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SUMMARIES

AN ENQUIRY INTO THE CONCEPT OF WEAKER SECTION WITH SPECIAL REFERENCE TO RURAL DEVELOPMENT SCHEMES

B. N. Asthana and P. C. Shukla*

As we know, the total gamut of the agrarian structure is pre-occupied by dualism, *i.e.*, operational or land structural dualism and technological or production pattern dualism. This may also be characterized as semi-feudalistic agricultural economy. The term weaker sections of the society is very much related with this feudal society because it is the outcome of this very pattern. For identifying the weaker sections the criteria adopted so far are (*i*) operational land holdings and (*ii*) per capita income vis-a-vis the level of living pattern. As a matter of fact the variables under the above criteria, *viz.*, land and average income are crucial and basically the whole rural economy revolves round it. Both these criteria have operational difficulty because the criterion adopted and measures taken have no identical values. Both these criteria do not mention about the farm family which stands as a basic and practical unit of the rural sector. A farm family may have two or three holdings and varying degrees of dependency ratios irrespective of population composition. Rural development is concerned with farm families and not with land holdings or individual population.

Taking this basic drawback into consideration, a third criterion for defining the weaker section, *viz.*, energy criterion, is suggested. It includes only three variables, namely, human energy, livestock energy, and mechanical energy. The use of this criterion, among other things, would help to determine the quantum of weaker section in different segments of population. The basic advantage of this concept is that separate treatment can be given to different farm families from energy requirement point of view. The weaker sections as estimated according to the energy criterion consisted of 44·6 per cent of the total farm families in the rurral sector at an aggregate level. The proportion of weaker sections in the different size-groups was 66·66 per cent among marginal farmers, 60·60 per cent among small farmers, 41·93 per cent among the farm families belonging to the size-group 5·01 to 7·50 acres and 17·22 per cent in the size-group of 7·51 acres and above. The energy criterion adopted for determining the weaker sections is also based on the real village unit of farm family as well as energy endowment which is the only crucial element of income generation and best use of land available to the farmers or occupations followed.

FOOD FOR WORK PROGRAMME: A CASE STUDY IN WEST BENGAL

P. K. Chatterjee†

The Food for Work Programme is administered in West Bengal through the Gram Panchayats. The schemes undertaken under the programme are labour intensive and aim at the development of rural infrastructure. The daily earning of the unskilled worker, working under the programme and paid in both wheat and cash, amounted to about Rs. 5·45 against the statutory minimum wage rate of Rs. 8·10 in the State. A district level evaluation of the programme has been attempted in the paper. Hardly 10 per cent of the total expenditure has been found to be earmarked for supervision and materials. The actuals for two years and allotment for the second year reveal a downward trend in the proportion of material costs. The job workers who are paid at the statutory minimum wage rate of Rs. 8·10 generally lack technical competence. Not much tangible assets have been created by the unskilled people paid at much below the minimum wage rate and working under little supervision with very much inadequate materials. The whole programme appears to be an ineffective exercise in the distribution of relief. Only one out of seventeen *Panchayat Samitis* has submitted necessary reports and returns. While surplus food can be an effective instrument of capital formation and income distribution through creation of productive employment, its use for unplanned relief signifies wastage of a vital opportunity for immediate gain of dubious nature.

FOOD FOR WORK PROGRAMME IN WEST BENGAL (A CASE STUDY OF THE VILLAGES IN BIRBHUM DISTRICT)

Saroj Chaudhuri‡

The Food for Work Programme has turned out to be one of the major programmes in the rural areas in recent years. The main objectives of the programme were (1) to generate additional gain-

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ful employment to a large number of unemployed and under-employed persons in the rural areas which will improve their income and nutritional levels, (2) to create durable community assets, etc., by utilizing the surplus foodgrains available from the stock of the Central Government. West Bengal was allocated the highest amount of foodgrains compared to the other States by the Central Government in 1977-78 and 1978-79. A sizable amount of cash and foodgrains were allocated to Sriniketan block in Birbhum district in consecutive three years since the inception of the scheme. Two villages under the Sriniketan block were surveyed by the author and it was found that the participants of the scheme were mainly from the 'depressed castes' of the rural society and they were also 'economically depressed'. Their participation in the scheme was from 1 to 2 days to a maximum of 12 to 14 days.

The work consisted mainly of removing sands from the agricultural lands and repairing of village roads damaged by the flood. So the impact of the scheme was rather marginal and there was divergence of opinion among the participants whether the scheme has fulfilled the objectives to increase their incomes, to improve their living standards, to create additional employment opportunities for a longer period and even to create durable community assets. There remains enough scope for utilizing the funds in a better way and this calls for improvements in the organizational arrangements and suitable area planning at the block level.

IMPACT OF SFDA ASSISTANCE ON SMALL FARMERS IN THURAIYUR BLOCK OF TIRUCHIRAPALLY DISTRICT, TAMIL NADU

A. Peter and N. Sebastian*

The Small Farmers Development Agency (SFDA) is one of the centrally sponsored schemes to help the identified small farmers to improve their income from agriculture and subsidiary occupations. The SFDA is in operation in 13 blocks in Tiruchirapalli district of Tamil Nadu. Thuraiyur block was purposely selected for investigation. A sample of 30 SFDA beneficiaries and an equal number of non-beneficiaries were selected by systematic sampling technique. The overall objective of the paper was to evaluate the impact of SFDA assistance on small farmers' asset value, gross cropped area, gross irrigated area, labour utilization, income and farm investment by using inter-temporal and cross-sectional approaches and to assess the significance or otherwise of the impact of SFDA assistance by applying Farm Improvement Index Approach. In the inter-temporal approach, the levels of economic variables of the SFDA beneficiaries in the post-SFDA assistance period were compared with those of the pre-SFDA assistance period, and in the cross-section approach, the beneficiaries were compared with the non-beneficiaries. In the Farm Improvement Index Approach, seven efficiency indicators were calculated, *viz.*, (*i*) net worth of farm, (*ii*) cropping intensity, (*iii*) input-output ratio, (*iv*) average labour productivity, (*v*) irrigation ratio, (*vi*) net profit per acre and (*vii*) farm improvement index. The analysis of all the three approaches revealed that there is a positively significant increase in the levels of all economic variables and in all seven efficiency indicators due to SFDA assistance. Our suggestions are:—(*i*) Many potentially viable small farmers remain outside the purview of the special assistance through agencies such as the SFDA and therefore necessary steps should be taken up to include them in the group of beneficiaries to be identified under the anti-poverty programmes. The non-beneficiaries could improve their farms and gain significantly if institutional finance is made available to them in the right quantity, in the right time, at lower cost and on easy instalment basis. (*ii*) An important factor which is closely related to increased production per acre is the utilization of fertilizers and manures on each acre of land at the appropriate time. If arrangement is made to supply more fertilizer and manures, there is a greater possibility for the small farmers to raise productivity. (*iii*) Irrigation is a most important programme. It bears the highest correlation not only with productivity but also with the stabilisation of small farmers' agriculture. Therefore, extension of irrigation facilities to the small farmers is very essential to eliminate much of the crop failure caused by unfavourable weather conditions and stabilise their income. (*iv*) The development of minor irrigation and introduction of dairy must be given preference in SFDA programmes as they increase the income of small farmers and keep the members of the small farm households gainfully employed throughout the year.

THE IMPACT OF THE FOOD FOR WORK PROGRAMME ON THE WEAKER SECTIONS OF THANJAVUR DISTRICT IN IMPROVING THE INCOME DISTRIBUTION

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The Food for Work Programme (FFWP) is one of the programmes initiated and employed by the Government of India to ameliorate the plight of the weaker sections. The primary objective of the

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programme is the "utilization of surplus foodgrains for the development of human resources". The programme also aims to "create durable community assets and strengthen the rural infrastructure and better living standard in the rural areas". Ten villages in the Tiruvarur block of Thanjavur district (an IADP district) covering 70 people belonging to the rural poor who involved themselves under FFWP were personally interviewed. About 65 per cent of the weaker sections of the people who worked under FFWP felt that it would be better to work under FFWP than in other works. About 80 per cent of the rural workers covered under this project are scheduled caste people. The aggregate income of each family who worked under FFWP varied from Rs. 390 to Rs. 8,640 per month. Fifteen per cent of the participants who received their wage as rice utilized it both for consumption and sale; only 13 per cent of the participants received good rice. Forty-five per cent of the participants reported that this programme will to a certain extent improve the levels of their living and 10 per cent of them reported that this programme will not improve their living levels. Fifty-eight per cent of the workers reported that most of the works they took up remained incomplete. Fifty per cent of the workers opined that what they executed under FFWP will be non-permanent and they will be washed away by the rains. The works created under FFWP will have to be throughout the year. There should be other programmes to support the poor for improving their economic condition. A separate establishment at the block and village level to reconstruct the FFWP is an urgent necessity.

