is an investment in *water*—it is the acre-feet of water stored behind the dam that gives us flood control in the rainy season and enables us to generate power, to irrigate lands and to derive a number of other valuable ancillary benefits. But this heavy investment will be buried in *sands* in proportion as the erosion of lands in the catchment area is allowed to go unchecked, bringing down heavy loads of silt into the reservoirs. Where erosion is already serious, as is the case in most of our river valleys, this silting-up can proceed at an alarming rate.

Where we build a dam on a river, we must, as a corollary to it, introduce extensive soil conservation measures in the catchment area. The two should proceed side by side. If we neglect the corollary, we shall end by shortening the life of the reservoir and thereby reduce the long-term benefit to be derived from the large capital outlay.

Second, with proper conservation practices a good part of the rainfall can be absorbed by the lands in the catchment area. In other words, the land itself can be made to serve as a storage. The advantages of this are obvious : it retards the run-off, which helps flood control and thereby reduces the need for flood control storage in the reservoirs ; it adds to the dry-weather flow which increases the firm power as well as year-round irrigation ; the desilted water gives us a clearer stream; the moisture retained in the soil lengthens the crop-growing season in the uplands.

The writer served the Damodar Scheme from July 1946 to June 1954 first as Secretary to the Damodar Valley Project, and then as Secretary to the Damodar Valley Corporation after the Corporation was established in June 1948.

Third, every effort must be made to utilise the irrigation facilities provided by a river valley project to the fullest possible extent and with the shortest possible time-lag. Only then can we earn the biggest dividend, both as revenue and as extra wealth, on the large amounts of capital invested in such a project.

Lastly, a river valley project creates greater opportunities, especially through the abundant supply of relatively cheap power, for processing the raw materials of the region, while the irrigation provided by it makes it possible to raise a wider range of crops with improved yield per acre. This opens up new possibilities for increasing the production of wealth in the region through an integrated development of agriculture and the processing industries.

From what has been said above it is clear that the land-use pattern cannot be the same for the whole river valley. In the upper catchment area which necessarily consists of hilly tracts with steep slopes, the emphasis must be on soil and water conservation measures with forestry occupying a pivotal position, while proper land-use in such areas also points to the need for developing dairy farming. The lower catchment area, on the other hand, consists of more level lands which lend themselves more readily to the cultivation of foodgrains and other agricultural crops while in the low-lying lands special attention has to be paid frequently to adequate drainage.

Let us now turn to the practical application of the principles we have mentioned above. By way of illustrating the nature of the problems we shall take the case of the Damodar Valley. It goes without saying that what is said here for this project will apply, to a large extent, to our other river valley projects as well.

Land-Use Problems in the Damodar Valley

The First Phase of the Damodar Scheme which includes four multi-purpose dams located respectively at Tilaiya, Konar, Maithon and Panchet Hill, will, on their completion, provide irrigation to 1,026,000 acres in the *kharif* season ; in addition, on a conservative estimate 300,000 acres will be serviced with *rabi* irrigation. Practically the whole of this irrigation will be in the Lower Valley below the Durgapur barrage. Why ?

The question posed here represented one of the major hurdles which had to be negotiated in 1946-47 before we could obtain agreement among the three Governments to proceed with the implementation of the Damodar Scheme. Bihar not only wanted irrigation within her province, at one stage she went so far as to claim the first priority on all the stored water. Yet facts and logic pointed in the opposite direction. The Upper Valley, or Chota Nagpur, is full of ups and downs—cost of irrigation canals would be prohibitive ; all the more so as the quality of the land is poor. In other words, large-scale flow irrigation was ruled out by the contours of the land. To this had to be added another factor: irrigation, if provided in Bihar on a substantial scale, would seriously cut into the power revenue of the project. The water stored in the upper reservoirs was intended to be re-used for power generation at the lower dams. Its diversion for irrigation would involve sacrifice of power, which is the most paying partner in a multi-purpose project.

The economic picture would look quite different if irrigation were concentrated in the Lower Valley. Each cusec of water brought down to Bengal would generate two to five times more power varying according to the further heads that could be developed down the stream ; grow about 50 per cent more food and other crops because of the much higher fertility of the soil ; reduce the cost of irrigation because canals could be constructed at a much lower capital expenditure ; also increase the dry weather flow in the river, which, among other things, would help navigation.

The facts were clear enough, but it needed a good deal of patient persuasion before agreement could be finally reached. In the end it was decided that an attempt should be made to provide *kharif* irrigation to one lakh acres of land in Bihar from the 8-dam Damodar Scheme. Later investigations showed that in the First Phase at best 12,000 acres of land could be irrigated, and even that now looks doubtful.

The emphasis laid on irrigation in Bihar was natural since in Indian conditions irrigation is usually looked upon as the first essential pre-requisite for all agricultural improvement. Yet the fact remains that in the hilly areas the problem of moisture supply has to be tackled through other methods. TVA, as is well known, does not provide any irrigation, yet it has brought about a vast improvement in the agriculture of the Tennessee Valley by patiently and tenaciously propagating conservation methods of farming. Similarly, what matters in Chota Nagpur is not that its land should be irrigated, but that it should be so developed and utilised as to yield a far higher return than what the cultivator now earns by growing one indifferent paddy crop in the year.

Much of the land in Chota Nagpur is at present badly eroded, as is borne out by the presence of innumerable gullies. Sheet erosion, too, is a common occurrence. The silt-laden water that surges down the Damodar river during the monsoon bears ample testimony to the prevalence of extensive erosion in its upper catchment area. As a result of the heavy annual loss of the top-soil, agriculture here is now exposed to a continuous drain. Desiccation of land, an inevitable concomitant of long-standing erosion, is in an advanced state in many places of Chota Nagpur. The water-table, too, has gone down. This coupled with the topography of the area accelerates the run-off of the rain-water, which in its turn aggravates erosion, and so the vicious circle goes on. In such a situation surface irrigation for growing crops like paddy is not the right answer. The treatment must be more comprehensive, and also more radical. It must take adequate account of the deeper causes mentioned above if the impoverished land is to be restored to a healthy state.

The task, broadly speaking, is to introduce a system of correct cropping and land management. This of course implies that the existing gullies should be healed. It further implies that the land should be provided with a cover that would be both protective and productive, whether crops or trees or grass. The higher the soil-holding and soil-building capacity of this cover, the better. Consequently, leguminous crops or plants with a high degree of moisture-tenta ive capacity deserve high preference inasmuch as by fixing nitrogen in the soil and holding much of the rain where it drops, they can substantially assist in building up soil fertility. Crops must, however, be selected with an eye not only to their effects on soil, but also to the return from land, to satisfy the three P's we mentioned at the outset. The crux of scientific land management lies in selecting and growing crops, in appropriate rotation where necessary, so as to build up and maintain the fertility of the soil at a high level, while extracting the highest feasible return, both now and in the future.

There can be little doubt that the cultivation of paddy in Chota Nagpur area on its present scale is the result, not of scientific thought, but of economic necessity. The pressure of population has impelled the cultivator to grow food crops wherever feasible, irrespective of the income they yield or the effects they produce on the soil. Extensive paddy cultivation in these tracts do not conform to our 3-P principle because : paddy plants cannot sufficiently check erosion of lands with pronounced slopes, although it is mitigated by careful terracing ; paddy is a "feeder" crop so that, by growing it year after year, the cultivator mines the fertility of the soil without putting much back into it ; the output per acre does not, on an average, exceed 10 to 12 mds., which is too low to be considered an economic return.

All this points to the need for a basic re-planning of the present pattern of agriculture in the Upper Valley. Much of this land is ideally suited for forests while there are solid reasons why the proportion of forest lands in this part of the country should be raised much above its present level. First, the area now under forests in Bihar is much too low ; the proportion of State-owned "merchantable" forests is barely 2 per cent of the State area ; another 12 per cent, it is true, is under privately owned forests, but most of it is classed as "unprofitable or inaccessible." The private forests, according to Sir Herbert Howard, the late Inspector General of Forests, are practically useless and "cannot be reckoned as part of the forests of India." As against this, his recommendation was that the minimum area of properly managed forests in India should be 20 to 25 per cent of the total land area.

Second, in places like the upper catchment areas of the Damodar only an effective forest cover can hold the soil and the rain, and thereby minimise erosion and mitigate floods.

Third, in recent years owing to the reckless destruction of uncontrolled forests, the potential sources of timber supply have seriously suffered. The demand for timber, on the other hand, is definitely on the increase and will almost certainly receive a further stimulus from the future industrial development of the country. Since the proper establishment of timber-producing forests may easily take one whole generation, measures for extending forest lands should not be further delayed if the long-term gap between demand and supply is not to become too wide.

And fourth, there is the well-known problem of preventing the appalling loss resulting from the large-scale burning of cowdung. As early as the nineties Dr. Voelcker had drawn pointed attention to the urgency of establishing village forests which would supply enough fuel wood to enable the cultivator to use cowdung as a manure rather than as fuel. During the intervening decades things have gone from bad to worse so that the urgency of acting up to Dr. Voelcker's recommendation has greatly increased. As Sir Herbert Howard rightly stressed, the crux of the problem of forest development in India is to meet the demand of her vast rural population for small ho se-building timber, agricultural timber and fuel. For if the peasant is "given his supplies of small timber and fuel in his immediate neighbourhood, the fields could be given the easiest and cheapest manure available and a generally increased prosperity would be the result."

The economics of forestry deserves much closer attention than it has hitherto received. The question of output and income is no less relevant to forest lands than to areas under agricultural crops. Much will depend on the quality of forest management. Trees should be carefully selected with an eye to the value of the produce, whether timber or fuel, as well as to the rate at which they grow. Quick-growing varieties would be particularly suitable for fuel production. The rate of felling and replacement has to be worked out with care so as to avoid both overfelling and overstocking, and thereby to ensure steady and reasonable return. While cattle must be kept away from young forests, these can, with proper management, produce good grazing, once the forests are well established. The grazing value of forest lands can be greatly enhanced, if continuous grazing is replaced by a properly regulated one. It should also be possible to grow trees which, in addition to holding the soil and giving timber and fuel, will yield crops edible by man or cattle. TVA made some promising experiments with tree crops that would supply feed for the livestock. On steephill land such crops produced as much stock food per acre as corn. And lastly, the income from forests can be further increased if the possibilities of what are called "minor forest products" are properly developed and exploited.

Cultivation of industrial raw materials together with local processing may open up new avenues of employment and valuable sources of income for the local people. With properly developed forests, wood industries of various types should have good prospects in the area ; much of the land is well suited for mulberry cultivation, which could make the establishment of a silk industry a practicable proposition ; an extension of lac cultivation ought to prove economically feasible ; bamboos seem to do well in this area—in view of their economic value to the rural people as fencing or building material, it may be worthwhile to put a sizeable area under this crop ; paper industry seems to have a good scope and there should be no difficulty about the raw material if wood and bamboo are produced in sufficient quantities, and in any case grasses like saboi could be locally produced without difficulty.

With an abundant supply of power that has been made available by the DVC, a whole series of processing industries may be developed in Chota Nagpur. Agriculture will benefit and also facilitate the industrial development of the region, if its production is so adjusted in future as to meet the industry's requirement for a widening range of essential raw materials.

There are numerous patches of fairly flat and reasonably fertile lands in Chota Nagpur, which could be devoted to the cultivation of foodgrains, vegetables including potatoes, and fruits. If the hill-tops and steeper slopes are utilised for forests and close-growing crops including grass, as indicated above, the problem of moisture supply in the flat lands will be simplified. In addition, it should be possible to develop minor irrigation works for which there is plenty of scope.

Let us now take a quick look at the land-use problems in the Lower Valley. The land here consists of highly fertile alluvial soil, much of which is deltaic in nature. The largest urban market for agricultural produce in India lies practically next-door. With the growth of industries new towns are springing up in the valley, and, as time goes on, the process will be accelerated. As perennial irrigation, coupled with proper drainage of the low-lying areas, is introduced in the Lower Valley, its agriculture is freed from the bondage of the monsoon, and new opportunities will be opened up for its development. The task here is, above all, to make the fullest use of such opportunities for the benefit of the land, the cultivator, and the community.

Here, too, the application of the 3-P principle will call for radical changes in the existing pattern of agriculture. Broadly speaking, the objectives in the Lower Valley should be : to increase the intensity of cropping and raise two, if not three, crops where we are now raising only one ; to diversify agriculture by introducing, or extending, the cultivation of more paying crops in the place of rice which is now practically the only crop grown in this area ; to increase acre-yield through improved agronomic practices and greater use of fertilisers as well as of manures including green-manures, farm-yard manures and cultivation of leguminous crops ; to maintain proper mineral balance in the soil, above all, by judicious application of phosphate, potash and lime. The objectives of the new cropping system should be to increase the output of rice per acre, to release rice lands progressively for cultivation of cash crops like sugar, jute, cotton, tobacco and heavy-yielding crops like potatoes, sweet potatoes, various types of vegetables and fruits, and, lastly, fodder crops together with an increasing emphasis on dairy farming, fish culture and poultry.

Here, then, are the main contours of the land-use programme that we should implement in our river valley projects, to develop the waters, lands and forests in an integrated fashion in order that they may make the biggest possible contribution to the welfare of the nation. This is by no means an easy job. As de Toqueville reminded us long ago, one of the hardest tasks of reformers is "to persuade men to busy themselves about their own affairs." The accumulated inertia in the countryside cannot be overcome all of a sudden. We shall need a valley-wide campaign to induce the peasants to adopt the new land-use methods, and, for this purpose, to convince them how these are going to benefit them directly. Here by far the most promising approach lies in the effective application of the test-demonstration technique. The mighty changes that are being wrought today in some of our river valleys by harnessing the forces of nature through multi-purpose dams cannot but produce an impact on the outlook of the people. At least a small section of them will be quick grasping the significance of the new opportunities that are being brought to their door. Our business is to get hold of the more progressive farmers, to supply them with carefully drawn up land-use plans, to persuade them to put such plans into practice in accordance with clear-cut instructions issued to them. As additional incentives it may be worth while to supply irrigation water or fertilisers, maybe both, at subsidised rates, or even free of cost. Once scientific land-use methods with more rational cropping plans begin to take root in the demonstration farms, the battle will be more than half won. Gradually the valley can be littered with such farms until even the most conservative of them, convinced by such ocular demonstration, veer round to adopt the new methods and the new techniques.

There are of course a host of other problems with which we have lived for generations and which will need to be faced and solved before the programme can yield anything like a full measure of success : reform of the land tenure system with which much headway has already been made ; consolidation of holdings with adequate measures to prevent their future sub-division and fragmentation; introduction of light machinery and better implements, which can be selected only after proper research and experiment to meet the requirements of our small farms ; a more efficient system of marketing agricultural crops, which in many places will require improved means of communication ; greater facilities for rural credit and finance. These are gigantic tasks, but here again the dynamic forces released by a river valley project will help create a more receptive frame of mind among the valley people, of which we could take full advantages in introducing the necessary reforms, provided that, first we, carry out enough systematic study, research and experiments to determine what reforms are necessary, and second, we mobilise enough organised effort to put them across to the valley people.

There is another interesting aspect of land development in our river valley projects which we can only mention here in passing. As soon as a dam is placed on a river, the land values go up though in different degrees, all over the valley ; the lands located below the dam which will benefit most from the multi-purpose development, naturally show the highest appreciation. This is what is happening today in the Damodar Valley. As a result of flood control, provision of year-round irrigation, development of cheap water transport and supply of abundant power from the far-flung DVC grid, the land values in the Lower Valley may ultimately go up by as much as 100 per cent. If the major part of the *unearned income* could be tapped by suitable fiscal measures, the problem of financing our river valley projects would be greatly simplified. What is important from a social angle is that it should not be allowed to be concentrated in a few hands. Greater attention could have been appropriately devoted to these socio-economic problems. So far the Government has been content with the proposal to impose betterment levies, which, in the Lower Damodar Valley, will amount to Rs. 150 per acre for kharif and Rs. 250 per acre for kharif-cum-rabi irrigation. If the full amounts of these levies are realised, they will yield around Rs. 18 crores, or about 20 per cent of the total capital cost of the DVC's First Phase programme.

In the foregoing pages we have discussed what *should be* the future pattern of land-use in the Damodar Valley. Many of you would perhaps like to ask at this point what the *DVC has actually done* so far in this field. My answer, much as regret it, would be : "Very little." A very modest beginning has been made with soil conservation measures consisting of a few small irrigation works, plantation of some trees, some contour bunding, all of it in and around the new villages where the families displaced from the reservoir areas have been, or are being, resettled ; an experimental farm was started a few years ago in the Upper Valley, another is proposed to be started in the lower region. But the overall picture shows that past efforts have been feeble and fitful. They are no more than a fraction of our real needs. We have at best touched only the fringe of the problem.

For this there are two main reasons. First, the execution of the project—building dams, power stations, irrigation barrage and canals, the transmission system—have involved far too many headaches, and a great many have been added to them by the incessant flow of attacks and criticisms. The task of defending the project and the corporate set-up established by the DVC Act has consumed a large part of the DVC's time and attention which could otherwise have been devoted far more fruitfully to the tasks we have been discussing.

