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SUMMARIES

PLANNING AND MARKETING IN PROMOTING RURAL INDUSTRIES—A CASE STUDY

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Planning and marketing constraints for healthy growth of the rural industries have been examined in this paper with the help of twelve examples. These rural industrial units are manufacturing a specific type of roap named here as Ischaemum roap, used by the paper industry in Andhra Pradesh. In spite of the availability of adequate credit and other social and economic infrastructures, these rural industries are suffering from serious setbacks. Six out of twelve units have become sick and the rest are working at one-third of their installed capacities. As a result, 75 per cent of the invested capital became unproductive. The overall poor performance of these units and the periodical artificial gluts created by the large scale units have created frustration among the rural entrepreneurs.

The reasons attributed for such a situation are (*i*) fundamentally, lack of demand and supply oriented planning, (*ii*) promoting the mushroom growth of the small scale units, (*iii*) no technical help is provided to the sick units to enable them to revive their production of some alternative allied goods and to repay the outstanding loan instalments, and (*iv*) there is no mandatory binding imposed on the large scale units compelling them to purchase goods from the local Ischaemum roap making units. This has given a chance to the larger units at times to purchase their requirements from a different region and thereby force the local small entrepreneurs to slash down the prices of their products. It is thus imperative to examine carefully the production frontiers and the demand pull responsible for the welfare of rural industries. Social marginal productivity of the capital earmarked for the promotion of the rural industries should be periodically assessed. Proper planning and congenial market structure would help in bringing about a phenomenal impact of rural industrialisation on the rural economy.

A STUDY OF RURAL AND COTTAGE INDUSTRIES IN NORTH ARCOT DISTRICT

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This paper attempts to study the economics of selected rural and cottage industries, to identify the problems confronted by these industries and to

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explore the potentials for promoting these industries. Four villages in West Arni block of North Arcot district in Tamil Nadu with the concentration of handloom weaving, coir making, country brick making, lime making and stone carving were purposively selected. All the values were estimated per unit per year except lime making where the production is only for six months. The analysis revealed that these industries require low initial capital investment with a maximum of Rs. 1,243 in stone carving followed by handloom weaving (Rs. 950), coir making (Rs. 423), brick making (Rs. 120) and lime making (Rs. 118). In all the rural industries with the exception of lime making, the family labour constituted more than 95 per cent of the total labour cost. It was 43.59 per cent in lime making. The cost of the material input was the highest in handloom weaving and the lowest in lime making. The net return was the highest in handloom weaving (Rs. 1,734.71) followed by stone carving (Rs. 797.28), coir making (Rs. 567.84) and lime making (Rs. 312.24). There was a loss of Rs. 1,080.89 in brick making due to low price of the bricks. The family income from the unit was the highest in stone carving (Rs. 10,997) followed by handloom weaving (Rs. 5,385), coir making (Rs. 3,718), country brick making (Rs. 2,759) and lime making (Rs. 1,368).

The residual labour productivity was the highest in coir making (Rs. 11.73) followed by stone carving (Rs. 10.77), handloom weaving (Rs. 7.81), lime making (Rs. 7) and brick making (Rs. 5.09). The residual productivity of the material input was also the highest in coir making. Employment potential was the highest in stone carving (1,040.40 man-days) followed by handloom weaving, brick making, coir making and lime making with 712.93, 565.03, 327.60 and 312.00 man-days respectively. The labourers in general get higher wages in rural industries than in agriculture. The above results promise scope (*i*) for expansion of institutional credit to start new units or to modernize the existing one, (*ii*) for the Government agencies to organize the co-operative societies to help these entrepreneurs, (*iii*) to upgrade technology by undertaking research and (*iv*) to develop infrastructural facilities, namely, power, transport and storage.

ON ECONOMICS OF PIG FARMING IN RURAL AREA

T. B. Jain and U. G. Nadkarni*

Pig industry is practically neglected in India. The technology of pig rearing here has not been properly developed on economic and scientific lines. The study to find out the practices of rearing pigs in the rural area and the factors responsible for bringing out the economies in rearing cost would help in further formulating the development programmes for pig rearing on scientific lines. In the present study the componentwise costs of maintaining pigs of different categories and the effect of flock size on cost

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under rural conditions were estimated from the data collected from villages in Aligarh district of Uttar Pradesh during the period 1978-79. The average daily cost of maintenance of an adult pig was 76 paise for male and Re. 1.05 for female. The cost per creeper of either sex was nearly of the same order, being 12 paise for male and 13 paise for female. The cost on family labour formed about 85 per cent of the total gross cost per pig. The average cost per pig of each category decreased with the increase in the size of flocks. In the rural conditions maintaining of large number of pigs per household appears to be economic.