ORGANIZATIONAL INADEQUACIES AND DEFICIENCIES OF SPECIAL PROGRAMMES FOR WEAKER SECTIONS

H. G. Goswami*

An attempt has been made in this paper to spell out some marked deficiencies and drawbacks of the organization set-up contrived to execute the special programme for the weaker sections of the rural community. The special programmes for securing self-sustaining economic viability of the small and marginal farmers and labourers were introduced during the Fourth Five-Year Plan and registered speedy expansion of coverage subsequently to maximize mass welfare through liberal loaning and subsidy grants. In due course certain deficiencies and inadequacies of organizational set-up, *i.e.*, staffing and co-ordination, selection procedure of the beneficiaries, drawing of individual plans and project formulation and financing machinery, are found causing disruption to the noble objectives of the special programmes known as the Small Farmers Development Agency (SFDA) and Marginal Farmers and Agricultural Labourers Development Project (MFAL). What is significant is that the Agencies, functioning as catalyst between the Government and the beneficiaries of the programmes, suffer from staff inadequacies and depend upon the planning department for the implementation of the programme. The working of the reconciliation system is fraught with many hazards and difficulties, the most important being the *stagnation caused due to dependence* of the Managing Directors of the Agencies on the external hands without any administrative control over them. Thus there is an inherent tension built in the structure of reconciliation system. Continued shortage of hands delays the process of identification of the beneficiaries also, which is already much complicated due to lack of classification of rules when the unrecorded share-croppers, having no right of mortgage or sale of land, are to be identified as beneficiaries. Another deficiency of the organizational set-up is the staff incompetence to draw credit plans for individual beneficiary and proper assessment of the progress of work due to which project formulation becomes defective. Lastly, inability of the financing institutions to fund the programme properly due to lack of funds, their mismanagement and tedious procedure to grant the loan are the marked deficiencies restraining the attainment of the goal of economic well-being of the weaker sections.

ORGANIZATIONAL SET-UP AND APPRAISAL OF PROGRAMMES UNDER THE DPAP—A CRITICAL REVIEW OF DPAP BHIWANI IN HARYANA

S. D. Chamola, R. P. Singh and Ram Kanwar†

The paper makes a critical appraisal of the organizational set-up and its impact on fulfilling the objectives of the DPAP in Bhiwani district in Haryana. It has been found that the existing set-up is not much suitable for planning, formulation and implementation of the programmes. The main snag in the formulation and implementation of the programmes is the lack of cohesion among the different agencies associated with the DPAP programmes. In practice, almost all the associated departments view the DPAP programmes as imposed on them and make it an instrument of supple-

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menting their resources. Another drawback in the organizational set-up is the problem concerning the seniority of the decision-making authority, frequent transfer of officials and lack of committed cadre of functionaries devoted to the philosophy of the DPAP. There have been frequent transfers of Project Officers and Assistant Project Officers resulting in instability and uncertainty of the programmes. Ad hocism in plan formulation in the place of long-term viable project is a big bottleneck in the rapid progress of programmes. These ad hoc plans are due to the fact that detailed information is not available and the nucleus staff is inadequate to collect it. Land is the base for transfer of resources in the form of subsidies. As a result, those who have thin land base have little chance to avail of the opportunities of investment. Further, the rationality of budget allocation among different heads such as agriculture, irrigation, forestry, animal husbandry, administration, etc., has also been affected by the organizational set-up.

DEVELOPMENT OF AGRICULTURAL ENTREPRENEURSHIP THROUGH ALLOTMENT OF LAND TO WEAKER SECTIONS OF THE SOCIETY: A CASE STUDY IN AHMEDNAGAR DISTRICT

D. V. Kasar and J. M. Pardeshi*

The distribution of agricultural land to the weaker sections of society is a special programme for reducing disparities in income pattern of the society. The purpose of the present paper is to study the mode of cultivation of allotted land, farm business economy and the problems faced by the new allottees in the cultivation of allotted land so as to suggest suitable measures for the development of their agricultural entrepreneurship. The data on the above-said aspects of the study were collected from 80 new allottees, benefited under the latest land Ceiling Amendment of 1972, randomly selected from eight villages of Ahmednagar district in Western Maharashtra for the year 1977-78 by survey method. The simple tabular method of analysis was adopted. The study revealed that the cultivation of allotted land by the new allottees was not thorough going. The crop production activity resulted in loss while the livestock production gave the same marginal net returns. They faced several problems in the cultivation of land due to lack of resources. The position can be improved only when some support measures aimed at providing farm power through the establishment of farm power centres in the rural areas, exploring irrigation possibilities on allotted lands, provision of subsidised modern inputs, *viz.*, fertilizers, seed and plant protection measures, and cheap credit and availability of technical guidance through extension agencies are adopted. There is also a need to develop supplementary activities like dairy, poultry, sheep and goat, etc., on their farms. These measures will also be helpful in developing the agriculture of small and marginal farmers in general. This will happen only when there is a multi-pronged attack by effective planning and co-ordination of various development schemes, co-operatives and the Department of Agriculture on the problems of weaker sections in agriculture.

SMALL FARMER DELIVERY SYSTEMS—CASE STUDY OF A FARMERS' SERVICE SOCIETY

R. M. Mohan Rao and D. S. Prasad†

The objective of this paper is to identify the factors if any contributing for the wide gap between the pronounced objectives and the actual performance of the Farmers' Service Societies (FSSs). Detailed interviews with the staff of a selected FSS sponsored by a nationalised bank in Coastal Andhra Pradesh and scrutiny of the records are the major sources of information for this study. The factors affecting the performance of the FSS are examined with reference to administrative machinery, planning, implementation, monitoring and evaluation and co-ordination. The study shows that given the infrastructure, the reasons for the lapses of the FSS are mainly organizational and administrative. The suggested organizational structure is inadequate to meet the needs of the artisans and to channel long-term finance effectively. There are no operational plans and institutionalised procedures to effectively monitor and evaluate the various schemes at the society level. There is hardly any co-ordination with other administrative organizations in the area. On the personnel front, managerial skills must be imparted for effective planning and implementation of the programmes. The managerial staff must be provided with management information particularly in respect of schemes for long-term finance. The sub-ordinate staff must be exposed to skills of public relations.

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SPECIAL PROGRAMMES FOR WEAKER SECTIONS AS A STRATEGY FOR IMPROVING INCOME DISTRIBUTION IN CHAMBAL COMMAND AREA OF MADHYA PRADESH

P. L. Sablok and Asha Sablok*

Chambal Command Area consists of two districts, *i.e.*, Morena and Bhind, with a total area of 16,053 sq. km. and population of 20 lakhs. There are six Small Farmers Development Agencies (SFDA) and ten Marginal Farmers and Agricultural Labourers Agencies (MFAL) in the Chambal command area. During the present survey it was found that in the Chambal command area most of the rural poor belong to (*i*) rural labour households operating no land, (*ii*) agricultural labour households with some land and (*iii*) small land operators, operating land holdings below five acres in size. For improving the levels of living of the rural poor of the Chambal command area, we may consider the following policies: (*i*) We may accelerate the pace of growth in the non-farm sectors of the economy and in the process help pull out the rural poor from agriculture to more productive activity elsewhere. (*ii*) We may try to achieve some redistribution of incomes through fiscal and pricing policies. (*iii*) We may redistribute the available cultivated area and bring out a more egalitarian distribution of land. (*iv*) We may suggest modifications in the strategy of rural development and take specific measures to improve the productive capabilities of small farmers and also increase work opportunities for the landless in rural areas.