Second, under the DVC Act development activities of the type mentioned above were clearly entrusted to the Corporation. But statutory provision and administrative practice soon began to fall apart. Why should the DVC engage in fields which lie within the jurisdiction of the State Governments ? This question has been increasingly raised within the last few years until, for all practical purposes, the autonomy as well as the responsibility of the DVC in such matters has virtually disappeared. The result has been unfortunate. There is as yet no indication that the land-use problems of the Valley are going to be tackled by the departments of the State Governments with anything like the required imagination and enterprise. Meanwihle the DVC, shorn of its *de facto* autonomy and devoid of the financial means, is unable to come to grips with them. It will be little short of a tragedy if, as a result of this barren jurisdictional issue, action in this vital field were indefinitely postponed. The Damodar Scheme is a *national* enterprise, and the nation, I believe, will stand to gain in every way if the responsibility for land development is forthwith re-entrusted to the DVC, if it is given an immediate green signal to go ahead with this work, and if it is clearly told to deliver the goods by developing our neglected land resources, just as it has been delivering the goods by harnessing the wild Damodar river.

ECONOMIC ASPECTS OF LAND DEVELOPMENT IN NEW RIVER VALLEY PROJECTS—THE TUNGABHADRA PROJECT

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INTRODUCTION

1. From times immemorial, life and civilisation in India have been largely dependent upon her rivers. River basins have made the greatest impacts on the rise of culture of prehistoric times and their imprints still persist in the present atomic age. It can be generally said that all major river valleys are of surpassing importance from the socio-economic development point of view of the region concerned. The earliest civilisation developed along the banks of the Ganges,

the Indus and their tributories. In the South, except for the narrow strip along the west coast, large parts of the population have depended for their very existence on river waters.

Agriculture and Industry are the two main pillars of our economy. Irrigation is essential for the former just as power is for the latter. We must have water for both. Unless we control floods and harness our rivers for the good of our industry and agriculture, no worthwhile progress is possible. The river valley projects should be judged in that light.

At present assured irrigation is available for about 50 million acres. This, however, constitutes less than a fifth of the total area under cultivation. The remaining 220 million acres under cultivation depend upon the fickle mercy of the monsoon.

About 1356 million acre ft. or 49 per cent of the mean annual rainfall flows down India's rivers annually. Of this volume 76 million acre ft. (5.6%) is at present being used for the purpose of irrigation and power generation and the remaining (94.4%) runs to waste often causing untold damage before it joins the sea. When the major projects now under execution have been completed, India will begin to use 13.6 per cent of the total river flow.

River Valley Projects

River basins are the natural sub-divisions of our water resources and water-sheds are the natural units in these river basins. Therefore, water resources policy will tend to deal with the ways and means of deciding how best to conserve and utilize the resources of water-sheds and river basins. A scheme designed for this purpose may be called a river valley project.

A multi-purpose river valley projects is one which is designed to serve more than one purpose, *i.e.*, apart from benefits of irrigation or power, it offers other benefits such as flood control, navigation, water-supply, salinity control, fisheries, etc.

A major irrigation project takes from two to five years for detailed investigation and preparation of plans, etc. and five to ten years for construction. The Five Year Plan provides for the execution of about 140 major irrigation and multi-purpose projects and about 100 major power schemes. They are expected to cost on completion Rs. 765 crores. They are designed to irrigate an additional area of 8.5 million acres by the last year of the plan and to generate 1.08 million k. w. of additional power. After the completion and full development of the projects the total addition to the area irrigated will be 16.9 million acres and to power 1.4 million k. w.

Tungabhadra Scheme

As a typical example of the socio-economic problems arising out of a new major river valley project which has more or less been completed, it is proposed to take up for detailed examination the Tungabhadra project. This multi-purpose project comprises the construction of a masonry dam accross the Tungabhadra river near Hospet and two irrigation canals one on either side of the river.

The project started by the Governments of composite Madras and Hyderabad is being carried out by the Tungabhadra control Board composed of the representatives of the Central Government and the Governments of Hyderabad, Andhra and Mysore. The total cost of the project and progress of expenditure to-date are as follows :—

(Rupees in lakhs)

	Hyderabad Portion	Andhra Portion	Mysore Portion
Total cost	2,544	4,274	(Andhra & Mysore)
Five Year cost	1,517	2,849	420
Expenditure 1951-54 ..	880	486	308
Budget for 1954-55 ..	300	200	50

The dam has been raised to its full height. All appurtenant works in the rear of the dam connected with power development, etc. have been completed. The canal excavation and masonry works upto mile 173 of the right bank low level canal including power canal have been completed. Works below mile 173 of the low level canal and Kurnool Branch have been taken up. Water has been let down in the power canal and in low level canal upto Hagari Aqueduct. Excavation is also in hand upto mile 66 of the left bank main canal.

The reservoir has a water spread of 133 sq. miles and a storage capacity of 2.6 million acre ft. It is designed to irrigate 7 lakh acres (as now contemplated) of which 2½ lakh acres lie in Mysore and Andhra territories on the Right Bank and the remaining 4½ lakh acres in the Hyderabad territory on the Left Bank. After the partition of Bellary district on the formation of Andhra, the low level canal for a distance of 107 miles has come under Mysore zone. The irrigable area under the canal in Mysore zone is 92,981 acres and in the Andhra territory it is 157,019 acres. The full extent of the 2½ lakh acres on the Andhra-Mysore side as also the 4½ lakh acres on the Hyderabad side have been localised on the basis of soil surveys, level of the land and other agricultural considerations. On the Mysore and Andhra side, the chief consideration has been the provision of water to as many villages as possible ; hence the length of the canal on that side is 225 miles, as compared to 127 miles in Hyderabad.

According to the existing localisation scheme, out of the 450,000 acres in the Hyderabad State, 70,000 acres will be under heavy irrigation like sugarcane, paddy and other garden crops and the rest of the area under light irrigation. In the Andhra territory out of the localised area of 157,000 acres, 37,000 will be under wet irrigation for long and short term paddy and the remaining 120,000 acres under irrigated dry crops. In the Mysore localised area of 92,981 acres, 15,269 acres are under crops like sugarcane and plantain, 17,648 acres under wet irrigation for long and short term paddy and the rest under irrigated dry crops.

2. *Land Development*

The area to be served by the project is not altogether newly to be brought under cultivation. Most of the area has been under rain fed crops. This is the first major irrigation project constructed in an area which is composed of large tracts of black cotton soils. Before irrigation is taken up lands will have to be levelled, bunded and given proper drainage. It does not follow that all the lands in the area need intensive operations of levelling and bunding. Sample surveys conducted in two villages each in Hyderabad, Mysore and Andhra reveal that the slope of the lands in this area ranges between ½ to 3 per cent and in a majority of cases the lands are flat and need only field to field bunding.

It has been generally found by expert opinion that mechanical reclamation should not be used for light irrigation. A chemical analysis of the first three feet of black soil made at the Agricultural Research Station, Siruguppa (Mysore State) showed that the salt contents of the first foot were low but that of the second and third feet were considerably higher and that if the top soil is partially l ›st the average salt contents of the soil would tend to be above the toxic limit for plant growth. It has thus been held to be dangerous to disturb the top soil by trying to level it. Hence in the case of lands under irrigated dry crops no mechanical reclamation is either necessary or desirable in the interests of soil conservation.

For heavy irrigation when the slope of land is between ½ to 3 per cent in the area, it has been found at the Agricultural Research Station at Siruguppa, that it is cheaper to level the land with manual labour with the use of bullock driven buckscrapers and bund-formers than by mechanical means. It has been found advisable to have smaller plots of 12 to 15 cents as against bigger plots of 40 to 50 cents as done in a bull dozed area. The smaller plots would reduce the quantity of levelling to be done. The cost incurred by a cultivator for reclamation of his land under village conditions and with his labourers and bullocks has been found to be much less than that under mechanised reclamation which has been heavily subsidised by the Governments in these states. Moreover reclamation by manual means would not disturb the top soil more than 6" in depth, while reclamation with bull dozers was generally found to have cut deeper than 18" exposing the sub-soils which are poor.

In this area, the ryot can easily manage to level small plots and form small bunds for paddy cultivation using his own pair of animals and the labour of his family. Also, this could be done in the course of 3 or 4 off seasons. He should be given the necessary fin n ial ass.stance by the Governments concerned. In the wet and perennial zone where mechanical reclamation is abosolutely necessary and is demanded by the cultivators, bull dozers and tractors may be provided by the Government. When work by manual labour can be done without greater cost than by mechanical means, it is very desirable, particularly in the present state of unemployment in the country, that the former method should be preferred. As far as possible, cultivators should be enabled to do the work which they can do for themselves with such assistance from the State as is necessary for that purpose and only such work that they cannot do should be done by mechanical means.

3. Agricultural Development

With the inauguration of irrigation projects, the agricultural cropping of the tract gets switched over from dryland crops to wet or semi-irrigated crops. Generally speaking, all rain-fed crops can also be irrigated judiciously to step up acre yields. In the Tungabhadra project area, the tract is divided into three zones (*i*) perennial wet, (*ii*) Single wet or garden land and (*iii*) light irrigated. In perennial wet, yearly two crops of paddy or one full crop of sugarcane is taken. In single wet only one crop of paddy is taken and in the light irrigated, rain-fed crops like millets and cotton are irrigated periodically once a month or more often if necessary. Irrigation also insures against failure of monsoon and consequent severe drought period. Wet-land cultivation is not quite new to the local ryot. Under the old Tungabhadra canal irrigation system on the Mysore side, the cultivation of paddy and sugarcane is already in vogue. The project ryots are very enthusiastic to learn the methods of light irrigation and with some drive and propaganda on the Government side, the introduction of methods of light irrigation will rapidly gain ground. Prior to the launching of the Project, an Agricultural Research Station was opened at Sir guppa in the heart of the Project area on the Mysore side, (by the then composite Madras State) and detailed experiments regarding the methods of irrigation, raising of irrigated crops, manuring and other agricultural researches were conducted and the data are made available for the future cropping in the Project area. Ryots are getting irrigation-minded and are changing their cropping programmes.

Soils : The soils of the Tungabhadra project area can broadly be classified into three groups *viz*, (*i*) Chalkas or sandy loams, (2) Medium clay loams and (3) Heavy clays and clay loams.

1. *Chalkas*. These are sandy loams, sometimes with an admisture of red earth, and are usually 6″ to 1½ feet deep and underlaid by muram. These soils facilitate good drainage and are usually situated by the side of drains. Hence under localisation, these fields are classified as wet or perennial wet and are fit for heavy irrigation since these fields are easily drained.

2. *Medium Clay Loams*. These soils are of medium deep clay loams, about 1½ to 3 feet deep. The sub-soil consists of moram or disintegrating rock with or without lime. These soils are fairly well drained and are fit for single wet or garden cultivation.

3. *Heavy Clays and Clay Loams*. These are heavy clay soils and are deep extending up to 8 to 10 feet. The sub-soils are yellowish. These types of soils are usually fit for light irrigation and are localised as such.

The average rainfall in the tract is about 20 inches and the tract has deficient rainfall in 11 out of 20 years and the percentage of good and fair years is 53 per cent. Every alternate year is a year of scarcity and famine conditions prevail once in ten years. It is to minimise these hardships that the Tungabhadra waters are intended to be spread over as large an area as possible and touch the greatest number of villages.

Crop Pattern

(*i*) *Perennial wet :* At the time of localisation, care was taken that the perennial wet lands are almost invariably located at the farther end, and that too by the side of natural drains. The idea is that these lands have to be drained frequently due to heavy intake of water and paddy is the main crop that is grown in these fields. It is also possible to take two crops of paddy in these tracts, depending upon the availability of water in the reservoir. Ryots are very anxious to grow sugarcane because of its high returns, but sugarcane cultivation requires greater skill and heavier investments. There are better chances for the introduction of plantains, which are rather rare in the locality. Thus the introduction of paddy, sugarcane and plantains in this perennial wet zone, will certaibly increase the acre income by about 10 to 15 times. Where millets and other dry crops grew before, paddy, sugarcane and plantains will now come up.

(*ii*) *The single wet :* Only one crop of paddy can be taken in this tract and the scarcity of foodgrains can be solved to a very great extent. There is great scope for the introduction of garden crops like Tapioca, Sweet potato, yam, irrigated chillies, cambodia cotton and the like. Another important change that can be brought over is the cultivation of vegetables. This dry tract is completely devoid of fresh and green vegetables. It is a luxury to get them and that too will be possible only in towns. Vegetables can be grown with great success in these single wet land fields and will also add to the health and prosperity of the ill-fed population.

Fodder is another pressing problem in the tract. Green fodder is a rare food and the cattle do not receive the care and treatment they should. With the introduction of irrigated crops and the consequent intensification of cultivation in the tract the cattle will necessarily be put to a greater strain and the growing of irrigated fodder crops will be a dire necessity. These single wet lands, some portions of perennial wet land areas and bunds of these fields can be cropped with green fodder grass and as such the cattle wealth of the country will be improved.

(*iii*) *Light irrigated:* Millets occupy a major portion of this zone. Cotton and groundnut are the two important commercial crops that are grown in this tract, purely under rain fed conditions. All these respond very well to light irrigations. The acre yields can be trebled or even raised to four or five times. With the introduction of light watering to these crops, the manurial doses may be increased and artificial manures like Ammonium Sulphate etc. can be successfully tried.

Green manuring and cultivation of green manure crops are already in vogue in parts of Mysore and Andhra States. With the introduction of paddy cultivation green manuring has to be stepped up and enough organic matter should be added to these soils to improve the physical texture. Sun hemp is the most popular green manure crop, and there is great scope for the introduction of other green manure crops like Sesbania, Phaseolus, Daincha etc. Growing of green manure shrubs like Glyricidia and Caletropis on field bunds and Government porombokes is bound to succeed.

4. *Demonstration Farms and Propaganda*

The ryots in the project area are enthusiastic to adapt themselves to the new methods of cultivation etc., but they are lacking in the technical knowledge for raising irrigated crops. The State must open demonstration farms at convenient centres, to demonstrate practically the methods of (*i*) converting drylands into wet land blocks, (*ii*) raising paddy nurseries and cultivation of wet paddy and sugarcane, (*iii*) raising the rainfed Millet and other crops under light irrigated conditions, (*iv*) use of fertilisers for these irrigated crops and other agronomical practices to cater to the needs of irrigation. On a modest estimate, it is anticipated that such a demonstration centre may have to be started within a distance of 5 to 8 miles of each village. The ryots are prepared to place their men and material, at the disposal of the Government. The only expenditure is for the establishment and the technical personnel who shall have to demonstrate the improved methods of agricultural practices on the fields of the ryots themselves. Such a practical demonstration amidst the ryots' fields will go a long way towards the rapid development of the new agricultural outlook.

Side by side, propoganda by lantern slides and arranging small agricultural exhibitions at important fairs and festivals will also enable the ryots to pick up the necessary information. A fillip can be given to the formation of village Agricultural Associations and the Village Panchayats can also take active part by way of conducting exhibitions of exhibiting posters etc. in the Panchayat Office, schools, and other public buildings.

5. *Import of experienced cultivators*

As it is, the ryots in the Project area are only accustomed to the cultivation of dryland rainfed crops. They had generally no previous experience of the cultivation of paddy, sugarcane and other irrigated crops. Sugarcane and paddy cultivation trequire skill and technical knowledge. The inter-cultural operations vary from crop to crop and different kinds of implements have to be used at different stages of crop growth. The delta ryots of the neighbouring districts, who are in the know of the methods are willing to come and settle here. They should be given some inducement to do so as they will not migrate as mere coolies. Some land should be sold or otherwise provided for the settlement of these ryots. These skilled agriculturists will not only develop their own share of land, but will also prove useful to help their neighbours to adapt themselves to the new types of cultivation. As it is, the local ryots are not willing to part with their land, and it is a difficult problem to import experienced cultivators without offering them land to settle upon. This question is discussed in greater detail under 'Colonisation.'

6. *Financial Return—Betterment Levy*

When any project is launched, the Government has to recover at least a part of the investment by way of betterment levy. The Hyderabad Betterment Contribution and Irrigation Act, 1952 provides fo· levy of contribution of any land proposed to be served by the Tungabhadra canal at a rate not exceeding one-half of the net increase in the capital value of the land in the case of new lands and 1/4th in the case of old wet lands. In the Mysore State, for the medium and minor irrigation schemes, the usual way of calculating betterment levy is at 1/3rd the amount invested in the project. This amount is equally divided on the total acreage benefited and is collected from the ryots in long term easy instalments. The Andhra State published a bill on the subject of betterment levy that every holder has to pay in 30 equal annual instalments, 25 times the net additional income minus the expenses incurred, or likely to be incurred by the owners for making the land fit for advantageous cultivation with the proviso that the betterment contribution leviable in respect thereof shall be fixed so as not to exceed one-half of such increases. This is a method that is newly introduced with no past precedents.

To arrive at an approximate betterment levy in the form of cash, the following important points are considered.

1. Market rate of dry land.
2. Market rate of wet land.
3. Wet crops that can be grown economically.
4. Proximity to markets, roads, railway stations, etc.
5. Nature of the soil, productivity etc.
6. Cost of conversion of dry land into irrigable land.