ECONOMIC ANALYSIS OF CREAMERIES

Raj Vir Singh and V. V. Sharma†

An economic analysis of the creameries was done based on the data collected from 12 creameries from Karnal. An average creamery required Rs. 16,310 as initial investment and Rs. 15,738 as working capital. Machinery, building and vehicles were the major items of initial investment while the milk alone accounted for more than 90 per cent of the working capital requirement. The annual total cost (fixed + variable) of running a creamery was Rs. 1,97,297 and the total revenue generated was Rs. 2,26,354 leaving a net profit of Rs. 29,057. Similarly, the economics of individual products, *i.e.*, cream, ghee, butter, paneer and skim milk was also favourable. Break-even analysis indicated that a creamery could cover its total cost by processing a quantity of 14,851 kg. of milk which was about one-fifth of the present handling of 87,172 kg. annually. The optimum level of milk handling (3,23,510 kg.) and the optimum scale of operation (2,48,160 kg.) were both higher than the present milk handling. On the whole, creameries could be considered as one of the suitable enterprises for those who want to take up self-employment activity , as it requires comparatively small investment and generates a good amount of profit.

AN INTEGRATED AGRO-INDUSTRIAL DEVELOPMENT PLAN FOR DWARAHAT BLOCK, ALMORA (U.P.)

C. Sen*

Agro-industries can play a vital role in increasing income, employment and ultimately improving the quality of life of rural people in India. All this needs integrated planning for agro-industrial development in the rural areas. With this objective in view, a study was conducted in Dwarahat block in

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Almora district of Uttar Pradesh. Multi-objective programming model was used for preparing an integrated agro-industrial development plan for the block. A fifteen-years' (*i.e.*, 1980-81 to 1995-96) duration was taken to prepare three plans with five years' duration each. Agro-industries included in the plan were poultry unit of 50 birds, poultry feed unit, fruit processing unit and package boxes making unit. These industries were integrated with other economic activities as crops, orchards, livestock, etc. It is observed that there were only 240 poultry units and no poultry feed unit, fruit processing unit and package boxes making unit in the block during the base year 1980-81. All the four types of agro-industries have shown a significant increase during all the three plans. The share of agro-industries in total employment potential and income has increased markedly during all the three plans.

RURAL INDUSTRIES AND EMPLOYMENT IN THE SIXTH FIVE YEAR PLAN

S. K. Gupta†

The Industrial Policy Resolution, 1977, laid emphasis on promotion of cottage and small scale industries widely dispersed in the rural areas and small towns in line with the priority for employment generation. The Sixth Five Year Plan, 1980-85 laid great stress on the development of village and small industries. The relationship between output and employment generation assumed in the Plan indicates an urgent need for their reconsideration. The total output of the village small industries sector in 1973-74 amounted to Rs. 1,36,000 million at current prices which in 1979-80 reached the level of Rs. 3,35,380 million, the target for 1984-85 is put at Rs. 4,92,350 million. The data indicate that the growth rate of the village and small industries sector as a whole for the period 1973-74 to 1979-80 was 24.43 per cent per annum against the contemplated rate of growth of only 9.39 per cent per annum during 1979-80 to 1984-85. The Plan, therefore, seems to assume a high rate of deceleration in the growth rate of village and small industries sector which probably would jeopardise all our efforts towards poverty elimination in the rural areas. In 1973-74 the traditional sector accounted for 16.05 per cent of the total output of village and small industries which decreased to 13.26 per cent in 1979-80 and in 1984-85 it is targeted at 14.68 per cent. The only significant increase targeted in the Sixth Five Year Plan has been for modern small industries whose relative share increased from 52.94 per cent in 1973-74 to 64.51 per cent in 1979-80 and has been targeted at 66.77 per cent in 1984-85.

The rates of growth of employment in handloom and coir sectors increasing from 3.01 per cent to 8.29 per cent per annum and from 1.97 per cent to 8.62 per cent per annum respectively for the two periods under

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consideration seem improbable. The annual rate of growth of employment in modern small scale industries shows a declining trend from 11.50 per cent during 1973-74 to 1979-80 to 6.57 per cent during 1979-80 to 1984-85.