Among the main programmes organized in the Chambal command area for the weaker sections are SFDA and MFAL, Drought-Prone Area Programme (DPAP) and Crash Scheme for Rural Employment (CSRE). While in many ways the various special rura development programmes are intended to be complementary in character, in practice they are often not so co-ordinated in the Chambal command area. These special programmes are still ad hoc in character and suffer from wide dispersal and fragmentation, often resulting in overlapping of organization and financial resources. It is worthwhile to bring better co-ordination among the various special programmes for weaker sections in the Chambal command area.

EVALUATION OF SPECIAL PROGRAMMES FOR WEAKER SECTIONS-- A CASE STUDY OF BHARATPUR DISTRICT OF RAJASTHAN

M. V. Kapde†

The study is based on extensive field work involving interview of 300 selected farmers grouped in two categories, *viz.*, beneficiaries (250)and non-beneficiaries (50) under the Small Farmers Development Agency in Bharatpur district of Rajasthan. The results are positive viewed in terms of effect of credit received on asset formation and total incomes of selected households. Thus in the case of 197 beneficiaries under dairy development and 53 beneficiaries under minor irrigation schemes, the total value of assets increased by 31 per cent and 52 per cent respectively. The net change in total income per household for the beneficiaries under dairy development and minor irrigation, and non-beneficiaries was Rs. 1,492, Rs. 612 and Rs. 664 respectively. The elasticities of agricultural income for the beneficiaries and non-beneficiaries are low, while the elasticities of livestock income are high. Besides these achievements, some weaknesses have also come to light that have prevented the beneficiaries to take maximum advantages from various programmes of the Agency. Removal of these weaknesses will improve considerably the levels of living of the weaker sections of the community in the rural areas.

A STUDY OF SMALL FARMERS DEVELOPMENT PROGRAMMES IN ALWAR DISTRICT (RAJASTHAN)

N. L. Agarwal and Gir Raj Prasad‡

In this study an attempt has been made to evaluate the impact of SFDA programmes on the cropping pattern, farm investment, farm income and human labour employment of the beneficiary small farmers, using both inter-temporal and cross-sectional approaches. In the inter-temporal approach, comparison was made for the periods 1971-72 and 1975-76 whereas in cross-sectional approach, the situation of 1975-76 of the beneficiary farmers was compared with that of the non-beneficiary small farmers. There has been an increase in the area under HYV crops, area under *rabi* season crops (27·34 per cent) and cropping intensity (58·91 per cent) on the beneficiary small farms with the increase of irrigation facilities by participation in the SFDA programmes. The cropping pattern and cropping intensity were significantly different on the beneficiary small farms compared to the

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non-beneficiary small farms. The investment on the beneficiary small farms during the period increased by 41 per cent, of which 89·53 per cent increase was on irrigation structures. The level of investment on the beneficiary small farms was also higher by 29·1 per cent over the non-beneficiary small farms. The net returns on the beneficiary small farms increased by 85·61 per cent during the period 1971-72 to 1975-76 and by 60·08 per cent over the non-beneficiary small farms in 1975-76. This increase in net income on the beneficiary small farms was contributed by increased area under crops and also by taking more area under HYV crops. The human labour employment per acre of operational holding was found to be more on the beneficiary small farms by 57·32 per cent in 1975-76 over 1971-72 and by 45 per cent over the non-beneficiary small farms in 1975-76. The labour employment has also spread over almost in all the 12 months of the year instead of peaks and slack months on these farms before the participation in the SFDA programmes. Thus, it can be inferred that the SFDA has improved the economic conditions of the participant small farmers in the study area.

IMPACT OF SMALL FARMERS DEVELOPMENT AGENCY PROGRAMME ON INCOME DISTRIBUTION OF WEAKER SECTION: A CASE OF ENATHIRIMANGALAM VILLAGE, SOUTH ARCOT DISTRICT, TAMIL NADU

V. E. Kannathal*

The SFDA programme had been introduced for the upliftment of small farmers/marginal farmers/agricultural labourers, during the Fourth Five-Year Plan period. This paper particularly attempts to assess the improvement in their employment, income and standard of living, after the implementation of the SFDA programme in 1978-79. Enathirimangalam village in Annagram block in South Arcot district in Tamil Nadu is selected for study, as it covers most of the programmes of the scheme. One hundred and fifty-three beneficiaries have been identified so far in this village, of which 75 have been selected for study, by stratified sampling. The scheme was introduced in this village during 1972 with a capital outlay of Rs. 6·88 lakhs. In the analysis of functioning of SFDA scheme in this village, even though an increase in their income and employment level is observed, their standard of living has not improved. Their average monthly income is around Rs. 186. The consumption expenditure amounted to more than 80 per cent of their income. They are not able to spend for the intake of calorie contents.

Only the minor irrigation programme and agricultural programme of the scheme are functioning effectively. For animal husbandary programme, the loan amount is insufficient. There are some problems to be rectified in the identification of beneficiaries and in the organizational set-up. In the selected village, the Government programme will be successful if it functions properly and can be taken as a model village, since the farmers in this village are enthusiastic.

The deviation of actual curves from the line of equal distribution indicates the magnitude of inequality present in the distribution. This can be rectified somehow by some modifications in the pattern of facilities and quantum of investment provided to the marginal farmers and agricultural labourers, especially, since they are larger in number in the SFDA area of South Arcot district and the village selected for study.

SMALL AND MARGINAL FARMERS AND AGRICULTURAL LABOURERS DEVELOPMENT PROGRAMMES IN KERALA

E. C. Rajayan†

In this paper an attempt is made to assess the problems of definition and identification and also the impact created by the small farmer development programmes with special reference to minor irrigation scheme. The data used in this paper are taken from an evaluation study conducted by the author in 1978-79 in Kerala State. The definitions of small and marginal farmers and agricultural labourers were mostly based on only one out of the three criteria, *viz.*, the extent of land owned. The other two conditions, *viz.*, the viability of the household and the regular amount of off-farm income, were mostly ignored as it was not practicable to assess by the identifying staff. Production function analysis showed that current production investment and medium-term loans significantly affected the total value of output. Further, the regression coefficient in respect of medium-term loan is significant at one per cent level.The e lasticity of production is also the highest for the same factor. So medium-term loan seems to be the most significant factor influencing the gross value of output. The effects of medium-term loans will not be confined to the particular year in which it is utilized, but also will be felt in the succceeding years. Hence, it can be concluded that loans given for minor irrigation are productive and therefore, such minor irrigation schemes can be extended to other areas in the State.

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IMPACT OF THE MARGINAL FARMERS AND AGRICULTURAL LABOURERS' DEVELOPMENT AGENCY ON THE CONDITIONS OF THE WEAKER SECTIONS, PARTICULARLY THE MARGINAL FARMERS IN THE DISTRICT OF BANKURA, WEST BENGAL

M. G. Ghosh*

The purpose of this paper is to bring into focus the impact of MFALDA on the conditions of the marginal farmers in terms of income and benefits emerging from development programmes sponsored by the agency. It is based on data taken from three studies conducted by the Agro-Economic Research Centre, Visva-Bharati in the district of Bankura, West Bengal during the period 1972-73. The total number of sample households was 48—42 from dug-well schemes and 6 from dairy schemes. Our study revealed the following things. Firstly, the coverage of the marginal farmers and agricultural labourers under different schemes of the project was extremely limited, confined to less than 5 per cent of the intended beneficiaries. Secondly, those covered under different schemes were not always the intended beneficiaries under the rules. Out of 48 households, only 15 strictly fulfilled the criteria, the rest of those covered belonging to higher than marginal farmer or agricultural labour categories. In social terms only 25 per cent of the participants belonged to the scheduled caste and scheduled tribe categories even though they constituted nearly 40 per cent in the district and more in the project area. Thirdly, of the two major programmes taken up by the agency in the project area, dairy programme was ill-conceived with exotic and high-yielding variety of cows which were practically thrust upon persons who were hardly equipped to receive them. Moreover, adequate infrastructures including veterinary services, feed supply organizations and marketing were not there. Comparatively, dug-well irrigation programmes much corresponded to the local conditions and the benefits accrued to the farmers from the dug-well areas were perceptible. But the scheme suffered in that the command area under the dug-wells formed only a tiny portion of the operated areas and the total benefit to the farmers was hardly sufficient to bring them above the poverty line. All these suggest that there could not be any piece-meal approach to the problem. The basic question that emerged from this study is, how far the problems of small farmers, marginal farmers, and agricultural labourers could be taken up in terms of ensuring re-distributive justice to the rural poor who form the central category in the economy. In such a situation policies for development of small farmers, marginal farmers and agricultural labourers require to be merged into the broader operational framework of rural development.