It is anticipated that it will take at least five years for the entire area to be developed. It is desirable that the betterment levy may be recovered in not more than 10 to 15 equated annual instalments, commencing in the year after supply of water.

The following formulae have been suggested for calculating betterment levy in the form of cash. The present market rate of dry land is taken at Rs. 200 per acre. With the inauguration of the Project the value of lands on an average is anticipated to rise to (1) Rs. 1000 per acre of perennial wet land, (2) Rs. 750 per acre of wet land and (3) Rs. 500 per acre of irrigated dry land. For purpose of calculating the betterment levy, it is taken into consideration that the initial cost involved for developing the land would be Rs. 300 per acre of perennial wet land, Rs. 250 per acre of single crop wet land and Rs. 150 per acre of irrigated dry land. Making these allowances the unearned income that accrues to the ryot as a consequence of this project would be Rs. 500 per acre of perennial wet land, Rs. 300 per acre of single crop wet land, and Rs. 150 per acre of irrigated dry land. On the basis of the general principle that a moiety of the unearned income should go to the share of the State towards the expenses incurred on the project, the betterment levy may be recovered at Rs. 250 per acre, Rs. 150 per acre and Rs. 75 per acre of perennial wet, single crop wet and irrigated dry lands respectively. This would be recoverable in 10 to 15 annual equated instalments after the supply of water.

The question of Betterment levy by way of surrender of lands was gone through in detail. In the three States, the ryots are not willing to surrender any portion of their land, and at the same time, some of the large holders feel diffident to cultivate their entire area. The labour problem also is to be considered and the present labour is not at all sufficient to cope with the new types of cultivation that are anticipated in the project area. In order to meet this deficiency of labour it has been suggested that agricultural labour may be attracted to the village by offer of land for permanent settlement, which may be at the rate of 2 acres of wet or its equivalent in garden and light irrigated land per family. Besides the need for additional labour, there is also need for cultivators experienced in irrigated cultivation, obtaining land in the village so as to serve as examples and providing demonstration to the bulk of the cultivators in the village. To attract such enlightened cultivators, it is recommended that the authorities concerned should permit sales to outsiders upto, say, 10 per cent of the irrigable area in each village under the Project. If the above two suggestions are adopted, deficiency of labour and deficiency of experience in irrigated cultivation will be appreciably met so as to raise the conditions of a dry land economy to the level of irrigated economy. The following rate of surrender has been suggested.

For perennial wet crop—surrender of 1 acre in 2.

For garden crop—surrender of 1 acre in 3.

For light irrigation—surrender of 1 acre in 4.

The minimum holding that is considered permissible is 12 acres dry or its equivalent, which works out to 3 acres of wet or 4 acres of garden of 6 acres of light irrigated land. Over and above this, the ryot has to surrender half of his wet land, one-third of his garden or ¼th of the light irrigated land. Thus in one village of Hyderabad State alone, calculating on the above basis, the aggregate lands that will be available by way of surrender are:—

Wet	252.20	acres
Garden	89.20	„
Light irrigated	198.00	„

This area is fairly sufficient to bring in new settlers and nearly 150 families can be accommodated in one village alone.

It is desirable that a uniform principle is followed in the system of assessing the betterment contribution and in the recovery of the amount on either side of the Tungabhadra River. Any marked disparity in the matter of assessment and recovery is likely to hamper development and add to the local problems.

Assessment

The rate of assessment obtaining in this area varies from 4 annas to Rs. 2/8 per acre of dry land, Rs. 5/15 and Rs. 13 per acre of single crop wet land, and Rs. 15/13 to Rs. 19/8 per acre of double crop wet land (sugarcane and double paddy). In the new project area, it is proposed that water rate may be levied in addition to the dry rate of assessment, pending resurvey and fixation of revised rates of assessment based on the altered circumstances. The following rates of water cess are considered to be reasonable, keeping in view the averages of existing rates of assessment.

Perennial wet	Rs. 15
Single crop wet	Rs. 10
Irrigated dry	Rs. 5

7. *Cost of development and the system of credit for development*

Development will include :—

1. Clearance of jungle, or standing trees or shrub.

2. Terracing, levelling and bunding.

3. Excavation of field channels.

4. Provision of sub-soil and surface drainage wherever necessary.

5. Provision of adequate credit facilities for purchase of bullocks, ploughs, cows, seed and manure.

6. Provision of financial assistance to cover cost of labour employed at the time of ploughing, sowing of seed, transplanting, interculturing and weeding.

7. Provision of adequate agricultural labour.

8. Organisation of auxiliary village industries to keep the ryots engaged in the off season.

9. Anti-malarial operations and intensification of Public Health Measures.

10. Establishment of Agricultural Demonstration farms.

11. Supply of green and commercial manures.

The subjects coming under items 1 to 4 are mainly the responsibility of the ryots. Unless the land is developed and made ready to receive the water the government is bound to suffer loss of revenue and the interest charged on the capital cost of the project will accumulate to alarming proportions. For this, necessary action will have to be taken under the Land Improvement Act and the cost of reclamation will have to be recovered from ryots. The ryots have expressed their willingness to render their personal labour in addition to paying cost of such reclamation by mechanisation as may be done by the State.

As at present, under dry cultivation, 30 acres could be managed with one pair of cattle. In the localised ayacut, it will be possible to manage 3 acres of wet and 8 acres of dry irrigated land with one pair of cattle. That means the cattle force has to be sufficiently strenghtened for which the ryots need enough credit. For one village alone the extra bullock power needed was 140 pairs. Equipment of additional implements also requires financial assistance.

The manure problems of the village has to be next considered. As the cattle manure is insufficient even for the existing crop regimen, large quantities of artificial fertilisers will be in demand for the irrigated crops.

Thus, for preparation of land for receiving water, purchase of bullocks, implements, seed and manure, the ryots require sufficient credit facilities. Keeping these points in view and calculating the several items of expenditure one has to incur during the switchover from dry land cultivation to wet, the following rates of financial assistance by way of longterm loans are suggested.

1. Rs. 300 per acre of perennial wet land.

2. Rs. 250 per acre of single crop wet land.

3. Rs. 150 per acre of irrigated dry land.

The above facts should suffice to show the enormity of the development problems under the Tungabhadra project. There are certain problems which are peculiar to Tungabhadra inasmuch as the project is located in an area which is economically backward and sparesely populated. The natural resources are meagre and the proposed irrigation scheme does not confirm to the existing agricultural practices.

Next comes the question of the agency through which credit has to be distributed. This may be through Government granting takkavi loans or a Land Mortgage Bank. Land Mortgage Banks are functioning in Andhra and Mysore.

8. *Colonisation*

With the increased labour needed to cultivate land under new irrigation, the importation of additional agricultural labour becomes essential. In the Tungabhadra area, the population is hardly 100 to 120 per square mile. This is barely sufficient to cultivate successfully the existing dry land crops which are entirely dependent on the meagre rainfall of 15 to 20 inches per annum. Famines occur very frequently and even the existing labour migrates to neighbouring districts to eke out their living. With the assured supply of water in the project area, there is a different outlook now. The labour need not go out and they can get sufficient work throughout the year. With the introduction of irrigated crops like paddy and sugarcane and the cultivation of other garden crops, the agricultural labour needed will be at least doubled. That means labour from outside has to be imported. Unless some permanent interest is created, these working classes will not settle down in these tracts. Some land must be offered to each family. Keeping in view these points, Betterment levy by way of surrending land is suggested in para. 6 above. If the land so collected is conveniently colonised by suitable adjustments, the new settlers can be induced to stay on permanently in the villages. New villages will spring up and this would increase the density of population and solve labour scarcity to a very great extent. Also, the incoming settlers will naturally be experienced ryots in the cultivation of wet land and garden crops. They will serve as models to others in improving the technique of agricultural practices to suit irrigated conditions. The land obtained by way of betterment levy should be pooled through consolidation of holdings.

9. Agricultural Extension—National Extension Service Blocks

The utility of establishing N.E.S. Blocks in these newly developing areas cannot be underestimated. A minimum of 4 to 5 N. E. S. centres have to be formed immediately at convenient places in each of the three States of Hyderabad, Mysore and Andhra. All the activities at these centres will spread rapidly and the ryots will get the necessary fillip, and enthusiasm to adapt themselves to the new methods of agricultural development and consequent economic progress.

ECONOMICS OF RIVER VALLEY BASINS—BHAVANI SAGAR PROJECT—GOBICHETTIPALAYAM TALUK—COIMBATORE DISTRICT

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The proverbial insecurity and hazards associated with Indian agriculture have been sought to be removed by the construction of multi-purpose projects in various parts of the country Besides the enormous expenditure involved in the projects their completion would change the economic face of the territories wherein they are situated through the multiplier and acceleration effects.

The employment and income potential will be improved with consequent pressure on demand leading to a chain reaction. The development of land in these areas have economic aspects which cannot be calculated or forecast with precision since many problems are still shrouded in uncertainty. There are palpable advantages as the elimination of the "ding dong" swing of the pendulum in the life of the Indian peasant or the solution of the under-employment problem pestering and dogging the agriculturists' footsteps since the mass produced machine made good invaded the country. On the other hand there are not so obvious demerits on the other side of the balance sheet. Hence a proper assessment of the economics of river valley basins necessitates an appraisal of all the factors involved in the situation. With this idea in mind a special study was undertaken for the purposes of this paper of the Bhavani Sagar Project area. Nine villages were visited during the course of a fortnight by the kind permission of the Director of Agriculture, Madras State in the Satyamangalam firka and in the Gobichettipalayam taluk. Enquiries were made from the responsible officials of the villages concerned, karnams and munsiffs and from rich and poor landowners of the benefits they expected and losses they feared from the opening of the Lower Bhavani project and letting in of its waters which commenced a year ago. These replies were evaluated by the cold light of reason in order to sift the grain from the chaff—the unreasoning prejudice from the well founded fears and the conclusions are retailed in the following pages. The Assistant Lecturer in Agricultural Economics Sri M. K. Lingiah helped in the compilation and tabulation of the figures presented in later sections and his help is acknowledged here with gratitude.

Lower Bhavani Project—General

The Lower Bhavani Project is a project to harness the waters of the river Bhavani in the lower reaches of the river. The Bhavani is a tributory of the Cauvery and has a major portion of its course in the Coimbatore District of Madras State. It drains a catchment of 2,376 square miles. The Bhavani which comes under the influence of both the South West and North East monsoons carries ordinarily heavy freshes of the order of 50,000 cusecs which last only for a few days. At other times, the flow is barely sufficient for the old irrigation of 39,000 acres developed under two ancient anicuts on the river below the dam. The present scheme has dammed the river about 10 miles up stream of Satyamangalam where the catchment is 1,621.5 square miles and store the floods and utilise the stored water as and when required. The dam is 28,862 feet long of which 1,523 feet is of stone masonry in cement mortar and the rest an earth dam of the most modern type. A canal about 121 miles long for irrigation of a new area of 2,07,000 acres takes oft on the right flank. The execution of the project was begun in October 1948 and completed in 1953 at a cost of Rs. 9 3 crores. All the private owned lands and houses in the reservoir bed have been acquired after paying the then market rates plus 15 per cent solatium of the cost to cover the compulsory acquisition. The people who are displaced have been given free sites to build houses and land upto 5 acres to each family free of cost to enable them to earn their livelihood. An area of 2,07,000 acres of first crop and 1,03,000 of second crop are expected to be benefited giving an increased yield of 1,30,000 tons of rice and millets and 50,000 tons of cotton. Fish culture will also be undertaken in the reservoirs. Other benefits include power for industry and tourist traffic. Indirect benefits consist of increased revenue through taxes, saving of food imports, development of new industries and better living standards.

Villages visited—Cropping details

The area under crops in the nine villages visited is given in Table I. It is noticed that in 1952-53 Jowar, Bajra and Ragi account for most of the area under millets in all the villages concerned while tobacco, cotton (Cambodia) and groundnut constitute the main commercial crops. Tobacco forms an important part of the economics of the nine villages and contributed a significant proportion of the total income during the boom of the past few years. It was claimed by all the villagers that tobacco responded to the well water and that the letting in of the project water spoiled valuable salts in the well water. It was felt that tobacco could not be grown with advantage and that the quality would deteriorate in future years owing to this fact. Many ryots complained that there was a loss of weight of 50 per cent in tobacco grown with project water and the colour of the leaf would not be rich green. Erstwhile flourishing commercial centres as Kurumandur—Nadupalayam have been reported to have fallen into a state of apathy. Hence any evaluation of the benefits derived from the Bhavanisagar Project has to take into account the loss incurred by giving up a paying cash crop as tobacco.

In the beginning paddy was prohibited from being grown in the ayacut area since water requirement in the lower reaches of project area in Bhavani and Karur taluks could not be satisfied. But many ryots cultivated paddy in spite of the ban and on representation from the agriculturists the ban has been lifted in areas where water logging occurs due to seepage of project water and this can be observed in the table.

Demographic details and Labour Balance sheet

The population particulars are given in Table II with the classification of the agricultural classes according to the 1951 census. A fourth category of rent receivers has been omitted since it has no relavance here. The labour potential of the nine villages was worked out on the basis of a standard family of five of which two-fifths was assumed to be potentially available for field work *i.e.*, a man, his wife and a grown up child, the latter two treated as half a man unit each. It was found that most of the cultivators of owned and unowned land below 10 acres work in their own fields and as these constitute the great majority this basis has been adopted.

The labour requirements in man-days for the villages for all the crops have been worked out. The labour requirements of paddy were found to be 61 man-days per acre, Jowar 38, baira 25, ragi 40, other millets 15, pulses 5, cotton 60, tobacco 98, sugarcane 212, chillies 102, turmeric 50, groundnut 32, and miscellaneous crops 15. It is found that man-days unemployed vary from over 2 lakh in Kottupullampalayam to 3,600 in Pudukalayanur and there is a deficit of 800 man-days in Kasipalayam.

It has been assumed in calculating labour potential that labour will be employed for 260 days in the year. This has been the finding of the Economic Adviser to the Government of Madras as a result of a survey conducted in the Tungabhadra Project Area. It is true that in the brochure entitled "Agricultural Labour in India" 1954 Dr. B. Ramamurthi concludes that agricultural labour provides employment to men workers for only 189 days in the year with miscellaneous labour of a non-agricultural character scrapped up amounting to 29 days. He found the highest incidence of employment for men labourers in North India where it was 289 days in the year. Since the villages visited are mostly under garden land cultivation where work is more regular throughout the year and not subject to the vagaries of the monsoon a *via media* was taken, which may not be far wrong, and 260 days in the year was adopted. The percentage of unemployed to labour potential is found to vary from nil in Kasipalayam to 75 per cent in Kottupallampalayam.

In the same table figures of labour requirements in man-days have been worked out for paddy, millets and cotton if either of the three are grown as second crops due to the project water in the ayacut area given in column 3 of Table IV. The

TABLE

AREA UNDER CROPS

S. Name of crops	PUDUKALAYANUR		INDIAMPALAYAM		SHENBAGAPUDUR		UKKARAM	
	Total area sown	Ayacut area sown	Total area sown	Ayacut area sown	Total area sown	Ayacut area sown	Total area sown	Ayacut area sown
1. FOOD CROPS : ..	5.77	85.72	15.87	23.01	222.95	224.65	160.59	239.18
(a) Paddy ..								
(b) Millets : ..								
(1) Cumbu (Bajra)	491.32		296.37		929.36		1370.43	
(2) Cholam (Jowar)	261.00		307.80		327.10		1709.77	
(3) Ragi	103.67		70.35		115.78		195.06	
(4) Other millets	29.35		9.25		16.40		41.71	
Total millets	885.34	756.15	683.77	359.52	1171.34	1120.34	3316.97	1474.60
2. PULSES	26.79		28.85		78.20		47.59	
3. COMMERCIAL CROPS ..								
(a) Cotton ..	44.20	70.92	36.85	28.52	21.75	113.14	216.52	105.60
(b) Tobacco ..	139.21		84.80		108.63		169.40	
(c) Sugarcane ..	—		6.34		—		5.06	
(d) Chillies ..	16.13		1.23		16.05		33.13	
(e) Turmeric ..	—		2.72		—		—	
(f) Groundnut ..	122.40		19.15		257.37		127.35	
4. MISCELLANEOUS ..	7.90		2.74		15.00		29.02	
5. Crops other than Paddy, Millets and cotton		159.26		55.30		173.98		117.85
Total area sown ..	1247.74	1072.05	882.32	466.35	1891.29	1632.11	4105.63	1937.23
Total area irrigated ..	518.78		362.24		421.89		1222.32	

Note 1. The total area irrigated refers to the area under wells *i.e.*, the garden land area.

I

IN THE VILLAGES VISITED.