The relationship between the average annual rates of growth in the output and employment for the two periods shows that the increase in employment was of the order of 0.23 per cent for one per cent increase in output during 1973-74 to 1979-80, which in 1979-80 to 1984-85 is expected to increase to 0.81 per cent. For the traditional sector, it is expected to increase from 0.29 to 0.74 and for the modern sector from 0.33 to 0.76. In order to make the rural industrialisation programme an effective instrument for ameliorating rural poverty in India, it is necessary that the output, employment and technological appropriateness for the sector are well harmonised.

ECONOMIC STUDY OF EMPLOYMENT POTENTIAL IN RURAL INDUSTRY—A CASE STUDY OF BRICK KILNS

R. K. Pandey, Shanti Sarup and Ved Prakash*

Brick and tile industry is one of the small scale industries which is labour intensive, providing opportunities for gainful employment to the rural population and helping to bring about an improvement in their living conditions. This paper aims to examine the pattern of employment and capital structure of brick kilns located in the area around Karnal city in Haryana and Delhi. The study reveals that about 90 persons are employed for a period of 120 to 150 days during a year on a brick kiln providing 25 to 30 lakhs of bricks annually. The current employment level is about 2.7 million persons. This is expected to rise in the future. Total capital outlay per kiln was Rs. 6.74 lakhs. The expenditure on fuel was maximum accounting for over 46 per cent. The study demonstrates that the industry has a great promise in alleviating the rural unemployment problem. Any improvement in this industry will help in solving the housing problem and will have a bearing on the living conditions of the ever increasing rural and urban masses.

ROLE OF DAIRYING IN RURAL INDUSTRIALISATION

B. C. Saxena, H. P. Singh and S. P. Verma*

The paper is based on the data collected by the Indian Agricultural Statistics Research Institute for milk collection areas of three major milk supply schemes, *viz.*, Delhi Milk Scheme (DMS), Dudh Sagar Dairy (DSD), Mehsana and Madhavaram Milk Supply Scheme (MMS), Madras.

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The study was undertaken to examine the role of dairying in increasing milk productivity, in earning more income and also in generating more rural employment. The main findings of the paper are that rural employment through dairying alone has shown considerable progress in both DMS and MMS areas. An appreciable increase in employment through dairying as a subsidiary occupation was seen in all the milk collection areas, indicating thereby that the setting up of urban milk supply scheme is another way of rural industrialisation. In addition to generation of employment in rural areas, there has been considerable improvement in the income of rural people.

THE IMPACT OF ELECTRIFICATION ON RURAL INDUSTRIALISATION—A MICRO LEVEL ANALYSIS

K. R. Chowdry, A. V. Rao and D. P. Sharma†

An attempt is made in this micro level study to appraise the impact of electrification on rural industries with particular reference to (*i*) growth of industries, (*ii*) output and (*iii*) employment. The study was conducted during 1974-79 in Singanamala block in Anantapur district of Andhra Pradesh. Before the Rural Electrification Programme was launched, there were 40 industries of different kinds in the block. The important among them were rice mills, flour mills, groundnut oil mills and vanaspati and refined oil mills. After the introduction of the programme their number had increased significantly in the sample villages. The increase in the number of rice mills was 50 per cent in the block while it was 150 per cent in the sample villages. Similarly, groundnut oil mills registered a 100 per cent increase. The pattern of location of the industries showed a particular concentration in a few villages. The electricity reached these villages earlier than the other villages. Thus electrification and industrial location and expansion had close correlation.

Rural electrification not only encouraged the establishment of new industries like neem oil and ceramic industries but also helped in increasing the production of the existing industries. The total industrial production for the block as a whole was 2.951.60 tons during 1973-74, that was, prior to rural electrification. It had gone up to 7,179.60 tons during the year 1978-79, registering an increase of about 243 per cent. Compared to the production of the block as a whole, the production in the sample villages increased by 280 per cent during the study period. This might be due to the fact that these villages received the electric power earlier and as such they were in a more advantageous position than the other villages of the block. The value of industrial output in the three sample villages registered nearly a six fold increase during the same period. The value of output from ground-

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nut oil mills registered the highest increase (254 per cent). Similarly, the total net industrial income increased by about 591.37 per cent. The highest percentage increase in net income was in the case of rice and flour mills followed by groundnut oil mills.