INCOME VIABILITY OF IDENTIFIED SMALL AND MARGINAL FARMERS IN SFDA PROJECT FATEHPUR, UTTAR PRADESH

S. M. Dingar and R. B. Singh†

The paper examines the income viability of small and marginal farmers, participating in the various schemes of the SFDA Project in Fatehpur district, Uttar Pradesh, for the year 1978-79. A viable farmer has been considered as one whose agricultural income (*i.e.*, net farm income and income received from subsidiary occupation) is sufficient to maintain himself and his family. Thus, viability has been judged on the basis of average agricultural income, on the one hand, and the consumption expenditure per household, on the other, by selecting 100 small and marginal farmers grouped under participant and non-participant categories, from a representative block Malwan, in SFDA Project, Fatehpur district. The findings showed that the amount of borrowings made and the subsidies given to the farmers were higher on small farms (1-2 hectares) than on marginal farms (0-1 hectare) on per hectare basis because of larger size of farm business. The subsidies given to the participant farmers resulted in more borrowings as compared to the non-participant farmers. Amongst different purposes of borrowings, crop production accounted for the highest share (39·57 per cent) followed by milch animals (28·68 per cent) and minor irrigation (18·87 per cent) on marginal farms, while minor irrigation (31·51 per cent) followed by milch animals (25·60 per cent) and then crop production (23·92 per cent) constituted the main items of borrowings on small farms.

A higher investment of input resources in crop and milk production resulted in higher income on the participant small and marginal farms as compared to the non-participants. Family consumption expenditure per household was higher for the farmers of the participant group due to higher levels of income. A higher consumption expenditure on small farms in comparison to the marginal farms within the participant group was due to the large size of family and higher incomes. The composition of income showed that net farm income constituted more than 50 per cent of the total income on small farms while it was around 31 per cent on the marginal farms of both the participant and non-participant groups. Income from milk varied from 32 to 40 per cent on small farms and from 21 to 27 per cent on marginal farms of the non-participant and participant groups respectively. Non-farm income formed a significant proportion of the income on marginal farms (18-23 per cent).

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Comparing the level of agricultural income and consumption expenditure, it was observed that the participant small farmers had attained viability and had a substantial surplus over consumption expenditure. The marginal farmers (0-1 hectare) of the same participant group did not attain viability. In the case of non-participant group, neither the small nor marginal farmers could reach upto the viability level. The extent of inequalities in income of the participant and non-participant marginal and small farmers was measured by calculating the Gini concentration ratio. The higher value of the Gini ratio for the non-participant marginal farmers (0·0643) showed that there is an increasing degree of inequality in income distribution among farmers. The concentration ratios for the participant and non-participant small farmers were found to be 0·0258 and 0·0446 respectively, which indicated that the non-participant small farmers have more inequality in income distribution than the participant small farmers.

IMPACT OF DPAP ON FARM INCOME AND RESOURCE PRODUCTIVITY: AN EMPIRICAL STUDY OF FARMING OF WEAKER SECTIONS

Tej Bahadur, P. B. Parthasarathy and V. Ananda Rao*

An attempt has been made in this study to analyse the impact of DPAP in terms of increased farm productivity reflected by changes in gross and net farm income in pre-to-post-implementation stages and to examine the resource productivity and allocative efficiency of various inputs by participant and non-participant small farmers having less than five acres of holding. The data used in the study pertain to a sample of 90 small farmers—30 each under the community irrigation wells (CIWs), ayacut development work (ADW) and non-participants (NP)—collected for two points of time, *i.e.*, the pre-implementation stage (1973-74) and post-implementation stage (1976-77) through a pre-tested questionnaire in seven villages of Markapur block in Prakasam (Ongole) district in Andhra Pradesh. The DPAP has been in operation since 1974-75. Tabular analysis is used to compare the performance of the participant (CIWs and ADW) and non-participant small farmers. To compare the factor-product relationships and efficiency in the resource use, Cobb-Douglas production function model was fitted separately for farms under study. The analysis revealed that the participant small farmers (CIWs and ADW) had their entire operational holdings of the irrigated dry type as compared to rainfed dry by NP small farmers. In so far as farm asset structure was concerned, the ADW beneficiaries had comparatively higher value of farm assets, mostly in farm implements and machinery, in comparison to CIWs and NP small farmers. The cropping pattern emphatically showed a shift from local to hybrid varieties by CIW beneficiaries and greater diversification in farming by ADW beneficiaries. The NP small farmers had to be contented with local varieties. Since irrigation was not enough even for one season for CIWs and ADW farms, the cropping intensity obtaining on all farms was similar, *i.e.*, 100 per cent in all cases.

Looking at the impact of DPAP on farming of the weaker sections—small farmers—one can see the positive impact on farm productivity in terms of gross and net farm income in the post-implementation stage. The production function analysis indicated the prevalence of diminishing factor returns in general. Constant returns to scale seem to be prevailing on all types of farms. The coefficients of multiple determination (R^2) in all instances were highly significant. The resource efficiency analyses pointed out inefficient use of resources on all types of small farms since the MVP to opportunity cost ratios widely deviated from unity. There exists scope for reorganization of resources for better returns on all types of farms. To conclude, resource productivity on DPAP's farms appears to be somewhat better than that on farms of the non-participants.

THE IMPACT OF DPAP ON ASSET FORMATION OF THE SMALL AND MARGINAL FARMERS (A STUDY IN RAMANATHAPURAM DISTRICT)

Nandagopal Raju†

The paper attempts to compare at two points of time statistical information derived from the Drought Prone Area Programme (DPAP) evaluation survey in 1974-75 and information collected by the author in 1978-79 and seeks to find out whether actually any changes have come about in the asset position of the farmers over the period of time considered. The study showed that the overall asset position has recorded a big increase as a result of the DPAP. The increase in non-farm assets' position indicates a potential that could be diverted to more profitable agricultural uses. This can be achieved by encouraging a more relevant participation of the small farmers with the projected facilities. There is a general tendency of a decrease in the asset position per acre with an increase in the holding size operated. The relevance of the institutional credit is exemplified by its participation in asset formation and by its share of more than 70 per cent of the total liability of the farmers irrespective of the

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categories. The increase in the size of family on farm has a negative relation to assets formation. Beyond 3 fragments, there is a general decline in farm efficiency and thus asset formation. It may also be noted that marginal farms, farms with lesser number of fragments (upto 3) and smaller families (upto 6 members) have well reacted to the projected facilities and have really registered a more than proportional increase in their asset position.

DROUGHT-PRONE AREAS PROGRAMME

Shiv Ram Dass*

74 districts in 13 States which are prone to regular droughts and have low extent of irrigated area, have been identified as drought-prone areas in the country. National development policy based on target-oriented and sectoral allocations has further widened the income disparities between DPAP districts and the rest of the districts of the respective States. DPAP agencies have been set up in these areas with the main objective of narrowing regional disparities and raising the living conditions of the poor. The total expenditure on the progrmme since its inception on April 1, 1974 to March 31, 1979 was Rs. 269·16 crores which is shared equally between the Central and State Governments. 45·1 per cent of this expenditure was spent on the creation of irrrigational potential, 15·4 per cent on agricultural development and so on. The cost of developing irrigation potential is very high in these areas and is estimated to be around Rs. 9,692 per hectare on all-India basis. During 1974-75, the yield per hectare in DPAP districts was only 23 per cent of what it was in the rest of the districts of Rajasthan, 46 per cent in Tamil Nadu, 47·4 per cent in Haryana, 54·2 per cent in Andhra Pradesh, 59·4 per cent in Gujarat and so on. During 1974-78, so far as foodgrains are concerned, yield gaps were reduced, the rate of growth of production was high for DPAP districts as compared to the other districts of the respective States except for Karnataka. The trend towards shifting of area to more remunerative and commercial crops has also been noticed in these areas. It may, therefore, safely be concluded that the special programmes of the Government have helped in the reduction of inter-regional disparities, howsoever small these may be.