Kasipalayam		Kurumandur		Kottupullam-palayam		Alukuli		Lakkampatti	
Total area sown	Ayacut area sown	Total area sown	Ayacut area sown	Total area sown	Ayacut area sown	Total area sown	Ayacut area sown	Total area sown	Ayacut area sown
60.01	27.01	3.00	93.78	72.89	72.89	78.13	14.00	203.78	195.78
665.93		618.13		1687.19		880.21		156.80	
66.01		6.00		117.92		143.68		306.80	
36.99		13.00		119.75		43.66		19.50	
67.38		1.00		72.52		80.72		38.18	
836.31	561.24	638.13	55.27	1997.38	469.80	1148.27	192.35	521.28	467.54
29.33		5.00		1.34		23.15		3.30	
87.43	346.07	4.00	9.90	219.61	219.61	160.79	169.69	39.10	94.28
67.91		27.00		29.85		93.13		19.10	
2.10		—		—		—	—	—	
22.36		1.00		12.60		8.66		1.43	
40.49		—		—		60.04		3.30	
593.85		325.00		55.25		578.97		412.73	
41.89		2.00		24.92		40.55		232.00	
	136.03		187.58		91.39		150.02		70.00
1781.68	1070.35	1005.13	346.53	2413.84	853.69	2191.69	536.06	1436.02	827.60
909.95		83.00		853.69		909.95		359.83	

2. The ayacut area sown refers to the area cropped in 1953-54 and it can be expected to increase in future years, while total area refers to the area sown 1952-53.

TABLE II

DEMOGRAPHIC DETAILS

S. No.	Name of village	Total population	Cultivators of land wholly or mainly owned and their dependants.		Cultivators of land wholly or mainly unowned and their dependants		Cultivating labour and their dependants		Labour potential	Remarks
			M	F	M	F	M	F		
1.	Pudukalayanur ..	1,629	268	257	87	63	100	95	90,480	
2.	Indiampalayam ..	1,133	84	181	112	80	367	386	1,25,840	
3.	Shenbagapudur ..	2,206	634	233	147	140	158	105	1,47,420	
4.	Ukkaram ..	4,868	1,396	456	196	206	286	347	3,00,300	
5.	Kasipalayam ..	4,914	359	166	40	28	11	4	63,180	
6.	Kurumandur ..	2,716	460	8	11	25	91	85	70,720	
7.	Kothupullampalayam..	4,385	1,075	700	102	88	494	398	2,97,180	
8.	Alukuli ..	3,655	410	961	75	62	451	438	2,49,340	
9.	Lakkampatti ..	2,051	125	126	81	64	484	462	1,39,620	

TABLE III

TABLE III

Labour Balance Sheet

S. No.	Name of the village	Labour requirements (in man-days)	Labour potential (in man-days)	Surplus or deficit (in man-days)	Percentage of unemployment to labour potential	If the crops are grown as mentioned below 2nd crop labour requirements (in man-days)			Surplus or deficit (in man-days) after introduction of 2nd crop of		
						Paddy	Millets	Cotton	Paddy	Millets	Cotton
1.	Pudukalayanur ..	54,501	90,480	+ 35,979	40	68,076	42,408	66,960	— 32,097	— 6,097	— 30,981
2.	Indiampalayam ..	35,930	1,25,840	+ 89,910	61	32,086	19,988	31,560	+ 57,820	+ 69,922	+ 58,350
3.	Shenbagapudur ..	78,581	1,47,420	+ 68,839	47	83,143	51,794	81,780	— 14,304	+ 17,045	— 12,941
4.	Ukkaram ..	1,56,227	3,00,300	+1,44,073	48	1,18,462	73,796	1,16,520	+ 25,611	+ 70,277	+ 27,553
5.	Kasipalayam ..	63,938	63,180	— 758	1	65,819	41,002	64,740	— 66,577	+ 41,760	+ 65,498
6.	Kurumandur ..	29,848	70,720	+ 40,872	58	21,167	13,186	20,820	+ 19,705	+ 27,686	+ 20,052
7.	Kottupullampalayam	74,481	2,97,180	+2,22,699	75	54,473	33,934	53,500	+1,68,226	+1,88,765	+1,69,199
8.	Alukuli ..	77,098	2,49,340	+1,72,242	69	84,668	52,744	83,280	+87,574	+1,19,498	+ 88,962
9.	Lakkampatti ..	50,595	1,39,620	+ 89,025	64	50,508	31,464	49,680	+ 38,517	+ 57,561	+ 39,345

TABLE IV

AREA EXPECTED TO BE BROUGHT UNDER INCREASED CULTIVATION

S. No.	Name of the village	Ayacut area in acres	If paddy is grown as 2nd crop yield in ton		Net Profit in Rs.	If millet is grown as 2nd crop yield in tons		Net Profit in Rs.	If cotton is grown as 2nd crop yield in tons (Kapas)	Net Profit in Rs.
			grain	straw		grain	straw			
1.	Pudukalayanur ..	1115.93	1,495	1,993	3,23,640	868	1,495	78,120	440	4,05,600
2.	Indiampalayam ..	526.25	704	939	1,51,540	409	704	36,820	207	1,84,100
3.	Shenbagapudur ..	1362.50	1,825	243	3,95,270	1,060	1,825	95,410	535	4,77,050
4.	Ukkaram ..	1942.00	2,601	3,468	5,63,180	1,510	2,601	1,35,940	763	5,79,700
5.	Kasipalayam ..	1078.66	1,445	1,927	3,12,910	839	1,445	75,530	424	3,77,650
6.	Kurumandur ..	346.53	465	620	1,00,630	270	465	24,290	136	1 21,450
7.	Kothupullampalayam..	892.57	120	1,595	2,58,970	695	120	62,510	351	3,12,550
8.	Alukuli ..	1388.00	186	2,479	4,02,520	1,079	186	97,160	545	4,85,800
9.	Lakkampatti ..	827.60	111	1,479	2,40,120	644	111	74,520	325	2,89,800

result is shown in the last three columns where it is observed that the surplus appreciably diminished after the introduction of either of the three crops. It is expected that a revolution in the industrial potential of this area will take place in a few years' time changing the face of the land. Cotton mills as found in Coimbatore and neighbouring taluks are expected to litter the countryside and even the surplus unemployed are expected to be siphoned off into these mills and ancillary enterprises.

Financial gain due to the project

The Table IV works out the net profit in rupees as a result of the introduction of paddy or millets and cotton as second crops in the ayacut areas of the villages. The yield of paddy has been assumed to be 3000 lbs. per acre and that of straw 4000 lb. which is typical of this area. Similarly the yield of jowar has been taken as 1750 lbs. of grain and 3000 lbs. of straw. The yield of Cambodia Cotton common in this tract) has been taken as 880 lbs. of kapas per acre. On this basis the total yield in tons of the three alternative crops has been worked out for the ayacut area. The cost of cultivation of paddy was assumed to be Rs. 200 per acre, jowar Rs. 150 per acre and Cambodia cotton Rs. 125 per acre. The market rates of the three crops as on 1st November 1954, Coimbatore were paddy Rs. 0-2-3 per lb. and of straw Rs. 32 per ton, jowar 10 lbs. of grain for a rupee and Rs. 32 per ton of straw and Rs. 150 for a podi of 280 lbs. for kapas of cotton. The net profits after deducting expenses of cultivation have been shown in the table and this can be taken as a rough approximation of the monetary benefits involved and accruing to the populace of the villages concerned as a result of the Lower Bhavani Project. The per capita net increase in income due to this project is shown in Table V. It is observed that cotton is the most paying crop and it is obvious where future expansion will lie. The present income per capita of ordinary peasants was found in some recent enquiries to be Rs. 150 to Rs. 200 a year. Hence in the village of Pudukalayanur an increase of nearly 170 per cent in per capita income can be expected if cotton is grown as the 2nd crop—a doubling of the present standard of living within a quinquennium.

TABLE V

PER CAPITA NET INCREASE IN INCOME DUE TO THE PROJECT

S.	Name of the village	If paddy is grown as 2nd crop in Rs.	If millets are grown as 2nd crop in Rs.	If cotton is grown as 2nd crop in Rs.
1.	Pudukalayanur	199	48	244
2.	Indiampalayam	134	32	162
3.	Shenbagapudur	179	48	216
4.	Ukkaram	116	28	119
5.	Kasipalayam	64	15	77
6.	Kurumandur	37	9	45
7.	Kottupullampalayam ..	59	14	71
8.	Alukuli	110	27	133
9.	Lakkampatti	117	36	141

Financial burdens involved :—The darker hues or tints of the rosy picture have also to be taken into consideration. One point has been mentioned already in the fact that the quality and density of tobacco suffer due to the dilution of the well water by the project water. Tobacco has been a very paying crop in recent years and the villagers met within the course of the enquiry seemed to be dismayed by the prospective loss involved. Similarly chillies were reported to be affected by this dilution.

The soil in this area is mostly gravelly in nature and hence not in a position to take advantage of this project water. Schemes of contour bunding and growing of green manuring crops in situ for ploughing in and on bunds both in the fields and canal sides are necessary to improve the texture and fertility of the soil by increasing humus content and permission has been given by the Government to raise green manure plants along the canal bunds where seepage water will be utilised. Organic manures in the shape of cattle manure can also be added in the fields. As more work cattle are brought in for operations in the ayacut area the supply of farm yard manure can be expected to increase.

A common complaint met with was that due to flooding in certain areas as a result of the project water the standing crops especially of millets withered and their grain formation was greatly affected Time will solve this problem as drainage facilities are developed. These are minor inconveniences and are bound to be got over. Besides discount has to be given for the "grouses" attendant on any innovation or disturbance of the *status quo*. It is a common tendency to exaggerate difficulties or short-comings of any far reaching scheme.

Conclusion

The indirect benefits of the Project are incalculable. The multiplier and acceleration effects will be at work and the conversion of the region to a cotton growing area will lead to the introduction of a new industry with consequential benefits as happened in the neighbouring Coimbatore Taluk. The generation of electricity due to the project will help the processing and cottage industries of the taluks concerned and facilitate the conversion of further areas not benefited by the project to garden land cultivation. The same process will be a work which has made Coimbatore and Avanashi taluks the Manchester of South India. Subsidiary and ancillary industries catering to the growing textile industry will increase the employment potential of the area, relieve chronic unemployment and under-employment and raise the income level and thus the effective demand. An area subject to the vagaries of the monsoon and with a precarious rainfall of 25 inches a year will be able to grow paddy and cotton instead of merely coarse grains. Only a sketchy attempt has been made to work out the economics of this river valley project. Considering the pros and cons of the subject it may be safely predicted that the project will double or even treble the per capita income and hence standard of living of the 4 taluks in a quinquennium. If a relatively small project could work such miracles within this short span of time the benefits of huge multipurpose projects as the Hirakud and Damodar Valley could be left to the conjecture of imagination. It is obvious that the face of this ancient land is changing for the better under the impact of this plastic surgery and the populace will cease to be mere hewers of wood and drawers of water which has been their lot through the centuries.

ECONOMICS OF LAND DEVELOPMENT IN NEW RIVER VALLEY PROJECTS

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The progress of land development in a project area, mainly depends upon the economic milieu in which the project is situated. The important economic factors which have a vital bearing on the success of land development can be broadly classified as follows : (1) Land tenure and tenancy systems, (2) Speculation in land, (3) Colonisation and land distribution, (4) Capital formation and credit facilities, (5) Taxation policy and (6) Stability of farm incomes.

1. Land tenure and tenancy systems

"Unsatisfactory forms of agrarian structure and in particular, systems of land tenure, tend in a variety of ways to impede economic development in under-developed countries."[1] In a project area where there is excessive concentration of land and absentee landlordism and exploitation of tenants by lessors, either the progress of reclamation work may be retarded or a part of the land which is expected to be brought under irrigation may not be irrigated at all. It has been reported that one of the main causes for the financial failure of K. C. Canal system in Andhra was the existence of large holdings in this area.[2] The landlords in possession of these large estates of dry and fallow land, did not reclaim them for irrigation, because firstly they lacked necessary capital for land improvement and secondly, they thought that dry cultivation without any financial investment would be more economical and profitable than wet cultivation which would involve the investment of large amounts of capital, which if utilised for money-lending, would bring more profit. In cases like these, a ceiling on individual holdings is necessary for the successful implementation of reclamation programmes. Even in a country like the U.S.A. with sparse population and vast areas of uncultivated land, fixation of ceiling on holdings was prescribed by the Reclamation Act of 1902.[3] According to this Act, landlords with holdings over and above 160 acres, should sell their land at government prescribed prices, if they want to get water to their fields from the irrigation project. Water is denied to those who do not obey this law. The 1943 'Columbia Basin Act' also directs the establishment of farm units limited to 160 acres.[4] Fixation of ceiling on holdings should precede and not follow the construction of an irrigation project. If the limit is not placed before hand, the landlord cannot know what part of his holding he will be allowed to own, and what part will be confiscated from him. Haunted by the fear of the introduction of land reforms at any time, he is not likely to reclaim as much land as his financial resources would permit. Hence it is desirable that the scheme of limitation of the size of holdings should be implemented before any irrigation project is taken up.

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1 U.N. Report 'Land Reform' 1951 Chap. 3. p. 65.

2 Report of the 'Indian Irrigation Commission' 1901-1903 Part II Evidence before the Commission about K. C. Canal.

3 Section 5 of the Reclamation Act of 1902, states, "No right to the use of water for land in private ownership shall be sold for a tract exceeding 160 acres to anyone land owner,........".
Quoted in 'Central Valley Project Studies Problem 24. Bureau of Reclamation U.S.A. p. 25.

4 Report of the 'President's Water Resources Policy, Commission' U.S.A. 1950 Chap. I. p. 154.

Tenant farming is another major obstacle for the rapid development of irrigation. Since the tenant is not the owner of the land he tills, he is not prepared to invest capital for land improvement. Though the lessor can increase his income by converting his dry farm into an irrigated farm, he may not be prepared to do so, as the remuneration in the form of enhanced rent, may not be in proportion to the investment which the preparation of land for irrigation involves. Legislative action and financial assistance to enable the farmer to become the owner of the land he cultivates, are the pre-requisites for land development in river valley projects.

2. *Speculation in land*

When an irrigation project is constructed, the value of land in the 'ayacut' of the project increases and speculators will find a profitable trade in the purchase and resale of land. When the value of land shoots up due to the gambling activities of the rich and aggressive speculators, the small-scale farmers and the landless agricultural labourers cannot purchase land in direct competition with them. As a result of unrestricted speculation in land, land will inevitably pass into the hands of absentee landlords, money-lenders and the merchant community, the classes, which are not interested in the development of land, but which are interested in making money by the exploitation of land-hungry peasants by leasing out lands to them.

The best remedy to combat this evil is statutory regulation of land prices, by the State. The Federal Government in the U.S.A., saved the small-scale farmers from the predatory activities of these 'aggressive or monopolistic' speculators, by fixing land prices in reclamation projects. Section 46, of the 'Omnibus Adjustment Act' of 25th May 1926, reads in part as follows,"........all irrigable land in private ownership by any one owner in excess of 160 irrigable acres, shall be appraised in a manner described by the Secretary of the Interior, and the sale prices thereof fixed by the Secretary, on the *bonafide* value, at the date of appraisal, without reference to the construction of irrigation works,......"[5] Anti-speculation legislation alone cannot ensure, that the land will pass into the hands of the actual tillers of the soil. It must be backed by legislation which prescribes that irrigable land can be purchased only by *bonafide* cultivators and that land should not be sold to non-agricultural communities.

When once we agree to the statutory fixation of prices of land in project areas, our next problem is to find out the basis for price fixation. Should the prices be fixed according to (*a*) market prices of land prevailing before the construction of the project[6] or (*b*) market prices existing after the completion of the project or (*c*) the average of the prices of land, 15 or 20 years before the starting of the project ? The prices of land should not be fixed on the basis of 'post-project prices' of land, as they contain windfall income in the form of enhanced values of land due to the construction of the project. 'Pre-project prices' of land can be adopted as the base, provided the project is not constructed in a highly inflationary or deflationary period. If it is constructed in a period in which violent oscillations of prices take place, then the average of the prices of land prevailing 15 or 20 years

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5 Central Valley Project Studies—Problem 24 Bureau of Reclamation U.S.A. 1949 p. 26.
6 Before the people came to know about the intention of the Government to construct the project in that area.

before the construction of the project, may be taken at the basis for fixation of land prices.