Regarding the employment in the region, before electrification, all the industries together could absorb a little more than 200 persons while they provided employment to 644 persons after the electrification. The employment in the rice mills in the block registered an increase of 33.33 per cent. In the case of flour mills the employment in the block increased by 150 per cent. The employment in rice and flour mills registered an increase of 133.33 per cent in the block. The study emphasizes the need for a sound electrification programme on an extensive scale in view of the positive and significant role it played in the process of rural industrialisation. It is suggested that 'growth centres' may be identified and the development policy of the area as a whole may be framed on the 'growth pole' model of economic development.

INFRASTRUCTURE AND RURAL INDUSTRIALISATION IN PUNJAB

J. S. Chawla*

This study examines the impact of infrastructure on rural industries of Punjab from 1968-69 to 1978-79. Its specific objectives are to (*i*) measure the growth of various components of infrastructure, (*ii*) find out the relationship between the growth of infrastructure and rural industry and (*iii*) suggest a suitable policy to foster integrated growth of infrastructure and rural industry. Relevant data were taken from the various issues of Statistical Abstract of Punjab. Growth rates for different components of infrastructure were estimated by the compound growth rate formulae. Effect of infrastructure on industrialisation (employment was used as an indicator of industrialisation) was analysed through exponential function. Employment in rural industries went up by 5.70 per cent. Among infrastructural elements, expenditure on rural arts and crafts recorded the maximum growth rate, followed by towns and villages electrified, expenditure on education, expenditure on communication, expenditure on health and rural sanitation and miscellaneous items. The results of the estimated equation showed positive effects of all independent variables (except expenditure on education) like rural electrification, expenditure on health and sanitation, expenditure on technical training and number of bank branches on rural industrialisation. Statistically significant elasticities pointed out the desirability of allocation of more funds by government for such infrastructure to promote rural industrialisation.

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ECONOMETRIC ANALYSIS OF CHANGING STRUCTURES OF KHADI AND VILLAGE INDUSTRIES IN ANDHRA PRADESH, 1956-1980

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This paper attempts to analyse the changes in the structure of Khadi and Village Industries (KVI) by way of comparative analysis of growth rates in development indicators and in structural ratios of individual KVI in Andhra Pradesh State during 1956-1980. Sample statistics of structural ratios, periodwise and long-term growth rates, production functions of discrete and continuous type, returns to scale, total factor productivity measures are estimated and analysed to check for employment potentialities, economic viability and sustained growth of KVI in the State. Sugarcane, *gur* and khandsari are so dwindling that they do not contribute any more either to output or employment in Andhra Pradesh. Processing of cereals and pulses, cottage matches, village pottery deserve complete subsidisation with respect to the productivities of both the factors. Decreasing returns to scale is the normal feature of KVI. Lime manufacturing, forest plants and fruits for medical purposes are the most economically viable.

GROWTH ANALYSIS OF SELECTED VILLAGE INDUSTRIES IN PUNJAB

S. K. Singla, Rakesh Kumar and Nirmal Singh*

Need for the development of village industries has been adequately realised since long by both the State and Union Governments. The main objective of Punjab Khadi and Village Industries (PKVI) Board is to provide all types of assistance for the growth of these industries in Punjab. In the present paper an attempt has been made to assess the impact of the efforts of the State Government in the development and growth of village industries. The Board assisted in all 2,654 units and provided to them Rs. 10.61 lakhs as grant and Rs. 158.54 lakhs as loan during 1981-82. Seven industries, namely, processing of cereals and pulses (PCP), neo-soap, pottery, gur and khandsari, fibre, leather and carpentry and blacksmithy were selected out of the list of village industries approved by Khadi and Village Industries Commission, as they absorbed more than 80 per cent share of the total assistance from the Board. Compound growth rates were obtained for production, employment and total assistance for these industries from 1973-74 to 1979-80. It is observed that the growth rates were significant for all the industries for the three factors under study except for pottery in the case of employment and assistance and gur and khandsari in the case of production.

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There has been very high growth for both production and employment in the case of carpentry and blacksmithy, leather and fibre industries.

The regression analysis was employed to study the impact of government assistance on production and employment in these industries, using both linear and log-linear functional forms. Also included in the analysis was a linear time variable to remove the effect of presence of trend in the variables. The analysis showed that the impact was more predominant in the case of gur and khandsari, fibre and leather industries on production whereas in the case of employment highly significant regression coefficients were observed for neo-soap, gur and khandsari and fibre industries. Thus the PKVI Board has significantly helped the development and growth of these industries in the State.