A total of about 1,780 lakh man-days of employment are reported to have been created during 1974-79 under the programme. The country may not be able to spare large resources of the order of Rs. 900 crores annually (estimated) that may be required to provide employment to the unemployed force in this area at the moment. It is, therefore, suggested that the operation of Food for Work Programme may be limited to the less endowed areas—DPAP is only one of these areas—till inter-regional disparities are reduced to some tolerable limits.

IMPACT OF THE MECHANIZATION PROGRAMME ON THE DISTRIBUTION OF INCOMES OF THE FISHERMEN

N. Subba Rao†

In this paper an attempt is made to compare the levels of incomes of fishermen who are engaged in mechanized and traditional methods of fishing. The main objective was to examine whether there was any impact of the mechanization programme on the incomes of various groups of fishermen. It was also intended to study the inequalities in the distribution of income. For this purpose, one marine fishing village, namely, Kotta Jalaripeta near Visakhapatnam fishing harbour was selected where both the mechanized and traditional methods of fishing are carried out. The data were collected during 1978 by means of a questionnaire. Out of 201 fishing households selected for the study, 66 belonged to the mechanized and 135 to the traditional sectors. Each sector was further divided into owner and hired operators for a cross-sectional analysis. On this basis, 21 and 45 households were in the mechanized sector and 62 and 73 in the traditional sector. The income from fishing was compared between different fishing groups and 't' values were calculated for showing the significance in their differences. For showing inequalities in the distribution of income, groupwise per capita incomes were calculated and Lorenz curves were drawn. Gini ratios were also calculated. The study showed that the difference in fishery income between mechanized and traditional sectors was only marginal. The hired operators had improved their incomes to some extent. The income from other sources, particularly the service, supplemented the fishery incomes of owner operators in the mechanized sector. The causes for the lower incomes from fishing of owner operators included higher prices of fuel oils, uncertainty of fish catches, seasonal disorders, excessive repairs, inadequate management, etc., which collectively restricted the mobility of boats and reduced their earnings. Income inequalities are more pronounced in the mechanized sector and particularly for the owner operators of the same sector. Therefore, the programme of mechanization has little effect on the incomes of fishermen.

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Moreover, it has helped the upper income strata and the fruits of mechanization have not percolated down into the lower rungs of the fishermen community. In other words, it has contributed to widen the disparities. Rationalisation of the family, designing of a low cost intermediate technology, subsidisation of the cost of oil, diversification of fish catches and provision of reasonable prices for their fish, availability of co-operative funds, provision of adequate traditional craft and nylon nets, diversion of a portion of work force to other productive sectors are some of the factors which can ensure better incomes to the fishermen for an equitable distribution.

A STUDY ON THE IMPACT OF THE "PROGRAMME OF INTENSIVE DEVELOPMENT OF TRIBAL AREAS" ON THE QUALITY OF LIFE AMONG THE TRIBALS IN KERALA

P. T. Joseph*

This paper attempts to analyse the impact of intensive tribal development programmes implemented in Attappady block in Kerala during 1962-76 in improving the quality of tribal life by generating more income and employment and reducing the disparity in their socio-economic status. A comparison of the project area with a control region is made using the empirical data provided by the socio-economic survey of tribals and employing the crucial indicators, *viz.*, income, employment, land holdings, literacy, general health, occupation and level of monetization. Excepting in the case of income, the project area is at a higher level of development than the control area. Also the distribution of employment, land and income in each of the two regions has been examined by using statistical parameters like mean, variance and coefficient of variation and these are found to be more even in the project area. Further, by applying the 't' test, the difference in the distribution of employment and land between the two regions is found to be significant at 5 per cent level. But the economic gains accrued to the tribal families are found to be not commensurate with the large amount of public investment made in the area. This might be due to partial ineffectiveness of extension work and the emphasis given in the development programmes to the welfare aspect even though the sheet anchor of a strategy for growth should be the strengthening of their economic base by the development of agriculture, especially perennial crops.

ECONOMIC IMPACT OF THE TRIBAL DEVELOPMENT AGENCY ON THE TRIBAL POPULATION OF SINGHBHUM, BIHAR (A CASE STUDY IN SINGHBHUM VILLAGES)

Nakshatra Kumar Roy†

Singhbhum district in Bihar was selected for the study of Tribal Development Agency's (TDA's) activities and its achievement in respect of raising the standard of living of the poor tribal population inhabiting there. One hundred and twenty participant farmers who responded to the benefits offered by the TDA and 35 non-participant peasants who remained outside this project constituted the ultimate unit of our study. Participant farmers were taken from all size-groups of land holding and being Christian in greater number than the non-participants, they were more educated than their counterparts. Moreover, the participant farmers were endowed with better facilities of irrigation, pesticides, fertilizer and high-yielding varieties (HYVs) of seed offered by TDA. The objective of the study was to find out to what extent the participant farmers have been able to transform their economic condition in contrast with the non-participant households, to analyse the changes in the cropping pattern, the income newly generated from agricultural production, investment pattern of the surplus income and also the position of the durable consumer goods between the participant and non-participant farmers. The most striking result was the TDA's immediate effect over the adoption of HYV crops by the participant peasants. Though ordinary paddy still occupied a major percentage of area, the cultivation of HYV paddy, maize, gram and potato had obviously enhanced the total income more than what it was before the implementation of such project. On the contrary, the non-participant's cropping pattern did not show any change. The absence of adoption of any kind of HYV crop was quite prominent in their farming operation. The income accrued from the agricultural sources being less, the non-participant households resorted to secondary occupations like bidi-making and service for the maintenance of their families.

The investment pattern of the participant farmers showed that besides land and building, the participant farmers had also invested on improved implements and tools, wells and tanks. The income of the non-participants being less, their investment pattern was mostly limited to land, building, land improvement and livestock. In respect of durable consumer goods, the participant farmers had cycle, sewing machine, transistor, etc., in their list but in the case of the non-participant's list consumer goods like transistor and sewing machine were totally absent. The TDA has been successful in making some important impact on the tribals in the area selected for our study.

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IMPACT OF MINOR IRRIGATION SCHEME ON SMALL AND MARGINAL FARMS IN SFDA AREA—SANDILA AND BHARAWAN BLOCKS OF HARDOI DISTRICT OF CENTRAL UTTAR PRADESH

Vishwa Ballabh and J. S. Sharma*

The minor irrigation scheme is one of the major programmes taken up by the Small Farmers Development Agency (SFDA) and the Marginal Farmers and Agricultural Labourers (MFAL) Agency, since the development of irrigation is considered to be a basic infrastructure for full exploitation of modern technology and increasing the productivity of land. The objectives of the paper were (*i*) to examine the profitability of minor irrigation (pumpsets and Persian wheels) loans financed by the Land Development Bank (LDB) and subsidised by the SFDA on small and marginal farms and (*ii*) to assess the impact of the investment of farm technology and on the economy. The study was conducted in Sandila and Bharawan block of Hardoi district in Central Uttar Pradesh where an intensive small farmers development programme was undertaken; all the borrowers of LDB who had been financed in 1977-78 in the selected blocks and who had received subsidies for 7·5/8·0 H. P. pumpsets (small farms) and Persian wheels (marginal farms) were selected. Before and after approach was used to ascertain the profitability and impact of investment on the cropping pattern, cropping intensity, income and employment. Two sets of primary data were collected regarding resources used, yield obtained, etc., in 1976-77 which was taken as pre-investment and in the post-investment period in 1978-79. The profitability was judged in two different situations, with and without subsidy using the net present value and benefit-cost ratio criteria. The income and costs in pre-investment included the product of crops and expenditure on material like seed, fertilizers, depreciation and interest on capital, expenditure on human (including family labour) and bullock labour. In the post-investment period, besides all the above, it also included the income and expenditure of hiring out irrigation water. To eliminate the price effect all the inputs and outputs were evaluated at constant prices prevailing in the post-investment period.