3. *Colonisation and land distribution*

Wet cultivation requires more labour force, per unit area of land, than dry cultivation, as the former involves land preparation and intensive farming. If an irrigation project is situated in a sparsely population area, irrigation programme cannot be successfully implemented, unless mechanisation is introduced, or agricultural labourers and farm families are invited for colonisation, from densely populated districts. Since mechanisation of agriculture is not advisable in the present circumstances, with large-scale seasonal unemployment and under-employment in the rural sector, colonisation is the only method to provide adequate labour force in the project areas. Machinery can be used in land reclamation work, only when the work cannot be done by manual labour. The Committee which recently undertook the investigation of the development of Tungabhadra Project area has pointed out "As far as possible cultivators should be enabled to do reclamation work for themselves, with such assistance from state as is necessary and that the only work which the cultivator cannot do should be done by mechanised means. All the available labour force should be mobilised and utilised for land preparation. . . . . . Additional man-power may be imported both for initial land preparation and also for subsequent cultivation."[7] The same Committee pointed that, in the three villages selected for investigation, Gangavati in Hyderabad, and Kampli and Emiganur in Mysore, scarcity of labour for irrigated cultivation was noticed. The Committee further remarked "that paucity of labour might stand in the way of introducing irrigated economy in the place of the existing dry economy."[8]

As to the question, whether it is desirable to invite small scale farmers or big landlords for colonisation of new project areas, it has been emphatically stated by Dr. P. W. Pavstian, in his book 'Canal Irrigation in the Punjab' that it is always better to encourage the migration of small-scale peasants for coloniation.[9] "It was thought" writes Dr. Pavstian, "that the Yeomen (big landlords) would cultivate their grants with the aid of tenants, and that their credit resources might be made available for development of colony areas. The hopes of the government were never fulfilled".[10] This type of grants were stopped from 1901. Mr. P. Young in his 'Report on Colonisation of Lower Chanab Canal' writes that, "In every way these Nazareena paying grantees (big landlords) are unsatisfactory tenants of the Government. Their endless disputes with the tenants and among themselves, their migratory habits, retarded rather than helped the pace of colony development."[11] The above passage clearly reveals to us that it is not advisable to permit big landlords to colonise the labour-scarcity areas of the project. On the one hand, they cannot contribute manual labour for land development and on the other hand, colonisation by landlords will add to the already existing social evils

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7 Suggestions of the Committee which recently conducted an investigation of the development of Tungabhadra Project area—The Hindu 8th Nov. 1954.

8 Ibid.

9 For an interesting account on colonisation, read Chap. IV in 'Canal Irrigation in the Punjab' 1930 by Dr. P. W. Pavstian.

10 Ibid—"Canal Irrigation in the Punjab' Chap. IV p. 69.

11 Ibid—Quoted by Pavstian—p. 70.

like absentee landlordism, unnecessary litigation and relentless exploitation of the tenants and therefore cannot promote land improvement.

Landless agricultural labourers must be encouraged to migrate to new project areas to accelerate the pace of reclamation work. But the experience in reclamation projects in the U.S.A. shows that it is not advisable to assign land to these people for direct cultivation. Landless agricultural labourers, cannot be expected to possess any capital either to purchase land and animals, or to meet the expenditure for land improvement. The government has to provide all the necessary capital to these people. Firstly, the government cannot bear such heavy financial burden. Secondly it is feared that the landless labourer will not be able to repay the loan amount within the prescribed time as the burden of debt will be too heavy for his slender resources. The report on the 'Columbia Project Joint Investigations' says that "it would appear impracticable however to provide the settler, having no cash resources, with sufficient finances, to permit farm development at the most desirable rate."[12]

Small-scale farmers from densely populated areas who are already in possession of a pair of bullocks and some amount of capital (which they can obtain by the sale of their land in their native place) may be allowed to settle down in labour-scarcity areas of the project. State land and the land confiscated from the big landlords by fixing ceilings to their holdings, should be distributed to these settlers, in units not less than the size of an economic holding. If the unit of assignment is less than economic holding, the evils of submarginal farms will be repeated and perpetuated. In the U.S.A. the Federal Reclamation Act of 1902, prescribed the minimum size of farm allotment to the settler at 40 acres.

4. Capital formation and credit facilities to needed in project areas

The task of constructing an irrigation project does not come to a close, by merely throwing a dam across the river and the excavation of the canals. It will be completed only when all the land that is expected to be brought under irrigation, is properly prepared to receive water from the project and the expected produce is realised from the land. Land preparation for irrigation, includes, clearing of trees and bushes, levelling the land, digging the feeder canals and raising bunds. Wet cultivation requires more investment than dry farming. Therefore reclamation of land for irrigation involves huge expenditure, which the majority of our farmers who are leading a hand to mouth existence, cannot bear. It has been estimated by the Committee which investigated the development of Tungabhadra Project area, that the cost of reclamation per acre, amounts to 200 to 250 rupees for heavy irrigation and 100 to 150 rupees for light irrigation in the Tungabhadra Project. Further the report says that at the rate of Rs. 200 per acre for heavy irrigation and Rs. 100 to 125 for light irrigation, the total amount of credit required for land preparation, would be of the order of rupees two crores for Andhra side alone.[13] This account shows the magnitude of the problem of providing credit facilities for reclamation of land. Besides this type of expenditure, cheap credit is also necessary

12 Columbia Project Joint Investigations 1949 Problem 14 Chap. V p. 61 U.S. Bureau of Reclamation.

13 Report of the recommendations of the Committee which investigated the progress of development of Tungabhadra Project Area. The Hindu 8th Nov. 1954.

for the farmers to purchase land, draught animals, fertilisers, seed etc. Unless adequate credit facilities are provided to the ryots, the development of land will inevitably be delayed. Each year's delay in the execution of a major project, entails a loss of several lakhs of rupees to the State in the form of interest charges on the capital invested and water charges.

In the early reclamamation projects in the United States of America irrigation development was very much delayed due to lack of credit facilities. The various committees which have been appointed to find out the causes for the delay and suggest proper remedies, came to the unanimous conclusion that the main defect was non-availability of adequate finances, and they recommended that provision of necessary credit for land improvement should be a part of the reclamation programme. The Fact Finders Committee of 1924 recommended that "loans from development should be made part of the reclamation policy."[14] In their report on 'Economic Problems of Reclamation,' Dr. Alvin Johnson and Dr. E. C. Brason, propose "the creation of a loan fund under reclamation budget to advance improvement loans to settlers."[15]

The Federal Government in the U.S.A. came to the rescue of the farmer by providing sufficient credit, through two main credit agencies of the Government , the 'Farm Credit Corporation' and the 'Farmers' Home Administration'. The F. C. C. provides credit to co-operative credit societies. The F. H. A. is a unique type of credit organisation which provides nearly 50 per cent of the credit needed by the farmers in project areas directly through its numerous agencies.[16] It provides long term loans for the purchase of land and to make permanent land improvements, repayable in 40 years on instalment basis. Medium term loans and short term loans are made in adequate quantities to meet all the financial requirements of the settlers in project areas.

There are certain noteworthy features in the loan programme of F. H. A. which should be emulated by the Government of India in providing loans for farmers in the new project areas. (*a*) If the F. H. A. is convinced about the integrity and the ability of the farmer to repay the loans, sufficient funds are advanced to him, irrespective of the securities offered by him. "The F. H. A. has carried on a programme of 100 per cent loans, although the supervising features of this programme undoubtedly have added greatly to its success."[17] (*b*) The F. H. A. provides for variable payments according to the changes in the income of the farmers. The income of the farmers may be affected by price variations and other causes, and the F. H. A. permits the borrower to repay larger amounts in good years and smaller sums in adverse periods. (*c*) Another interesting feature about F. H. A. loans is that direct link is established between granting of loans and the supervision of the utilisation of these funds. The F. H. A. officers make frequent visits to the farmers and provide necessary technical aid and guidance in farm development

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14 Report of the 'President's Water Resources Policy Commission' U.S.A. 1950 Chap. I. p. 153

15 Ibid.

16 In this short paper, it is not possible to give a detailed account of F.H.A. An excellent description of F.H.A. and its functions can be found in (1) Financial Aid for Settlers—Problem 14. Columbia Basin Joint Investigations Bureau of Reclamation U.S.A. and (2) Report of the "President's Water Resources Policy Commission' U.S.A. 1950 Chap. I.

17 "Accelerated Settlement and development of irrigation in new projects"—Land and Public Utility Economics—1954 (August) p. 257.

and management. "Farm and home management planning precedes all financial action. A loan docket must include a copy of farm plan and this plan must be carried out under the loan".[18] The need for this type of special financial aid arises from the combination of the unavoidably high cost of establishing a new farm on irrigated land, the extremely limited repayment capacity of the newly established farm enterprise during the period of development, and the limited capital possessed by most of the farmers. While the irrigated farm may reasonably be expected to provide an adequate family living and to return the cost of development in the long run, special financial assistance is necessary during the period of development.[19]

In India, the existing rural credit institutions cannot cope up with the credit needs of farmers in the new project areas. Moneylenders cannot advance longte m loans needed for land development. Land mortgage banks are not well developed in the backward areas in which the projects are situated. Besides the inordinate delay in obtaining a loan, after submitting application for loan, the small-scale farmer with his slender resources to offer as securities cannot get sufficient credit, required for irrigation deve opment. The Takkavi loans which the Government grant under the Land Improvement Loans Act of 1883 and Agriculturists' Loans Act of 1884, are few and far between and they cannot meet the financial needs of the farmers.[20] All these above credit agencies operate strictly on commercial principles. Any credit agency which insists on advancing loans strictly on business principles cannot provide long-term loans in adequate quantities, at favourable terms, for land improvement. This is mainly due to the reason that, the value of the credit needed by the farmer may be equal to or sometimes even exceeds the value of the securities that the agriculturists can offer. Hence a special type of credit institution is necessary, which can advance enough finance to farmers for land development, irrespective of the value of securities offered by them.

The nature of the financial aid required is such and the risk involved in it is so great that no other agency, except the State can provide loans for development purposes in the new projects. For this purpose, a 'Land Development Organisation' should be started both in the centre and the States and it must be placed under the direct control and supervision of the Ministers for agriculture.

The functions of this 'Land Development Organisation' should be akin to the functions of F. H. A., in the U. S. A., and must be governed by the same principles, with slight modifications wherever necessary. Its chief functions would be (1) Advancement of long term, medium term and short term loans, directly to the agriculturists in the locality in which the project is situated. (2) Provision of technical existence for farm development and supervision to see that the loans advanced are properly utilised for development purposes.

Long-term loans should be granted in sufficient amounts, for the purchase of land and for effecting permanent improvements to land including irrigation

18 Report of the Agricultural Finance Sub-Committee Government of India. 1944 Chap. IX p. 74

19 Columbia Basin Joint Investigations U.S.A. 1949 Problem 14 Ch. I p. 1.

20 For an authentic and realistic appraisal of the working of rural credit agencies see Report of the Agricultural Finance Sub-Committee 1944.

facilities. These loans can be advanced against the security of immovable property (which includes all kinds of lands and buildings in possession of the borrower) to the full extent of the market value of such property. Unless this principle is followed enough funds cannot be obtained by the farmers for land development. As far as possible reliance should be placed on the honesty and the ability of the farmer to repay the loans rather than on the value of the securities offered by him.[21] Obviously this involves very great risks, against which the government must be guarded by maintaining strict supervision over the utilisation of loans by the farmers. Loans should not be given in lump sum to the cultivator. They must be advanced in instalments as the reclamation work progresses, on the field. It must be made obligatory on the part of the cultivator to produce a certificate by the supervisor of the 'Land Development Organisation' (whose duty should be to supervise and guide the reclamation work of the farmers) for obtaining the next instalment of money, that the amount of the previous instalment, has been spent fully and satisfactorily on development work. This kind of direct and strict supervision is necessary to ensure rapid development of reclamation work and the prompt repayment of loans advanced. (2) Medium term loans, should be granted for the purchase of bullocks and farm implements. Movable property like livestock and jewels can be accepted as security against these loans. (3) Short term loans for the purchase of seed, fertilisers and to meet other farm expenditure, can be granted on the security of the standing crops. The borrower should execute a bond to the effect that he would sell his farm produce through this organisation.

Funds should be advanced in 'conservatively adequate amount.' They must be adequate to meet all the credit needs of the farmer and at the same time they must be conservative to prevent excessive indebtedness of the farmer. As Mr. Kutyn points out, "Agricultural credit like easy consumer credit, can lure the borrower into financial ruin, if administered unwisely, and thus bring results, which are exactly opposite of what were expected."[22]

The repayment of loans should be made flexible according to the variations in the income of farmers in different years.

5. *Taxation policy and repayment of loans*

The taxation policy of the State and the principles governing the repayment of loans, directly influence the progress of land development. If the burden of taxes and loans is oppressive and the method of their payment is inflexible and inconvenient, the farmer cannot pay taxes and debt charges regularly. He will become bankrupt and will have no finances for land improvement. In the early reclamation projects of the U.S.A. the government did not fix taxes and repayment of loans on any scientific and rational principles. The result of which was that the agriculturists could not meet their financial commitments to the Government

21 Mr. Kutyn in his article on 'The National Bank of Argentina as a source of credit for Argentina farmers', writes "The Bank feels that if loans were granted only on the basis of physical security, many good farmers would not qualify. Therefore the credit law of 1933 requires careful analysis of the capacity and the moral character of the applicant... The bank Managers are generally acquainted with the farming area in which they work and usually have a personal knowledge of their clients. The process of securing a loan usually does not take more than 15 days"—Journal of Land and Public Utility Economics 1950 p. 391.

22 Ibid p. 393.

and their debts piled up. The government could save the situation only by writing off the arrears in taxes and the accumulated debt charges. As Mr. Joss points out "widespread delinquency, frequent moratoria, and downward adjustment of contracts are detrimental to the morale of the settlers and operate in the long run, to destroy their will to repay their contracted obligations."[23] In later projects, the Bureau of Reclamation in the U.S.A. fixed water charges and the period of repayment of loans, according to the ability to pay of the farmer. The period of payment of water charges was increased from 10 years to 40 years. Besides this, a development period of 10 years was allowed during which the farmer need not pay water charges.

In the new irrigation projects of India the ryots have to pay (1) water charges and (2) betterment levy in addition to the existing land revenue, which sometimes is increased when lands are irrigated. In addition to these charges, the peasants have to pay back the loans borrowed from the Government and the other credit agencies. The farmer has to meet all these payments from the income derived from his farm. Hence it is desirable to fix the payment of these charges in such a way that the farmer will be able to bear all these charges from his net income.[24]

If we want to ensure the successful execution of land development, the annual payment of debt charges and taxes should be based on the ability to pay of the farmers. In our country, water rates are not fixed according to the canon of ability to pay. The area irrigated, the nature of the crop raised and the amount of water required for its maturity, are taken into consideration in fixing water rates. But no attention is paid (except in Mysore) to the variation in the fertility of the soil and the differences in the farm income, due to the existence of different grades of soil fertility. Judged from the point of view of ability to pay, water rates should be based on the net income of the farmers cultivating different types of soil. Betterment levy is a charge on the unearned increment in the value of land, which accrues to the owner of land, due to the development of irrigation facilities. The Bombay Government have fixed the levy at 50% of the increase in the value of land. Considering the financial conditions of the farmers, this seems to be a reasonable charge. The farmers must be allowed to pay the betterment levy on a long term basis, in annual instalments. The instalment payment should be fixed at such a level that the farmer will be able to pay it from his net income. The report of the 'Advisory Committee on Hirakud Dam Project' points out that "if the betterment levy instalment plus the irrigation rates are not more than 50% of the increased profits due to irrigation the collection of betterment levy will be more or less assured."[25] This suggestion is related to the principle of ability to pay, and can be adopted as the basis for fixing water rates and betterment levy. Roughly speaking 25% of the net income can be charged by way of water rates and the other 25% for betterment levy. The period of repayment of betterment levy can be determined by dividing the total amount of levy which a farmer has to pay by 25% of his annual net income.

Of the remaining 50% of net income, half can be utilised for the repayment of loans and the other half for farm development. This of course is a very crude

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23 Repayment experience in Federal Reclamation Projects—by Alexander Joss Journal of Farm Economics 1945 p. 159.

24 Here water charges are excluded from the cost of cultivation.

25 Report of the 'Advisory committee on the Hirakud Dam Project'—March 1952 p. 19.

solution,but it will provide some guidance in the fixation of various charges that should be paid by the farmer.

In addition to this, a development period of atleast 5 years should be allowed, during which no charges should be collected from the farmers.

6. *Stability of farm income*

The farmers must be assured of stable income to pay taxes to the government regularly, to repay the loans promptly and to develop land according to the time schedule fixed. Instability of farm income in project areas can be attributed mainly to changes in agricultural prices. A sharp fall in the price level of farm products, spells disaster to the farm community, by cutting short the income of the farmers. If the income of the farmers goes down, land improvement will inevitably be delayed. With a downward trend in the prices of agricultural goods, the value of land also goes down. If the government advances loans for land development on the security of land, they will have to undergo heavy loss in the form of fall in the value of securities. If the lands are pledged to private money lenders, as soon as they scent the fall in the value of prices and thereby the value of land, they will rush to the court of law to claim their pound of flesh. Besides all these difficulties, erratic and violent fluctuations in the price level of agricultural goods, will cut at the very root of the most important incentive for land development namely the sense of security. The agriculturist will not undertake the risk of investing large sums of money in reclamation work, the proportionate remuneration for which is not guaranteed in a period of price fluctuations.

As the report of the 'Prices Sub-Committee' recommends, the best method for maintaining stability in agricultural prices, is to guarantee minimum prices for farm products.[26] The report says that "the price guarantee extends an assurance to the producer, that he can always depend upon receiving a price not below the level guaranteed and gives him a sense of stability and security which cannot but influence his decisions of investment and production. . . The wide range over which prices fluctuate in market, is the greatest single factor restrictive of agricultural development, and a narrowing of that range with a floor below the market prices immediately creates the conditions necessary for a general expansion.[27]

Fixation of minimum prices by the State means, that the State should purchase agricultural goods from the farmers who wish to sell them at the guaranteed prices.

For the effective maintenance of minimum price guarantees, proper crop planning in the project area is necessary. Agricultural products, for which there is enough demand in the market alone, must be allowed to be raised, in order to avoid glut in the market and the consequent fall in prices of farm goods.