CONSTRAINTS OF VILLAGE INDUSTRIES—A STUDY IN THE DISTRICT OF BIRBHUM, WEST BENGAL

Anandamoy Sen†

The district of Birbhum in West Bengal has a rich tradition of cottage industries. Many rural crafts gradually decayed through neglect; some were wilfully suppressed by interested parties; some, again, died a natural death. By comparing the proportionate change in the number of workers engaged in household industries in the district of Birbhum, it is seen that the number of workers engaged in these industries has declined from 21,057 in 1961 to 11,908 in 1971. Different types of traditional cottage industries of this district have been surveyed for the purpose of study. The village industries dealing with cotton weaving, tussar weaving, silk weaving, sola craft, lack wares, brass and bell metal, embroidery and boutique work, leather crafts, earthen wares, artistic bamboo and mora crafts are some of them. Through extensive travel and interviews with a number of village artisans engaged in these industries, it is revealed that due to lack of attention from the government and from other appropriate authorities these industries are slowly decaying. But some dedicated traditional craftsmen are still fighting the battle with determination to keep alive some of these once world famed crafts. If all these village craftsmen are organized and provided with required finance, raw materials and easy marketing infrastructures, then these traditional cottage industries can be helped to stand on their own.

RURAL INDUSTRIALISATION UNDER POLARISATION REVERSAL: A CASE FOR INDIA

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The development of rural industries under the process of polarisation reversal is considered to be inclusive along with the agropolitan development

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approach in the overall strategy of rural industrialisation. The reverse movement of population and activity in India appears to be the most recent phenomenon. This is largely seen, in the first place, in the form of spatial diffusion from the 'core' region to the secondary locations. The process may largely be seen to have been set in on selective lines, that is, in manufacturing belts developed between dominant urban poles in the form of a multi-centred dispersal of manufacturing activity covering small towns and rural areas in the process. In gearing population and activity towards more dispersed locations, the tool like industrial estates has supposedly helped to a significant measure. There are reasons to believe that a similar process could be expanded on more dispersed basis through deliberate policies and plans of spatial intervention.

RURAL INDUSTRIES IN RELATION TO INTEGRATED RURAL DEVELOPMENT PROGRAMME IN DISTRICT KANPUR (A CASE STUDY)

J. S. Garg and B. K. Gupta†

The strategy for integrated rural development is to tackle the twin problems of agricultural growth and rural poverty. This involves the active participation of industry in rural areas—adoption of villages by industry, formation of consortium companies in specific areas to deal with particular problems, increasing agricultural productivity, helping the growth of agro-centres, contribution to research and development in a strategy of rural development, etc. The success of the rural industrial complex entirely depends upon the availability of raw material, production and management skill and markets and marketing. With these ends in view an attempt has been made in the present paper to develop an integrated rural development plan based on rural industrial complex in Kanpur district of Uttar Pradesh. The plan was developed on the basis of resource inventory survey for two selected blocks, *viz.*, Chaubepur and Shiorajpur Development Blocks during the year 1980-81. The main objective of the study was to locate the rural industrial complex centres and propose rural industries based on local resources and needs. The resource inventory survey conducted in the two blocks has brought out that there is a great potential for development and production of agriculture in the area. The important agro-based industries are (1) oil ghanies, (2) rice milling, (3) khandsari and gur making, (4) essential oil manufacturing, (5) biri making, (6) fruit preservation and dehydration of vegetables, (7) sericulture, (8) wool knitting, (9) soap industry, (10) milk procuring and processing centre, (11) poultry, fishery and egg collection centres, (12) handloom, khadi and blankets industry, (13) repairing and manufacturing units of agricultural implements and machineries and

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bins making, (14) cold storage and potato processing industry, (15) production inputs supply centres, (16) packing material industry and (17) custom service centres. There can be many more in the process of development.

In conclusion, the success of the plan would largely depend upon the well developed marketing facilities for the supply of raw materials and disposal of finished goods, on the one hand, and a network of financing institutions for the timely and adequate supply of credit, on the other. Technical know-how is needed to be supplemented to support the programme. An integrated effort made by different departments of State Government, *viz.*, Directorates of Industries, Agriculture, Horticulture, Marketing, Industrial Development Financing Corporation, University and Banks would go a long way in developing such agro-industrial complex in the project area.