The study revealed that the investments in pumpsets and Persian wheels were profitable on small and marginal farms respectively, even if the farmers had not been given the subsidies, as the net present values were more than zero and benefit-cost ratios were greater than one in each case and in each situation. But the provision of subsidy would improve the income and equity position of the farms. The net irrigated area on farms considerably increased but all the cultivated area on pumpset farms could not be brought under irrigation because of fragmented holdings. The cropping intensity increased by 41·12 per cent and 43·77 per cent on small and marginal farms respectively. The cropping pattern changed in favour of more remunerative crops like groundnut, paddy, wheat and vegetables. The yield of paddy, maize and wheat increased by 32·85 per cent, 8·43 per cent and 33·59 per cent respectively on pumpset (small) farms, while on Persian wheel farms the yield of paddy and wheat increased by 22·38 per cent and 21·33 per cent respectively. The per farm consumption of manure and fertilizer also increased but the per acre use of fertilizer increased on pumpset farms while it remained almost unchanged on Persian wheel farms. The area under HYVs increased from 1·435 acre and 1·355 acre in pre-investment period to 2·40 acres and 2·14 acreas in the post-investment period on pumpset and Perisan wheel farms respectively. The cost of production as well as income also increased on beneficiary farms, resulting in a change in net farm income from Rs. 926·26 and Rs. 780·45 in the pre-investment period to Rs. 1,780.80 and Rs. 1,487·66 in the post-investment period on small and marginal farms respectively. The investments in minor irrigation also resulted in an increase in direct farm employment by 68·88 per cent and 72·81 per cent on pumpset and Persian wheel farms respectively in the post-investment period.

IMPACT OF SPECIAL PROGRAMMES FOR WEAKER SECTIONS: A CASE STUDY OF "WELL IRRIGATION" SCHEME IN TRIBAL AREAS

A. G. Prasad†

One of the programmes that received top priority by the Special Agencies is the development of irrigation sources. Irrigation is the basic input for increasing agricultural production. Moreover, an irrigation well is a permanent asset giving recurring benefits over a number of years. In this paper an attempt is made to study the impact of 'well irrigation' scheme financed by the Girijan Development Agency, Srikakulam, on the cropping pattern, use of inputs, yields, income and assets of the tribal beneficiaries. For the purpose of the study, Saravakota Tribal Block in Srikakulam district of Andhra Pradesh, where the Agency sanctioned large number of loans for wells is selected. Out of a total list of beneficiaries, 25 tribals for whom loans were given, wells sunk and in use are selected at random. In addition to the beneficiary sample, a total of 20 non-beneficiaries are also selected to act as a control group. Thus, the paper compares the performance of the beneficiaries with the

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non-beneficiaries in the year of reference, *i.e.*, 1976-77 but does not take into consideration the before and after situation of the beneficiaries. The following are the major conclusions of the study:

As a result of irrigation the beneficiary holdings raised a large number of crops in both the seasons whereas the non-beneficiaries raised crops only in the *kharif* season. Moreover, they placed more acreage under irrigated crops and grew high-yielding varieties. Again as a result of irrigation, the beneficiary households reported diversified cropping pattern so as to include commercial crops like vegetables, gingelly, groundnut, sugarcane, etc. The beneficiaries adopted modern farming methods and plant protection measures. Another significant impact is that the marketable proportion of output also was considerable on the beneficiary holdings. The beneficiary households have now modern agricultural implements like oil-engines/electric motors in their asset structure. Their values of land have also gone up because of irrigation sources. Another noticeable impact of 'wells' is that the beneficiary households are giving up *podu* for settled cultivation.

IRRIGATION AND WEAKER SECTIONS

A. A. Rane*

With the aim of identification of real poor and for knowing the difference in income due to irrigation, a study was undertaken in two villages of the Union Territory of Delhi. One village was irrigated and another village was unirrigated. The data were collected by survey method during May-June 1973 and analysed using Lorenz curve and Gini ratio techniques. It was observed that 61 per cent of the cultivators' families from the unirrigated village and about 23·34 per cent of the cultivators' families from the irrigated villages were below poverty line. These below poverty line families are treated as weaker section families. The per capita income of the weaker section in the unirrigated and irrigated villages was Rs. 345 and Rs. 643 respectively.

Thus the problem of the weaker section in the unirrigated village was serious and needed certain special programmes. However, only special programmes will not solve the problem of inequality in income distribution but other safe measures such as differential pricing policy, differential interest rate, subsidies, reservation for jobs, concessional educational facilities, concessional medical facilities should be adopted to reduce inequality in income distribution and for removal of poverty.

IMPACT OF INTEGRATED AREA DEVELOPMENT PROJECT ON THE ECONOMY OF SMALL FARMERS

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In this paper an attempt has been made to analyse the changes in gross income and its potential level due to participation of small farmers in the Integrated Area Development Project introduced in Balapur *Panchayat Samiti* of Akola district in Maharashtra. For administrative purposes, Balapur *Panchayat Samiti* was divided into four sub-zones for successful implementation of the project. A sample of 116 beneficiaries spread over in all the four sub-zones was drawn randomly on the basis of proportion of beneficiaries in each sub-zone. In order to measure the impact of the project, 116 non-beneficiaries were also selected randomly from these sub-zones as a proxy for controlled phenomenon. The impact of the project is measured by way of (*i*) changes in yield per hectare, (*ii*) changes in gross income, (*iii*) changes in the cropping pattern, (*iv*) additional labour employment generation, (*v*) changes in the contribution of different sources of income to total income. The study relates to the period 1977-78. The main findings of the study are:

(*i*) Due to the availability of inputs from the project, a substantial rise in the yield level of crops specially H4 cotton and wheat was observed. The yield levels of H4 cotton and wheat crops had increased by 32·58 per cent and 57·60 per cent respectively. (*ii*) The proportion of high-yielding varieties crops was observed more (42·99 per cent) in the case of beneficiaries as against 19·20 per cent in the non-beneficiaries' holdings. (*iii*) A change in the cropping pattern and adoption of improved agricultural technology had resulted in increasing the gross income per hectare by 24·75 per cent. (*iv*) The adoption of improved agricultural practices and a change in the cropping pattern had resulted in an increase in the employment of labour. The per hectare additional male and female labour worked out to 45·83 days and 46·91 days respectively. (*v*) There is a potentiality for increasing income through the inclusion of subsidiary enterprises like milch animal and poultry, etc., by 51·27 per cent.

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SMALL FARMERS RESPONSE TO ECONOMIC INCENTIVES UNDER SFDA PROGRAMME IN UTTAR PRADESH

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To study the response of small farmers to economic incentives under the SFDA programme in Uttar Pradesh, 50 beneficiary and 50 non-beneficiary small farmers in Pratapgarh district were studied in 1978-79. It was found that investment per hectare was 22·69 higher on the beneficiary farms than on the non-beneficiary. The cropping intensity, area under HYV, fertilizer consumption per hectare in kg., irrigated area, human labour utilization per hectare in days and bullock labour utilization in days were 171 per cent, 69·1 per cent, 89 kg., 73 per cent, 160 days and 49 days respectively on the beneficiary farms and the corresponding figures for the non-beneficiary farms were 130 per cent, 35 per cent, 51 kg., 36 per cent, 130 days and 40 days respectively. The beneficiary farmers were using more inputs in general and particularly more manure and fertilizer, seed and irrigation in crop raising than the non-beneficiary. The per hectare average values of inputs, output, net income, family labour income and farm business income were higher on the beneficiary farms as compared to those on the non-beneficiary farms. Thus it may be concluded that with the implementation of the SFDA programme in the district, the outlook of small farmers is changing towards the use of modern technology in farming requiring the increased use of HYV and multiple cropping, manure and fertilizers, irrigation, quality seeds and insecticides and pesticides. The increased use of the modern farm inputs has not only helped in increasing the level of productivity but also in increasing the level of income and employment on the sample farms.