To sum up, to ensure the successful execution of the new river valley projects and to promote rapid land development, progressive land reforms should be introduced, speculation in land should be arrested by statutory regulation of land prices, colonisation in the labour-scarcity areas of the project by small-scale

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26 Report of the Prices Sub-Committee Government of India 1944 p. 33.
27 Ibid—p. 35.

farmers should be encouraged, 'Land Development Organisation' should be created for providing adequate credit facilities for land improvement, taxation on land should be based on the principle of ability to pay, and stable farm incomes should be assured to the farmer, by guaranteeing minimum prices for farm produce.

DISCUSSIONS

*Prof. G. B. Kulkarni**

We listened to two papers one by Messrs. Raghavan and Rao and the other by Dr. Srinivasan. These papers have given considerable information which is not otherwise available to persons like me who are normally stationed in Bombay and who have no occasion to study such projects. These papers raise certain issues. For example, it has been suggested by Messrs. Raghavan and Rao that the farmers should grow more of commercial crops now that food self-sufficiency is practically achieved. It would have been more useful if something could be said about the way of achieving this switch over. I believe that it is through an adjustment of prices that a desired shift from food to commercial crops can be achieved.

Then there is the question of betterment levy. I think there are no two opinions about levying the betterment tax. The little resentment to betterment levy that might be offered will have to be overcome. A number of alternatives are, however, indicated about the method and the rate of the levy. A suggestion has been made that the levy should be in land in excess of a minimum holding. I have my own doubts about fixing the minimum holding. Further, in our country where holdings are small, we should endeavour to enlarge their size rather than chop of some land from them. I feel therefore that a levy in land is not advisable. Similarly, a betterment levy which is related to the price level would be very difficult to work out. I would suggest, therefore, that the levy should be taken as so many rupees per acre.

The other point is about the supply of capital-cash and physical goods. I would suggest that the advantage of river valley development schemes should be taken to introduce new tools and implements for modernising Indian agriculture.

The author of one of the papers said that there was a considerable increase in the farmer's income in Mysore, but there has not been any improvement in his social condition. It is difficult to agree with the author unless he suggests that the farmer is spending all his money on wine or hoarding it underground, or has cleared his debts or his cost of production and his cost of living have proportionately increased at the same time.

There are a few general issues. One of the difficult problems about these river valley projects is the problem of compensation to be paid to those who lose

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their lands. The second problem is about the effects of these irrigation projects on the fertility of the land in the long run. I do not know the technical side of it and I would like to be enlightened on this problem. And thirdly there is the problem of transfer of land. As the productivity per acre increases there is a tendency on the part of the farmer to sell or mortgage his land. I think this tendency should be curbed.

Regarding Dr. Srinivasan's paper I want to raise one point. He says, that as more and more cotton is grown there will be more cotton mills and there will be also additional demand for labour. Now, this issue must not be considered purely from the point of view of that particular area where cotton is a predominant crop, but it must be considered from the point of the total supply of and demand for cotton and cotton manufactures, both interal and external.

*Prof. B. N. Ganguli**

I wish to raise a few fundamental questions which have occurred to me as an economist so far as the economic aspects of river valley projects are concerned. A very simple principle which is very often ignored and the full implications of which have not been worked out by administrators in charge of river valley projects, is that of joint costs. As economists, we know that where the proportion in which the joint services are produced can be varied, it is possible to estimate the separate marginal cost of different services. Of course, that is not possible in the case of multipurpose river-valley projects and thus they give rise to a big problem of cost allocation. The fact seems to be that where the proportions are by and large invariable, the principle should be that the tariff should be fixed on the basis of the marginal utility of the service, to the particular class of people who are benefiting by the particular kind of service. Thus the total outlay should be covered by total receipts and the tariff in respect of each individual service rendered should be fixed on the basis of the marginal utility of the service to the class which benefits by that service. The main difficulty in the application of these simple principles seem to be that the services rendered by the river valley projects are largely of the nature of primarily social services and therefore the cost allocation on the basis of specific benefit accruing to a particular class of persons may be farmers in a particular locality or another community in another locality is extremely difficult. For purposes of our discussion I would like to illustrate the difficulites which arise in applying these economic principles. I do not propose to raise any difficult accounting problems about river valley projects. So far as I am able to judge these problems have not been tackled in our country so far. Reference was made in Mr. Rao's paper to the importance of planning land development in areas where river valley projects are being completed or are nearing completion. If we take the entire process of land developent in areas which are going to be developed by irrigation or by laying transmission lines where electricity has been generated or going to be generated, it is not enough to supply water or bring electricity to the countryside. There must also be some arrangement or organisation by means of which domestic power installation is provided. These are very big problems. Perhaps these problems are as important or difficult of solution as the problem of providing irrigation or electricity on large scale. Mr. Rao explained very clearly the enormous investment that is needed and gave some

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idea of the investent per acre of land in different soil areas. From the point of view of economic theory there are direct costs of constructing river valley projects as well as "associated costs" which are distinct from direct costs. Mr. Rao posed a question to Dr. Srinivasan about associatd costs when the latter referred to the effects of river valley development in a particular part of South India. He was calculating the tremendous benefits which the farmers are going to derive from the completion of that project. But I think he did not pay attention to the important problem of associated costs. These problems have not arisen so far, but as and when these river-valley projects are completed, the question of associated costs will confront us. During the period of the first Five Year Plan I am quite certain that there will be a lot of thinking and rethinking on these problems. There are of course two clear alternative answers to the qestion as to who should bear these associated cost. I would state the alternatives in the form of questions for I do not want to be dogmatic on these points. The first alternative is for the State to meet these associated costs out of general revenues. The second alternative is for the individual, who benefits directly by the service rendered by the river valley projects, to bear them. One way of answering these questions is to find out whether the benefits of the services rendered accrue to the community and are largely of the nature of external economics or social overheads. As a matter of fact it may be said that the direct impact of one part of the project would be to benefit a class of farmers in the immediate neighbourhood. But this is a minimum impact and it would be taking a very narrow view of the effect of these projects to say that it is the farmer who directly benefits from irrigation and that he should bear a considerable part of the associated costs. May be a farmer benefits directly to a certain extent, but the question is in what principle and on what basis he should be asked to contribute in lieu of the benefit that has accrued not merely to the farmer himself but to the class of farmers in the immediate neighbourhood and to the community as a whole. If the service are very largely of a socialized nature, I think, the State should bear the entire expenditure as a whole and to tax the surplus or unearned increment which arises as a result of economic development. I am stating a very general principle. Therefore, to me, it appears easier for the State to bear not merely the direct expenditure but also the associated costs in the first instance and then to meet this entire expenditure out of taxation. That is how a State functions in a modern set-up. It is sensible to tax the unearned increament or surplus as and when the surplus accrues. If this point is considered, a lot of rethinking is needed on betterment levy on individual basis. Personally I am opposed to betterment levy. Although it has been said just now that there is no objection to betterment levy I would say that the betterment levy should not be imposed in this way. The whole process of development should be completed and it is only after that, that the state should tax the surplus. We know that there is resistance against the imposition of betterment levy and the farmer, I think without being actually conscious of the broad principles involved in it, is perhaps reacting against it. He realises instinctively that it is community development and if it is a community development, why should he or any class be asked to bear the burden in the first instance ? The community should wait till the process of development is completed, and as and when the additional income accrues let the State levy taxation in order to be able to finance the enire project from the long-term point of view.

*Prof. S. Krishnamurthi**

Several points have been raised by Messrs. Raghavan and Rao. I am indeed very happy to follow my distinguished predecessor who explained so ably that betterment levy can be imposed on the farmers in the river valley projects. It is not the betterment levy, but the manner in which it is proposed to be imposed on the farmers that has made me anxious. To me one of the most objectionable suggestions made is about the confiscation of land from the farmers. In certain cases the farmers are expected to surrender 50% of the land particularly the perennial wet crop land, which is supposed to be highly priced. Knowing our farmers, such a suggestion is not feasible. As my distinguished predecessor suggested, the expenditure on such river valley projects should be met by the Government and the levy which the farmer is expected to bear must be fixed in relationship to his economic conditions at the time when the projects are completed. It will be some years before the farmers covered by the projects will be in a position to pay large sums in betterment levies. It is an unheard of suggestion that farmers should surrender 50% of their lands. During my visit to the U. S. A. I acquainted myself with the river valley projects, particularly the TVA. They made transactions in land easy, by having a ceiling of prices so that there was no undue exploitation. The Government which initiated the river valley projects should take the initiative and lay down uniform policy regarding betterment levy or any method to draw away unearned increments in land.

And there are one or two other things which I would also like to raise here. Regarding colonisation, in one place Mr. Rao has estimated that in a village about 150 families will have to be imported. You may well realise what will happen if a village unit were to receive about 150 families, particularly the social tension that it will create. Mr. Rao is unduly alarmed at the lack of labour in Rayalaseema and Mysore where these projects are located. I know a little of labour saving implements that have been developed in these areas. These improved implements have shown good results and can be used also on the garden lands of these districts. Encouragement and continuance of labour saving implements must be fostered.

*Dr. V. G. Panse***

One point that occurred to me has already been raised by Prof. Kulkarni. I am curious to know what has happened to the extra earnings of the Mysore farmers who do not seem to have improved their social standards at all. The other point is about Dr. Srinivasan's paper. He referred to some dilution of salts in well water and the consequent difficulty of growing tobacco crop. If I have understood him correctly, this is quite a novel suggestion that has come out of his survey and may be attributable to a prejudice of the farmers of the area. I hope the local agricultural department will take the earliest steps to go into this question and dispel this prejudice. Somewhat akin to that point is the question about the change of fertility due to continuous irrigation raised by Prof. Kulkarni in his comments. Generally speaking fertility is increased with irrigation because with larger crops larger residues will be left behind and more organic matter will

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go into the soil. The farmer will have better resources with which to exploit his land. With greater care and better cultivation fertility should increase, except in some places where due to excessive use of water, water logging might take place and salinity of the soil might increase. It should not, however, be difficult to check this by judicious distribution of water amongst the crops. I remember having looked into this problem some years ago so far as the Old Punjab was concerned and my impression is that in the district of Lyallpur under the West Punjab canals the total amount of land which have gone out of cultivation due to salinity was under 15,000 acres in the course of 25 or 30 years.

Prof. Kulkarni raised the question of sampling in connection with Dr. Srinivasan's paper. Any extrapolation to other projects on the basis of information provided by Dr. Srinivasan is obviously out of question. Each Project has its own peculiar background, and circumstances. For example, in the Tungabhadra area we find that there are no cultivators to use the water that is being released. In other project areas conditions will be different. What I am worried about is the lack of sufficient and critical sampling within the project area during the course of such studies. One would have liked to see sampling being done on a larger scale. Perhaps Dr. Srinivasan had his own difficulties. It is still really a question of adequate sampling within the project area in order to secure data fully representative of that area.

*Shri M. P. Bhargava**

The problem of financing the projects and their proper utilisation are two important questions that have been posed. After investing about 70 crores of rupees on Hirakud or 100 crores on Damodar, the immediate problem that concerns us is the full utilization of electricity generated and water made available by the projects. If finance is the rub the general feeling is that the governments should be willing to provide it. The requirements of funds would however not be uniform and will differ from area to area. In the Punjab for instance, where considerable experience has been acquired in utilising irrigated waters, farmers are very keen to avail of the irrigation facilities. They are more resourceful, so that they may be able to put in their own money in business. In the Tungabhadra and Hirakud areas little background by way of experience is available. Here probably the government will have to take a much greater initiative and also undertake a larger investment. The previous speaker suggested confiscation of land. The Government is not very anxious to introduce any such measures, but if, as the survey of Messrs. Raghavan and Rao shows a farmer has got 15 acres of dry land and if water for irrigation is made available the experts consider that he would be able to cultivate only 7½ acres. What is he going to do with the rest of the land ? A remedy is to settle outsiders on the land. If we plant people from outside, the question is what type of people, and from which area they should be brought. It cannot be contested that having invested directly large amounts of over 500 crores of rupees, it is not the responsibility of the community to see that the resources created should be fully utilised. The idea of colonisation or importing experienced farmers from the same area or neighbouring areas has therefore to be seriously considered. Most of the speakers have

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so far referred to the utilisation of irrigation waters. But it may also be remembered that in Hirakud where electricity has been generated, no experiments have been made to utilize the energy. The feeling in some of the government quarters is, that when large projects are set up generating large quantities of electricity, this energy will be used, but it is necessary that simultaneously with the generation of electricity the manner of its utilization should also be thought of. Certain time lag between the two is likely to prevail even if large industrial concerns were to be thought of. Whether such concerns are desirable from the social point of view is another matter. It is good to hear from Dr. Srinivasan that the waters of Coimbatore district have been fully utilised. I have my own doubts about the possibility of Hirakud, or the DVC or Tungabhadra waters being utilised and a new prosperous country being created quickly. I fear that there is bound to be considerable time lag and it is for us all to consider that this time lag is reduced to the minimum and a proper utilisation ensured.

Another point that was raised related to the problem of dispossession. I will illustrate this with an example. In the Hirakud area in the Sambhalpur district about 5 or 6 villages have been affected. In the direct cost of the project a sum of Rupees five crores or so has been provided and it is the responsibility of the project authorities and the State Government to rehabilitate these people, by giving them land for cultivation, housing accommodation and other amenities.

Dr. Panse has already indicated the dangers of excessive or indiscriminate use of water. The Punjab is suffering from water logging and a large tube well project in PEPSU and Punjab has been undertaken in the water logged areas so that the excessive water will be drained off and utilised. The danger of water logging can be reduced and a proper use of water ensured, if the distribution system is improved. At present, what happens is, that the government department concerned decides on the release of water and the quantity of it. The sales are not on volumetric basis with the result that the people merely depend on the will of the department about the quantity. On the contrary, if the irrigation associations for each valley or for each district were to look into the question, a large number of evil effects which are likely to follow would be minimised.

*Prof. B. M. Ramalingayya**

I seek some enlightenment on one or two points Mr. Rao spoke about confiscation. As a man coming from those parts of Rayalaseema, I would like to know more about confiscation. The poor ryots whose lands have been acquired by the government and others who have been partially dispossessed are deeply concerned. Is the complete or partial confiscation of land intended to settle people from other parts ? If so, how has this problem been solved in the Bhawani project area ? As Mr. Krishnamurti pointed out, the process will raise certain social tensions. The right approach seems to be of getting cultivators of irrigated lands for settlement in the project areas. Mr. Rao said that the people residing in these parts are lethargic and do not display initiative to develop these lands. I am not sure whether this is peculiar to the Bhawani project area.

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*Prof. M. L. Dantwala**

I have one or two points to make. Dr. Ganguli said that most of the benefits of these irrigation projects would be of a socialistic nature. I am not quite certain whether this would be so. True, part of the benefit will be of a socialistic nature. The difference is about the extent of the socialistic and individual benefits. With the type of projects we are discussing and keeping in view the type of land tenure that is prevalent, a large part of these benefits is likely to be individual rather than socialistic. Then the question is about realising the investments on the projects. If the proposition that the benefits are largely socialistic is correct then obviously the state should bear not only the project cost but the cost of the development of the entire area also. But if the benefits are individual in a large measure because of the existing tenurial system I do not see how we can escape some type of betterment levy. There are, no doubt, objections to this type of taxation. Mr. Krishnamurthi pointed out that benefits will accrue in future while the betterment levy is imposed immediately. But the benefits might accrue here and now. If the value of my land has increased substantially I need not wait for 10 to 20 years for that increased value to yield continuous incomes. I can capitalise all the benefits and sell the land and if there is no provision for taxation immediately, I think the State will lose the control over the situation. I can see the political difficulties in an attempt to impose the betterment levies. Professor Ganguli I think agreed that the unearned increments has to be taxed. Well, if unearned increments have to be taxed, I am not able to think of any escape from the type of betterment levy that is being contemplated. This is my difficulty and I shall be glad to be enlightened on it.

*Prof. N. P. Patil***

The Bombay Government has sponsored a scheme to assess the economic effects of lift irrigation. I have been associated with the scheme for the last two years and I have tried to ascertain capital investment, the labour employed, etc., in irrigation. The results of the 2 years show that there has not been appreciable increase in the income of the farmer. Dr. Srinivasan says that the income will be doubled or trebled, and that there will be both direct and indirect benefits which perhaps is theoretically true. But my findings are that the farmer has not been able to derive benefits as expected. The reasons are many. They lack technique and sometimes suffer from labour scarcity. The Government of Bombay, as far as my knowledge goes, has provided him with fertilizers, credit, bullocks, and have also opened demonstration centres. Inspite of this the cultivator has not been able to get material benefits. The main reason in my opinion is the extremely small size of holdings under irrigation. I find that there are many farmers with 20 or 30 Gunthas or at the most only 1 or 2 acres under irrigation. If the farmer has sufficiently large holdings, then I think, he will be able to pursue intensive farming and increase his income. Dr. Panse raised a point about the relationship of soil fertility to irrigation. This will be so only if more of manure is used and a judicious system of cultivation pursued.