RETURNS TO TECHNO-ECONOMIC SUBSIDIES ON SMALL SCALE FARMS

Daulat Singh, Ram Iqbal Singh, V. K. Singh and R. K. Singh‡

The paper examines the effect of subsidy on income generation among scheduled tribes, marginal and small farmers. It is based on two empirical studies conducted under Lab to Land programme at C. S. Azad University of Agriculture and Technology, Kanpur with the objective of working out returns to resource and technical subsidies and diversion of subsidies among different classes of farmers. The study included 310 farmers from ten development blocks in Kanpur district receiving financial subsidies on paddy and wheat crops. The sample included 105 scheduled tribes, 83 marginal and 122 small farmers receiving 50 per cent, 33·3 per cent and 25 per cent subsidies respectively. A sample of 300 farmers adopted under Lab to Land programme run by the C. S. Azad University of Agriculture and Technology, Kanpur was also selected separately for examining the effect of technical subsidy over financial subsidy. The study revealed that the scheduled tribe farmers had a low rate of investment as compared to the marginal and small farmers in the cultivation of paddy and wheat crops. Taking into consideration the average size of holding to be 1·01 hectare (in between marginal and small holdings) and 50 per cent rate of subsidy allowed on inputs, the total production of paddy and wheat was found to be lowest in the case of scheduled tribe farmers as compared to the marginal and small farmers. On an average, 60 per cent of the total cost was incurred on human and bullock labour followed by fertilizer and irrigation, being 27 per cent and 13 per cent on seed and the rest of the inputs. The productivity of paddy was observed to be the lowest in the case of scheduled tribe farmers (17.10 quintals per hectare) and the highest in the case of small farmers (25.15 quintals per hectare). The returns on per rupee of investment in seed, fertilizers and pesticides were estimated to be the highest in the case of scheduled tribe farmers followed by small and marginal farmers. For subsidy on seeds, the returns were Rs. 2·27, Rs. 1·87 and Re. 1·01 for the scheduled tribes, small and marginal farmers respectively. However, the highest returns were found for small farmers in the case of subsidies on pesticides and fertilizers. The returns to subsidies in pesticides increased with the increase in the size of holding in the case of wheat as well as paddy crops.

The second part of the study included 100 farmers under demonstration and contact, 100 farmers under contact only and 100 farmers under non-demonstration and non-contact as a sample for examining the effect of technical subsidy over and above financial subsidy. The economic returns to technical subsidy apportioned from the effect of financial subsidies indicate that the technical subsidies contributed about 30 per cent as against about 19 per cent contribution made by resource subsidy towards the additional productivity. However, the combined subsidy (technical+resource) has contributed to the extent of 54 per cent, showing a synergetic relationship between these two subsidies and adding about 6 per cent in income as an interactional effect.

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The diversion of input subsidies was seen more in paddy than in wheat crop because of the great uncertainty and risk involved in the cultivation of paddy than in wheat crop. The proportion of farmers who diverted the subsidies on seed was the least (1·4 per cent). The diversion of subsidies on pesticides was reported by a larger number of marginal and scheduled tribe farmers than by small farmers. Diversion of subsidies on phosphatic fertilizers was the maximum closely followed by potassic fertilizers and was the least in the case of nitrogenous fertilizers. This clearly indicates that farmers are not convinced of the use of phosphatic and potassic fertilizers to the extent they are convinced of the use of nitrogenous fertilizers. The diversion of subsidies by all the three categories of farmers is economically made use of by the big and progressive farmers and at the cost of their own production and income.

Pragmatic policies have to be developed to discourage the diversion of subsidies and extension organizations need to be mobilized to educate the farmers about the benefits in productivity and income attached to the use of subsidies on various inputs. The biological concepts of crop production should be integrated with the economic concepts in developing an effective subsidy strategy for agricultural production. Workable models for blending resource plus technical subsidies for different agro-climatic zones need to be developed by the agricultural universities and research institutions engaged in the development of technology and policies for agricultural production.

WAGES OF WEAKER SECTION IN MADHYA PRADESH (A STUDY IN REGIONAL AND TEMPORAL VARIATION DURING THE PERIOD 1960-61 TO 1976-77)

Ganesh Kawadia*

This study attempts to examine the trends and growth rates in the wages of the weaker sections in Madhya Pradesh for a period ranging from 1960-61 to 1976-77. The growth rate was computed by fitting an exponential trend to each time-series of money and real wages. It was revealed that the real wages of the weaker section have shown no trend during the period under study. The post-green revolution period, *i.e.*, from 1970-71 to 1976-77 has shown the greatest decrease in real wages. Thus the Green Revolution has failed to benefit the weaker section of the society.

The higher rate of increase in high money wage crops zones and lower rate of increase in low wage crop zones have resulted in greater disparity in the wage rates in different crop zones. Normally, the wheat producing areas have higher growth in money wages than the rice producing areas. Thus the Green Revolution has increased the regional disparity in wages for the weaker section in the State. Institutional factors such as availabilty of agricultural workers, percentage of scheduled castes and scheduled tribes and a high percentage of female workers explain for the major part of wage rate variation, as they tend to increase the supply of labour in agriculture. It thus looks that the wage rate variation among districts is predominantly influenced by the supply condition in the market. In the given supply situation, demand variables such as the percentage of irrigation, cropping intensity and consumption of fertilizer have only marginal influence on the wage rate.

AN ANALYSIS OF ENGEL CURVES FOR CULTIVATORS AND AGRICULTURAL LABOURERS—A CASE STUDY IN AGRICULTURALLY PROGRESSIVE AREAS

G. B. Veluri†

The present study attempts to analyse and compare the consumption patterns of two major occupational groups, namely, cultivators and agricultural labourers, in an agriculturally progressive area of Andhra Pradesh. The study is based on the household consumer expenditure data collected by the Agro-Economic Research Centre, Waltair for a period of three years from 1969-70 to 1971-72. By using various functional forms of the Engel curve, we have made an attempt to present suitable forms and thereby reliable estimates of Engel elasticities for food and non-food items of consumption. In this paper, we have estimated both income and expenditure elasticities. The two types of estimates vary between years and between items of consumption. In the case of agricultural labourers, the expenditure elasticities computed from the best functional forms reveal that the items, namely, pulses, other food, fuel and lighting and partly all food come under luxury category along with all non-food item. Further, cereals, despite its high value of share (above 50 per cent of the total budget), have a high value of elasticity (·90) for agricultural labourers while the same item, despite its already low value of share (30 per cent), has a low elasticity (·26) for cultivator households. These results reveal that any re-distribution of income in favour of the weaker sections of agricultural families, agricultural labourers, will lead to considerable increase in expenditure on essential items of consumption such as cereals. Unless there is an increase in the production of these commodities, any such re-distribution may cause a further rise in the prices of these commodities and thereby in the general price level.

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A STRATEGY OF EMPLOYMENT CREATION FOR INCOME IMPROVEMENT AMONG WEAKER SECTIONS IN RURAL AREAS

Alexander Varghese*

This paper primarily focuses its attention on evolving an employment strategy via rural works programme that would directly interact in improving the general income position and the level of living of the weaker sections in the rural areas. The basic argument of the paper stems from the fact that the root cause of the prevailing inequalities in rural income distribution is the direct outcome of the inequitable distribution of the means of production, and the chronic mass poverty among the weaker sections in the rural areas is the net effect of the inadequate supply of wage goods. Therefore, it is argued that for a long-term solution to the problem of poverty and inequalities in the rural sector, an appropriate employment strategy for the weaker sections based on an apt technology mix through an integrated monetized media would enhance the income position, consumption pattern and the general standard of living of the masses. Once this stagnancy evolved out of the low level income-equilibrium is activated through a chain of inter-reacting employment programme through linkage process, it would help to improve the economic condition of the poor and weaker sections in the rural areas. But the very success of any such strategy formulation largely depends on the proper recognition of the existing moribund institutional structure, rigid property relations and biased interest of the economic power groups in the rural areas which often hinder the performance of any such rural development programme.

AGRICULTURAL FARMING CORPORATIONS: A SPECIAL PROGRAMME FOR WEAKER SECTIONS IN ASSAM

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Agricultural Farming Corporations were established by the Government of Assam with the novel and progressive idea of giving protection to the weaker sections which comprise the landless and agricultural labourers. Persons from flood affected areas were provided with land and other extension services. The present study is based on data collected from 60 shareholders' households of equal size of holdings (1·20 hectare) selected randomly from four purposively selected farming corporations located in different districts of the State. The organizational set-up of the corporations was on co-operative lines with a Board of Directors to look after the management. Each shareholder enjoyed one share and one vote while the Government retained 51 per cent of the total shares and kept the power of appointing 50 per cent of the directors. The corporations were established on Government waste land by the clearing of forest and reclamation of land. Although the Growth Complex was meant for providing scope for development of the economic conditions of the shareholders, they had not been able to extend adequate services to the shareholders with regard to utilization of land, alternative employment opportunities to the member farmers, loan to be sanctioned to them, developmental expenditure and activities in relation to cultivation in it. There was wide variation in respect of cultivated area, crops grown, output per hectare, cost of cultivation and returns per hectare in the Growth Complex of different corporations.