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*Shri D. C. Biswas**

The objectives of the river valley projects is the fuller utilisation of resources and increase in agricultural productivity. But there is the demand aspect to it. Besides, the benefits that will accrue will be both socialistic and individualistic. Thus, we will be confronted with a difficulty of taxing the producer's surplus, or unearned income. If the total output for a particular commodity is increased due to the increase in the rate of productivity and if we are faced with the problems of overproduction in that commodity giving rise to the problem of remunerative marketing, the producers will be running a losing concern. So if we do not take into account the market aspect we are committing a mistake. If we cannot have any control over production, in the event of overproduction it will be difficult to ascertain what will exactly be the producer's surplus. Such a situation might lead to a price crash as happened in the case of jute. Without taking into account the demand aspect we cannot possibily concentrate our attention on production alone. If you want to realise the cost of investment in river valley projects by taxing the producer's surplus we may be faced with a situation when the possibility of taxing producer's surplus might not exist. In certain jute areas crop cutting experiment was carried out and it was found that productivity increased under irrigation cultivation and an irrigation tax was accordingly levied on the basis of the increase in the productivity or output. Subsequently the production of jute went up, and as a result of overproduction a price crash occurred. The culivators in the irrigated areas could not pay the tax and a cry against this type of levy arose. The river valley projects should therefore take into consideration the market aspect of the commodities to be produced in the project areas.

*Dr. D. S. Chauhan***

Broadly speaking the river valley projects constitute the most outstanding measures to increase agricultural production to meet the needs of increasing population. In trying to understand the problem of land utilisation in relation to the river valley projects, the greater part of the benefit goes to the rice zone. In the rice zone, however, the major problem, to my mind, is not so much of water as of technology. The chances for agricultural extension and crop diversification are limited in the rice zone, but the chances for intensive cultivation no doubt exist. These projects, however, do not cover to any large extent the problem of land utilization in the famine tract (roughly the millet zone) which deserves greater attention in regard to water supply. Secondly, in the location of these river valley projects inter-regional and inter-state interests clash. Under the present administrative and legal set up, these difficulties cannot easily be overcome. Thirdly, flood control measures in the project areas have made limited headway both with regard to coverage and effectiveness. And lastly, on account of administrative difficulties neighbouring areas which can profitably utilize irrigation water are not covered probably because they do not strictly come within the juisdiction of the projects as originally planned.

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** Director, B. R. School of Economics and Sociology, Agra.

*Dr. D. T. Lakdawala**

There is one aspect of the discussion on which I wish to make one or two points, namely the cost aspect of the river valley schemes and the way of meeting it. It is not necessary to go into the controversy over the benefits of the river valley schemes being mainly individual or socialistic. For whether they be one or the other, it may be agreed that on practical grounds it is impossible to recover the cost immediately from the farmer. For one reason they are poor and therefore unable to bear the direct or associated cost. Moreover, often the cost which the individual farmer may have to put in by way of investment will have to be in one way or the other provided by the State, either by liberalisation of credit or some other facilities. For other reasons the benefits may not be very exactly calculated in advance. They may be uncertain and for one reason or other such as changes in market demands, the benefits may not accrue to the farmers as calculated. Thirdly while we may be sure about the benefits, it may be difficult for the farmer to be sure so that from the viewpoint of his psychology it may be much better to tax, as Dr. Ganguli suggested, the surplus that accrues rather than the betterment levy based on the prospective increases in the value of land. From that point of view it is surplus taxation rather than the betterment levy, as understood here that should be levied. Prof. Dantwala raised the difficulty about this, namely, that it may happen that the farmer may transfer his land or sell his land before the benefit has accrued to him but still he may get the benefit because the price of land has gone up. In that case there is a very simple remedy of associating that surplus with excess capital value taxation of land. Whenever land is sold by the farmer a tax may be levied on the value that accrues to him because of the river valley scheme. I think with this compromise both the points of view could be met.

*Shri B. A. Balachowdiah***

I want to add one item to the list of benefits and one more to that of disadvantages in a river valley basin. I have been hearing the accusation against the Mysore ryot that he has not utilized the monetary benefits derived by him to improve his social conditions. Most of you know that we have in Mysore one river valley basin now for more than 40 years designed and laid out by that great engineer Sir M. Vishweshwarayya near the famous Brindaban Gardens. In addition to the economic and social benefits derived from the dam, the area has political leadership. Today the political leadership of Mysore is largely drawn from that basin. The districts of Mysore and Mandya, but more particularly the latter, have highly benefited. This basin has turned a poor and precarious area into a productive and prosperous region with sugarcane as an important crop. An economic survey of the region will prove that the incomes of the peasants have increased, in some cases, five times. Given the requisite conditions the Mysore ryot will certainly come up to expectations and improve his conditions. As regards the disadvantage, water logging due to perennial irrigation has been an important problem. That has been a big problem of Mysore. Similar troubles may be anticipated in other regions as well. Perhaps

* Professor of Economics, School of Economics and Sociology, Bombay

** Lecturer in Agricultural Economics, Agricultural College, Bangalore.

the state governments concerned should benefit by the experience of the Mysore State and take suitable precautionary measures. This menace of malaria in the Mysore basin which was an affliction in the beginning is almost eradicated now, thanks to the efforts of the Mysore government and the Central Malaria Control Scheme.

The President

May I in the first instance make it very clear that this is not really a new problem. Irrigation has been practised for many years in India, though it might not have been on as large a scale as some of the new projects envisage. I will begin with Mr. Krishnamurti's point about allowing the market forces to work. You have to look at past history to know what market forces can do and what disasters they can inflict ; difficulties of colonisation, uneven development, water logging all these have been known with us all these years. I have been fairly well acquainted with these aspects in a small irrigated area both in their economic and political aspects.

The problem of betterment levy is really the most important one raised in the discussion. Government has partly undertaken the expenditure for provision of external economics such as roads, schools, dispensaries, etc. With these and other costs being borne externally the poorer farmer may secure some benefits. Quite a number of times, however, he has been dispossessed because he could not bear the internal development costs. And with a heavy levy he may, many a times, sell land which has increased in value not to get the benefits of such sales but because he has got to pay the betterment levy. So much for some possible effects of the levy.

On the other hand, I do not see how you can completely justify this tax from another point of view. In this connection the point riased by Mr. Biswas is important. If you are going to put the levy as a series of payments into the future then you cannot easily measure the surplus in the future. There is not only a problem of price variation in specific but also in general terms. We have to think of the large number of projects affecting specific demand and also the total demand for agricultural products. It may happen that in particular project areas, such as in the Deccan, the cultivator's fortune depends upon the price of a single product *e.g.*, sugar-cane. And here there have been ever since 1920 periods, in which prices of sugar-cane crashed leading to the liquidation of a large number of farmers. In such a situation we have to plan for a long time ahead to enable the state to realise some revenues and, at the same time, ensure proper land utilization.

The idea of the betterment levy arose 5 years ago in the Bombay State because of the natural desire of the Finance Minister to get something out of the high sugar-cane prices. Now not only in relation to the past but also in relation to the future projects I suggest that the only logical solution which fully meets Dr. Ganguli's point is to treat the projects as all parts of social development. To do so we should divest such investment of all private interest. I put forward a suggestion to the Planning Commission that all lands in these project areas should be acquired for a price. Crores of rupees are going to be put into the projects. So initially there should be an acquisition of all lands and later there should be an allocation of developed lands for a price. This gets us logically out of all the difficulties. We will have no private interest left in lands and all development will be at social cost. If we do this the problem of the rational layout of land also becomes easy as the layout of fields in an irrigated intensive farming area is different from that in dry farming area. I do not say this method will work everywhere. But it will be feasible in areas like the Deccan where the population is comparatively sparse. I can see the difficulties of working it in fairly well populated rice areas. But in the Deccan and other comparatively sparsely populated areas, this solution will certainly work. Both from the point of view of rapid economic development and the proper layout of factories, village sites, schools, size of economic holdings,etc., and also of active state participation such an idea should work satisfactorily. The project areas will become more or less a clean slate to write on. Unless you have some approach of this nature, the task of distinguishing the associated from the particular costs is going to be a very difficult problem.

APPENDICES

APPENDIX

THE INDIAN SOCIETY OF

Balance Sheet as at

LIABILITIES	Rs. as. ps.	Rs. as. ps.
SETH MAFATLAL GAGALBHAI LIBRARY FUND :		
Balance as per last Balance Sheet		5,000 0 0
KODINAR SURVEY ACCOUNT :		
Amount received during the year	16,726 12 3	
Less : Expenses incurred during the year	15,162 13 0	1,563 15 3
TENANCY SURVEY ACCOUNT :		
Amount received during the year	21,105 8 9	
Less : Expenses incurred during the year	15,619 5 6	5,486 3 3
LIABILITIES :		
Subscription received in advance	354 0 0	
Library Deposit	60 0 0	
For Other Finance	38 11 4	
Grant received in advance	5,000 0 0	5,452 11 4
INCOME & EXPENDITURE ACCOUNT :		
Balance as per last Balance Sheet	55,616 6 6	
Add : Out of the Grant Received for the year 1953-54 ..	15,000 0 0	
	70,616 6 6	
Add : Excess of Income over Expenditure for the year as per Income & Expenditure Account	6,870 8 9	77,486 15 3
Carried over ..		94,989 13 1

I

AGRICULTURAL ECONOMICS

31st December, 1954.

ASSETS		Rs. as. ps.	Rs. as. ps.
FURNITURE & DEAD STOCK : (at Book Value)			
Balance as per last Balance Sheet		3,531 10 9	
Additions during the year		420 4 3	
		3,951 15 0	
Less : Sold during the year		200 0 0	
		3,751 15 0	
Less : Depreciation written off to date		2,014 15 9	
			1,736 15 3
OFFICE EQUIPMENT : (at Cost)			5,724 11 0
SETH MAFATLAL GAGALBHAI LIBRARY :			
Library Furniture : (at Cost)			
Balance as per last Balance Sheet	505 8 0		
Less : Depreciation written off to date	206 13 0	298 11 0	
Library Books : (at Book Value)			
Balance as per last Balance Sheet	3,813 0 3		
Additions during the year	987 4 0		
	4,800 4 3		
Less : Depreciation written off to date	1,911 15 3	2,888 5 0	
			3,187 0 0
STOCK OF PUBLICATIONS ON HAND : (at Cost)			
As valued & certified by the Hon. Secretary			12,980 15 0
SUNDRY DEBTORS :			
Due by Sundry Persons for Publications, etc.			1,460 10 0
MEHSANA SURVEY ACCOUNT :			
Balance as per last Balance Sheet		622 14 9	
Add : Expenditure incurred during the year		54 8 0	
		677 6 9	
Less : Amount received during the year		677 6 9	
			Nil
Carried over			25,090 3 3

LIABILITIES	Rs. as. ps.	Rs. as. ps.
Brought over		94,989 13 1
Total Rs. ..		94,989 13 1

We have examined the Balance Sheet of the Indian Society of Agricultural Economics, as at 31st December, 1954, above set forth, with the Books and Vouchers of the Society and find the same to be correct.

DALAL & SHAH,
Chartered Accountants.

Bombay, 25th February, 1955

AGRICULTURAL ECONOMICS

31st December, 1954.

ASSETS	Rs.	as.	ps.	Rs.	as.	ps.
Brought over ..				25,090	3	3
INVESTMENTS :* (at Cost)						
The Central Bank of India, Ltd., Cash Certificates	4,637	8	0			
National Savings Certificates	15,000	0	0			
3½% Ten-year Treasury Savings Deposit Certificates	20,000	0	0			
3½% National Plan Loan 1964	4,974	3	6	44,611	11	6
CASH & OTHER BALANCES :						
In Fixed Deposit Account with the Central Bank of India, Ltd., Bombay	20,000	0	0			
In Current Account with the Central Bank of India, Ltd., Bombay	4,890	9	4			
Cash on hand	397	5	0			
				25,287	14	4
Total ..				94,989	13	1

*(The aggregate Market value of the above Investments as on 31st December, 1954, was Rs. 44,559-6-0).

Income & Expenditure Account for the

EXPENDITURE		Rs. as. ps.	Rs. as. ps.
Salaries & Wages		12,951 8 0	
Rent		461 6 0	
Printing & Stationery		276 12 9	
Conference Expenses		769 13 6	
Postage & Telegrams		758 14 9	
Sundry Expenses		606 9 3	
Electric Charges		22 12 9	
Journal Printing Expenses		3,481 3 0	
Publication Expenses	6,572 15 9		
Less : Donations received against Publication Expenses	4,197 0 9		
		2,375 15 0	
Conveyance Expenses		21 15 0	
			21,726 14 0
Depreciation :			
On Furniture		215 3 0	
,, Library Furniture		33 3 0	
,, Library Books		323 4 0	
			571 10 0
Bad Debts written off			30 6 0
Expenses written off :			
Readings in Agricultural Economics		3,178 9 0	
Indian Rural Problem Publication Expenses		2,206 11 6	
			5,385 4 6
BALANCE, being Excess of Income over Expenditure for the year carried to Balance Sheet			6,870 8 9
Total			34,584 11 3

Examined and found correct.

Bombay, 25th February, 1955

DALAL & SHAH,
Chartered Accountants.

AGRICULTURAL ECONOMICS

year ended 31st December, 1954.

INCOME	Rs.	as.	ps.	Rs.	as.	ps.
Subscriptions				3,983	0	0
Interest				1,149	4	0
Publication Sales	7,002	5	0			
Add : Stock of Publications on 31st December, 1954	12,980	15	0			
	19,983	4	0			
Less : Stock of Publications on 1st January, 1954	11,262	6	0			
				8,720	14	0
Grant for Maintenance				20,000	0	0
Receipts from Advertisements in Journal				160	0	0
Miscellaneous Receipts				571	9	3
Total				34,584	11	3

APPENDIX II

THE INDIAN SOCIETY OF AGRICULTURAL ECONOMICS

CONSTITUTION

1. The name of the Society shall be "The Indian Society of Agricultural Economics."

2. The objects of the Society shall be to promote the investigation, study and improvement of the economic and social conditions of agriculture and rural life.

These objects shall be pursued by :—

(*a*) holding periodical Conferences for the discussion of problems ;

(*b*) publishing papers or summaries of papers, either separately or collectively, or in a periodical which may be issued under the auspices of the Society ;

(*c*) co-operating with other institutions having similar objects, such as the International Conference of Agriculturai Economists and the Indian Economic Association ;

(*d*) any other means which the Society may decide.

3. The Society shall consist of (*a*) Members, (*b*) Honorary Members, and (*c*) Member-Institutions, who are interested in the economic and social conditions of agriculture and rural life.

Candidates for Membership shall be nominated by any two Members of the Society and admitted to Membership on being approved by the Executive Committee.

Candidates for Honorary Membership shall be nominated by the Executive Committee and elected by a majority of Members present and voting at a General Meeting of the Society.

Institutions wishing to become members shall apply to the Executive Committee and will be admitted to Membership on its approval.

Members and Member-Institutions shall pay to the Society an annual subscription of Rs. 12/-. The composition of subscription for Life-Membership shall be Rs. 250/-.

Member Institutions shall be entitled to send only one repesentative to the Conferences and Meetings and shall not be entitled to the composition of subscription for Life Membership.

4. Except as otherwise provided in the Constitution, the business of the Society shall be conducted by the Executive Committee.

5. The Office-bearers of the Society shall be a President, three Vice-Presidents, an Hony. Secretary-Treasurer and an Hony. Joint-Secretary, if appointed.

The Executive Committee of the Society shall consist of :—

(1) the President,
(2) three Vice-Presidents,
(3) an Hony. Secretary-Treasurer,
(4) an Hony. Joint-Secretary (if appointed), and
(5) nine Members.

The President and in his absence one of the Vice-Presidents present, shall preside at the Executive Committee meetings.

The Office-bearers and the Executive Committee shall hold office till their successors are elected.

The Executive Committee shall fill any vacancies in the Committee occurring during their period of office.

6. The Geneal Meetings of the Society shall ordinarily be held once a year. The time and place of such General Meetings shall be fixed by the Executive Committee and not less than twenty-eight days' notice of these General Meetings shall be given to all members, Hony. Members and Member-Institutions.

A Special General Meeting may be convened by the Executive Committee at any time and shall also be convened on the requisition of not less than twenty-five Members. Fourteen days' notice of such Special General Meeting shall be given.

The following business shall be transacted at the General Meetings :—

(1) Consideration of the annual report and audited accounts.
(2) Election of Office-bearers and the Executive Committee.
(3) Election of Hony. Members if any.
(4) Appointment of auditors.
(5) Consideration of any proposed amendments to the Constitution, subject to Clause 7.
(6) Other relevant business.

7. Any amendments intended to effect any alteration in the Constitution of the Society, shall be submitted in the form of a written notice of motion, to be circulated to Members, Hony. Members and Member-Institutions with the notice of a General Meeting and shall be considered at such General Meeting. Amendments shall be carried with two-thirds majority of the Members present at such General Meeting.

APPENDIX III

THE FIFTEENTH CONFERENCE
OF
THE INDIAN SOCIETY OF AGRICULTURAL ECONOMICS

(*Held under the auspices of the Allahabad Agricultural Insitiute*)

AT ALLAHABAD

on

26th, 27th and 28th December, 1954.

Inaugurated by :

DR. PUNJABRAO S. DESHMUKH
Union Minister for Agriculture

President of the Conference :

PROF. D. R. GADGIL
Director, Gokhale Institute of Politics and Economics

Chairman of the Reception Committee :

PROF. A. C. BANERJI
Vice-Chancellor, Allahabad University

Honorary Local Secretary :

PROF. H. S. AZARIAH
Principal, Allahabad Agricutural Institute

DELEGATES

Central Government

Planning Commission . . . Prof. M. L. Dantwala
Shri M. P. Bhargava
Shri M. P. N. Rao
Shri S. S. B. Raghavan

Directorate of Economics and Statistics,
Ministry of Food and Agriculture . . . Dr. S. R. Sen
Shri J. S. Sarma

State Governments

Bombay	Madras	Uttar Pradesh
Dr. T. G. Shirname Prof. P. N. Driver	Shri H. G. Punja	Dr. G. D. Agrawal Dr. K. Kishan
Punjab	**Madhya Bharat**	**Delhi**
Shri R. L. Anand Shri Gurdit Singh	Shri L. O. Joshi	Shri L. K. Verma Shri Kartar Singh
	Bhopal	
	Shri M. L. Dwivedi Shri M. L. Nahar	

Universities

Bombay

Dr. M. B. Desai
Prof. K. T. Merchant

Poona

Prof. D. R. Gadgil
Prof. P. N. Driver

Visva-Bharati

Prof. K. M. Mukherji
Shri Debidas Ray

Annamalai

Prof. S. Krishnamurthy
Prof. S. V. Aiyar

Baroda

Prof. S. B. Mahabal
Shri V. S. Rajan

Delhi

Prof. B. N. Ganguli

Karnatak

Prof. N. P. Patil

Utkal

Dr. D. C. Misra

Allahabad

Shri M. C. Agarwal

Calcutta

Prof. J. P. Niyogi

Travancore

Prof. K. J. M. Tharakan

Other Institutions

Reserve Bank of India, Bombay

Dr. N. S. R. Sastry
Dr. S. G. Madiman

H. P. T. College, Nasik

Prof. Mrs. H. N. Acharya

R. A. Podar College of Commerce and Economics, Bombay

Prof. S. A. Sherlekar

Gokhale Institute of Politics and Economics, Poona

Shri N. V. Sovani

Indian Central Jute Committee, Calcutta

Shri D. C. Biswas
Shri B. K. Choudhari
Shri A. Datta

Members

Shri Manilal B. Nanavati
Prof. D. G. Karve
Prof. H. S. Azariah
Dr. M. Srinivasan
Dr. Daniel Thorner
Shri V. M. Jakhade
Prof. G. B. Kulkarni
Prof. K. Datta
Dr. M. B. Ghatge
Dr. V. G. Panse
Prof. P. K. Mukherji
Shri J. K. Pande
Prof. S. B. Mukherji
Dr. D. T. Lakdawala
Dr. B. V. Krishnamurti
Mrs. B. V. Krishnamurti
Mrs. Usha Mahabal
James N. Warner, Esq.
Shri Raghunandan Swarup
Shri K. Kanungo
Pandit R. N. Sarma
Pandit A. S. N. Murti
Dr. D. S. Chauhan
Shri B. A. Balachowdiah
Shri A. A. Siddiqi
Shri G. S. Dhaliwal
Prof. B. M. Ramalingayya
Shri M. Aqil
Shri V. G. Sahasrabuddhe
Shri B. L. Agarwal
Shri S. K. Pain
Shri I. V. Parthasarathy
Shri N. Bhattacharya
Shri V. V. Doshi
Shri S. C. Gupta
Shri A. N. Choksi
Shri Raghubar Singh
Shri Tambeshwar Prasad
Shri N. K. Desai
Raje J. R. Deshmukh
Shri D. D. Jena
Shri M. C. Agarwal
Shri D. K. Singh
Shri R. S. Nigam
Shri D. P. Lalvani

APPENDIX IV

LIST OF MEMBERS OF THE INDIAN SOCIETY OF AGRICULTURAL ECONOMICS

(AS ON MARCH 1, 1955)

HONORARY MEMBERS

DARLING, MALCOLM LYALL, 42, Catherine Place, London, (England).
ELMHIRST, L. K., Dartington Hall, Totnes (Devon, England).
GADGIL, D. R., Director, Gokhale Institute of Politics & Economics, Poona.
KRISHNAMACHARI, V. T., Deputy Chairman, Planning Commission, Rashtrapati Bhavan, New Delhi.
MEHTA, V. L., C/o. Bombay State Co-opeative Institute, 9, Bakehouse Lane, Bombay 1.
NANAVATI, MANILAL B, "Leela," Juhu, Bombay 23.
PATIL, R. K., Member, Legislative Assembly, Nagpur.
PRASAD, RAJENDRA, President, Indian Republic, New Delhi.
RAMAMURTHY, S. V., "Venkatavilas," Gracium Road, Cathedral P. O. Madras.
SHRINAME, T. G., Director of Agriculture, Poona 1.
VAKIL, C. N., Director, School of Economics & Sociology, University of Bombay, Bombay 1.

LIFE MEMBERS

AGARWAL, MAHESH CHAND, Lecturer in Economics, University of Allahabad, 349 Katra Allahabad 2.
AMIN, BHAILALBHAI D., "Jyoti," Alkapuri, Baroda.
AMRITLAL & CO., LTD., 11 Sprott Road, Ballard Estate, Bombay 1.
AMRUTANJAN LTD., 7 Thambu Chetty Street, Madras.
ANJARIA, J. J., Planning Commission, Rashtrapati Bhavan, New Delhi.
ASSOCIATED CEMENT COMPANIES LTD., 1 Queen's Road, Bombay 1.
BIRLA, G. D., Birla House, New Delhi.
BIRLA, REMESHWARDAS, C/o. Birla Brothers, Imperial Bank Building, Appllo Street, Bombay 1.
CHINAI, RASIKLAL J., Ewart House, Bruce Street, Bombay 1.
CONTRACTOR, PIROZSHAH, P., Near Station, Baroda.
C. PAREKH & CO. (India), 28 Apollo Street, Bombay 1.
DABOO, DINSHAW R., Lunsi-Kui, Navsari (Western Rly).
DAHANUKAR, M. L., Industrial Assurance Building, Churchgate, Bombay 1.
DALMIA, RAMKRISHNA, Dalmia House, 9 Mansing Road, New Delhi.
DORABJI TATA TRUST, Bombay House, Bombay 1.
GOENKA BADRIDAS, 19 Belvedere Road, Alipore, Calcutta.
HOFFMAN, LAWRENCE A., Department of Geography, Ohio State University, Columbus (Ohio—U.S.A.).
KAMANI ENGINEERING CORPORATION LTD., Kamani Chambers, Nicol Road, Bombay 1.
KHATAU, DHARAMSEY M., 6 Laxmi Building, Ballard Pier, Bombay 1.
KOTAK, G. B., Western House, Rajkot.
KOTHARI, C. M,, Oriental Building, Armenian Street, Madras.
MAYURDHWAJSINHJI, H. H., The Maharaja, Dhrangadhra.
MEHTA, CHUNILAL B., 52 Ridge Road, Malabar Hill, Bombay 6.
MEHTA, CHUNILAL V., Ridge Road, Malbar Hill, Bombay 6.
MISRA, L. P., Birla Bros. Ltd., 8 Royal Exchange Place, Calcutta 1.
NANAVATI & CO. LTD., 16 Apollo Street, Fort, Bombay 1.
NANAVATI, R. M., 16, Apollo Street, Bombay 1.
NANJEE, PRANLAL D., Devkaran Nanjee Building, Horniman Circle, Bombay 1.
THE NATIONAL ART MILLS SILK LTD., Old Kasturchand Mill Compound, Dadar (Bombay).
THE NEW INDIA ASSURANCE CO. LTD., Mahatma Gandhi Road, Bombay 1.
NOPANY, R. L., 178 Harrison Road, Calcutta.
PAGAR, S. M., Sayaji Nagar, Baroda.
PARIKH, G. D., Alkapuri, Baroda.
RAJRATNA NARANBHAI MILLS CO. LTD., Baroda.

SHRI RAM, 22 Curzon Road, New Delhi.
RESERVE BANK OF INDIA, Central Office, Bombay 1.
SARAIYA, R. G., Navsari Chambers, Outram Road, Bombay 1.
S. C. SHETH & CO., LTD., 14 Hamam, Street, Fort, Bombay 1.
SEED'S TRADES ASSOCIATION LTD., Jenabhai Building, Masjid Bunder Road, Bombay.
SHAH, H. B., "Beach View," Juhu, Bombay 23.
SHAH, MOTICHAND G., United India Building, Sir P. M. Road, Bombay 1.
SHETH, ANANDLAL H., "Paradise", Baroda.
SHETH, BAKUBHAI MANILAL, Laxmi Nivas Society, Ellisbridge, Ahmedabad.
SHETH, JAYKRISHNA HARIVALLABHDAS, Shri Ambica Mills Ltd., Near Kankaria Loco Siding, Ahmedabad.
SHETH, KASTURBHAI LALBHAI, Pankore's Naka, Ahmedabad.
SHETH, KAUSHIKLAL NARANLAL, Billimora.
SHETH, NAROTAM LALBHAI, Pankore's Naka, Ahmedabad.
SHETH, SHANTILAL MANGALDAS, Jehangir Vakil Mills Ltd., Outside Delhi Gate, Ahmedabad.
SHETH, TULSIDAS KILACHAND, 45-47, Apollo Street, Bombay 1.
SHROFF, JAYANTILAL R, "Ram Manor", Nepean Sea Road, Bombay 6.
SINGHANIA, PADAMPAT, Kamla Tower, Kanpur.
TATA, J. R. D, Bombay House, Bruce Street, Bombay 1.
THAKURDAS, PURSHOTAMDAS, Navsari Chambers, Outram Road, Bombay 1.
THOMAS, ROGER, 66 Clifton, Karachi 4 (Pakistan)
VORA, M. K., Vora & Co., Publishers Ltd., 3 Round Building, Kalbadevi Road, Bombay 2.
WALCHANDNAGAR INDUSTRIES LTD., Walchandnagar (Bombay State).

INSTITUTION MEMBERS

Agra College, Agra.
Agricultural College, Hebbal, Bangalore.
Agricultural College, Bapatla.
Agricultural College, Lawley Road, P.O., Coimbatore.
Agricultural College, Jobner (Jaipur, Rajasthan)
Agricultural Economics Research Section, Delhi School of Economics, Delhi 8.
Agro-Economic Research Unit, University of Madras, Madras 5.
Ahmedabad Central Co-operative Bank Ltd., Relief Road, P. B. No. 53, Ahmedabad.
Allahabad Agricultural Institute, Allahabad.
American Embassy, Bhawalpur House, 1 Sikandra Road, New Delhi 5.
Andhra Co-operative Central Land Mortgage Bank Ltd., 110/111 Armenian Street, Madras 1.
Andhra University Library, Waltair.
Annamalai University Library, Annamalainagar.
Badruka College of Commerce, Godwal Palace, Nampally Station Road, Hyderabad Dn.
Banaras Hindu University Library, Banaras.
Bihar Agricultural College, Sabour.
Bombay Provincial Co-operative Institute, 9, Bakehouse Lane, Bombay 1.
Board of Economic Inquiry, Patiala (Pepsu)
B. R. College Library, Agra (U. P.)
Bureau of Economics & Statistics, Yacht Club Premises, Apollo Pier, Bombay 1.
Bureau of Statistics, Finance Department, Government of Orissa, Cuttack.
Bureau of Statistics, Rajasthan Secretariat, Jaipur.
Central News Agency, 12/90 Connaught Circus, New Delhi.
Communist Party of India, Central Headquarters, 5 c./54 Rohtak Road, Delhi.
Co-operative Central Bank Ltd., Kumbakonam. (S. Rly.)
Co-operative Central Bank Ltd., West Main Street, Tanjore.
Co-operative Central Bank Ltd., Vellore (N. Arcot)
Co-operative Training College, 5, Byramjee Jeejeebhoy Road, Poona 1.
Deccan Agricultural Association, 510, Narayan Peth, Poona 2.
Delhi School of Social Work, 3, University Road, Delhi 8.
Department of Economics & Statistics, Govt. of Uttar Pradesh, Lucknow.
Development Commissioner & Registrar of Co-operative Societies, Indore.
Development Department, Government of Orissa, Bhubaneshwar.
Dholka Sanand Taluka Co-operative Purchase & Sales Union Ltd., Dholka (Ahmedabad Dt.)

Directorate of Marketing and Inspection, Ministry of Food and Agriculture, New Delhi.
Director of Agriculture and Food Production, Cuttack.
Director of Statistics, Dept. of Economics & Statistics, Shillong. (Assam)
Director of Statistics & Planning, Government of Saurashtra, Rajkot.
Director of Statistics, Department of Statistics, Madras.
Director of Rural Welfare, Rural Welfare Department, Fort. St. George, Madras.
District Development Board, Mehsana.
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APPENDIX V

SUBJECTS FOR THE NEXT CONFERENCE OF THE SOCIETY

1. Reorganisation of Rural Credit in India.
2. Techniques of Rural Surveys in Agricultural Economics.
3. Policy for Development of the Rural Sector in the Second Five Year Plan.

APPENDIX VI

LIST OF SUBJECTS DISCUSSED AT THE ANNUAL CONFERENCES OF THE SOCIETY, 1940—1954

Conference I
Delhi, February, 1940

1. Fragmentation and Consolidation of Holdings.
2. Land Taxation and Tenancy Legislation.
3. Farm Management Research.
4. Marketing.
5. Crop Production and Food Policy.
6. Debt Legislation.

Conference II
Lahore, April, 1941

1. Village Artisan in India's Rural Economy.
2. Agrarian Banking in India.
3. Agricultural Prices in India.
4. Co-operative Marketing of Agricultural Produce.
5. Economic Planning of Agricultural Production.

Conference III
Poona, December, 1941

1. Problem of Agricultural Surplus in India.
2. Agricultural Rent.
3. Economy of Mixed Farming.

Conference IV
Walchandnagar, December, 1943

1. Agricultural Tenancy.
2. Land Mortgage Banks in India.
3. Marketing Legislation in India.
4. Food Situation.

Conference V
Naini, Allahabad, December, 1944

1. Scope and Limitation of Individual, Co-operative and State Effort in Increasing Agricultural Production.
2. Stabilisation of Agricultural Prices.
3. Rural Labour.
4. Post War Agricultural Planning in India.

Conference VI
Benares, December, 1945

1. T. V. A. Approach and its Possibilities in Indian Agriculture.
2. Social Factors in Rural Economy.
3. Costs in Relation to Size of Farms.
4. Indian Food Policy.

Conference VII
Karachi, December, 1946

1. Costs in Relation to Size of Farms.
2. Methods and Objects of Rural Surveys.
3. Problems of Rural Credit.
4. Abolition of Zamindari.

Conference VIII
Sriniketan, December, 1947

1. Agricultural Wages and Systems of Payment.
2. Pressure of Population on Agriculture and the Problems of its Removal.
3. Problems of Village Administration in India including the study of Village Panchayats.
4. Symposium on Agrarian Reforms initiated by Provincial Governments and States.

Conference IX
Hyderabad (Deccan), December, 1948

1. Scope and Method of Teaching and Research in Agricultural Economics in India.
2. Economics of Mechanisation of Agriculture in India.
3. Price Spread in Marketing of Agricultural Produce.
4. Grow More Food Policy in India.

Conference X
Madras, December, 1949

1. Problem of the Low-Income or Sub-Marginal Farmer in India.
2. Economics of Milk Production and Distribution.
3. Taxation of Land and Agricultural Income.
4. High Prices and Rural Prosperity.

Conference XI
Lucknow, December, 1950

1. Effects of Industrialisation on Rural Life and Rural Economy.
2. Administrative Machinery for the Economic Reconstruction of Rural Areas.
3. Fixation of Agricultural Prices in Theory and Practice.

Conference XII
Gwalior, November, 1951

1. Objects and Methods of Crop Planning with Special Reference to India.
2. India's Foreign Trade in Agricultural Commodities.
3. Problems of Calculating the Cost of Cultivation.

Conference XIII
Trivandrum, December, 1952

1. Problems in the Implementation of the Agricultural Plan in the Five Year Plan.
2. Role of Agricultural Economics in the Development of Agriculture.
3. Critical Review of Land Reform Legislation Since 1945 in Various States.

Conference XIV
Jaipur, December, 1953

1. Prices and Production Trends in Agriculture.
2. Capital Formation in Agriculture.
3. Techniques of Measuring Rural Unemployment.

Conference XV
Allahabad, December, 1954

1. Statistical Concepts in Agricultural Economics.
2. Population and Food Supply.
3. Role of Private Agencies in Agricultural Credit.
4. Economic Aspects of Land Development in New River Valley Projects.

ALPHABETICAL LIST OF SUBJECTS DISCUSSED AT THE CONFERENCES

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* NOTE : The number within the bracket indicates the Conference at which the subject is discussed.

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