The shareholders were previously landless. In the face of their poverty, they had to resort to certain irregular means to earn additional income from sources outside the farming corporation. They received assistance from the corporations such as for land reclamation, machinery services, irrigational facilities, fertilizers, seeds, plant protection measures, technical guidance, etc. After joining the corporation the value of their inputs like livestock and farm implements increased over the initial value in two corporations while the reverse was the trend in other two corporations. The cropping pattern was more or less the same in all the sample corporations. *Ahu* and *sali* paddy were the main crops grown. The cropping intensity was found to be very high, in most cases above 200 per cent. Though there was variation in the cost of production in different corporations and in different crops, the material cost per hectare was low for all crops while per hectare labour cost was found to be proportionately much higher. Due to the unsuitability of Government forest land as site for the farming corporations, poor condition of soil, menace caused by flood and wild animals, the per hectare returns from major crops were very low. The shareholders were indebted to the local moneylenders as well as to the respective corporations. The repayment capacity of these people was very low. The present average outstanding balance of debt per household in the entire sample was Rs. 241·13. The average indebtedness of the shareholder to the concerned corporation was Rs. 1,185.16 for the entire sample. It is also observed that the surplus labour force could not be utilized fully and there was surplus labour in the shareholders' households. The surplus labour was hired out to other big farmers outside the corporation and also to the corporation in the Growth Complex. The study revealed that there was certain degree of slackness in the management and functioning of the corporations. Permanent drinking water, medical facilities, irrigation, electricity, education, etc., must be

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made available. If the allotted land to the shareholders and in the Growth Complex are scientifically utilized the poor peasants would be able to earn their livelihood from the farming corporations. Incentive bonus in the form of allocation of additional land may be offered to the efficient shareholders to stop them from adopting illegal means to earn additional income.

ECONOMIC DEVELOPMENT AND DISTRIBUTIVE JUSTICE: A CASE STUDY OF THE WEST BENGAL COMPREHENSIVE AREA DEVELOPMENT CORPORATION

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In this paper an attempt has been made to examine the implications of the development programmes from the point of distribution of gains of such area development programme as West Bengal Comprehensive Area Development Corporations (WBCADC) among the various target groups in the rural areas of West Bengal. It has been observed that in all the 20 CAD project areas in West Bengal, the share-croppers, marginal and small farmers receive about 80 per cent of the total amount of inputs supplied by the CADC. In regard to the loans given to the different classes of beneficiaries, the share of the landless labourers and marginal farmers was about 87 per cent of the total amount. As to the impact of WBCADC on the area and yield of the main crops and hence on employment, we find, comparing 1977-78 with the initial year 1975-76, that in the CADP areas (*i*) the gross area under cultivation has increased by nearly 16 per cent, (*ii*) foodgrain production has increased by about 36 per cent, (*iii*) the average yield of foodgrains per acre has increased by about 25 per cent, (*iv*) employment in agriculture has increased by 27 per cent, (*v*) the increase in the employment opportunity was about 26 per cent, and (*vi*) the increase in employment per agricultural worker was nearly 21 per cent. Thus the actual achievements of the WBCADC in all the spheres of activities are certainly impressive and offer a glaring contrast to what is happening in the other areas of West Bengal. But it is observed that like all development programmes, WBCADC is acting under the structural constraints of existing pattern of ownership of land and prevailing pattern of availability of non-agricultural goods and services. Given a very firm policy to eliminate the above constraints and a firm political determination to implement in practice the policy of the development programme, it is certainly possible to eliminate hunger and unemployment, to a limited extent, from our country.

REGIONAL RURAL BANKS AND THE WEAKER SECTIONS (WITH SPECIAL REFERENCE TO THE MARATHWADA GRAMIN BANK)

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This paper aims at evaluating the role of the Marathwada Regional Rural Bank, Nanded, in ameliorating the economic upliftment of the 'weaker sections' in its area of operation, comprising the four districts of Nanded, Parbhani, Osmanabad and Beed. The Marathwada region of the Maharashtra State is one of the most backward regions in the country; and a major part of its rural population belongs to the 'weaker section'. The most important group among the weaker sections is the class of agricultural labourers, forming about 40 per cent of the population; the second major group is that of 'small and marginal' farmers, constituting 20 per cent of the population. The third group comprising 'household industries' and 'allied agricultural activities' forms 4·4 per cent of the population. In this way, about two-thirds of the rural population in the region belongs to the category of 'weaker sections'. As the main objective of the Regional Rural Bank is to provide credit and other facilities especially to the small and marginal farmers, agricultural labourers, artisans and small entrepreneurs in the rural areas, the role played by this Bank has to be evaluated in the light of this objective. During the years 1976 and 1978, the Bank has financed 29 and 441 small farmers advancing a total loan of Rs. 32,000 (or 8·8 per cent) of the total and Rs. 9,33,000 (or 13 per cent) respectively. The share of small farmers in the crop loans has declined from 17 to 16 per cent during the same period. There were 1,51,855 small farmers in its area of operation. Similarly, the share of loans received by the 'agricultural labourers' in the total loan disbursement has also declined from 46 per cent in 1976 to only 22 per cent in 1978. Considering their number (*i.e.*, 8·82 lakhs), the coverage of the Bank is very meagre; it has financed only 4,301 agricultural labourers during 1976-78. Although the Bank has been able to diversify its loaning operations by advancing loans to the rural artisans like blacksmiths, cobblers, potters, weavers, barbers, tailors, etc., the share of this class has also shown a declining trend, *i.e.*, from 12 per cent in 1976 to only 1 per cent in 1978. In the case of loans advanced to 'other weaker sections' also, their share in the total loans has declined sharply from 33·7 per cent in 1976 to 10 per cent in 1978. The Bank should reconsider its loaning policies in the light of these declining trends and try to expand its loaning activities in the field of small scale and cottage industries in rural Marathwada.

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FINANCING SCHEDULED CASTES AND SCHEDULED TRIBES BY PRIMARY AGRICULTURAL CREDIT SOCIETIES

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In this paper an endeavour is made to throw some light on the plight of the scheduled castes and scheduled tribes vis-a-vis upper castes at the primary level of pyramid type three-tier co-operative credit structure. An attempt is also made to focus inter-State variation, if any, in the performance of the primaries in financing members belonging to the backward classes. Seven indicators are taken into account for judging the performance of the primaries. These are (1) total membership, (2) borrowing members, (3) indebted members, (4) defaulting members, (5) advances, (6) outstandings and (7) overdues. The analysis is based on the secondary data published by the Agricultural Credit Department of Reserve Bank of India in its statistical periodicals. The study brings to light the following points: (1) The co-operatives have appreciably enrolled scheduled castes and scheduled tribes as members. However, the performance varied between the States and years. Maharashtra, Orissa and Rajasthan are the only three States showing better performance in enrolling both scheduled castes and scheduled tribes as members, while Gujarat, Tripura and Pondicherry accommodated scheduled caste members. Similarly, Karnataka and West Bengal have a better coverage of scheduled tribes under the co-operative fold. In the remaining States, the position is far from satisfactory. (2) In borrowing, the scheduled caste members have edged over their counterparts in Gujarat, Orissa, Rajasthan, Himachal Pradesh and Madhya Pradesh whereas the scheduled tribe members could get fair treatment in loaning only in Rajasthan. Apparently Rajasthan is the only State where both the scheduled caste and scheduled tribe members get preferential treatment in membership, while Orissa and Gujarat accommodated scheduled caste borrowers. Thus the scheduled tribes are at a disadvantageous position as compared to the scheduled castes. (3) As regards the size of advances, the scheduled tribe borrowers are the lowest in the ladder. The recent measures have thus benefited the scheduled caste members more than the scheduled tribe members. (4) The rate of default is invariably higher for the borrowers belonging to the backward classes. Financing for medium-term purposes has also not helped materially in arresting the higher default rates. Interestingly enough, of the total co-operative overdues, borrowers belonging to the backward classes account for a very small portion. This suggests that a relatively small number of upper caste borrowers have robbed the resources of the co-operatives and are responsible for the mounting burden of overdues in farm co-operative credit. (5) The analysis also reveals that the backward classes were grossly neglected by the co-operatives in the past. Though the impact of the measures taken for augmenting the flow of co-operative credit to the backward classes in recent years is felt, a lee-way is yet to be made.

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