Impact of Watershed Development Programme in Dewas District of Madhya Pradesh

A.R. Verma*

The paper attempts to examine the impact of watershed development programme in Dewas district of Madhya Pradesh. Specifically it aims to study the cropping intensity, production, cost and returns and input-output ratio on farms of different sizes in the Watershed Development Programme (WDP) and non-WDP areas. Using multi-stage random sampling technique the Dewla Mili watershed in Khategaon tehsil of Dewas district was selected under the WDP area. A sample of 50 cultivators consisting of 25 small (less than 2 ha), 15 medium (2.1 to 4 ha) and 10 large (4.1 and above ha) farmers each were selected randomly from the list of total cultivators in the village of the watershed and non-watershed areas respectively. The data pertaining to the year 2008-2009 were collected by survey method. The analysis showed that the average cropping intensity worked out be 215.08 per cent in WDP as compared to 176.77 per cent in the non-WDP farms. The average cropping intensity was higher in WDP than in the non-WDP area. The average yields per hectare of soybean, cotton, wheat and gram were 18.80, 25.75, 35.70 and 17.65 quintals respectively in the WDP area as compared to 15.75, 21.25, 27.50 and 15.35 quintals in the non-WDP area. The average yields of these crops were substantially higher in the WDP area as compared to non-WDP area. The average cost of production per quintal of soybean, cotton, wheat and gram worked out to be Rs.1180.77, Rs.1285.44, Rs.601.43 and Rs.916.67 respectively in the WDP area as compared to Rs.1294.18, Rs.1344.94, Rs.651.12 and Rs.960.32 in non-WDP area. The input, output and net income per hectare of various crops were higher in WDP as compared to non-WDP area. The average net income per hectare of the selected crops was higher in WDP as compared to non-WDP area. The farmers in WDP area adopted improved technology due to financial assistance provided to them through subsidies and they used a higher level of farm inputs which resulted in increased incomes. The analysis indicated that more importance should be given to encourage the adoption of the recommended package of practices, developing suitable improved varieties of cereals, pulses, oilseeds and cotton (less water consuming crops) which would increase not only the income but also enrich the soil fertility. The study revealed that the WDP is the one of the most important strategies to bring about socio-economic change in the rainfed system. Overall there has been a positive impact due to the adoption of WDP in raising the level of income, employment and productivity of various crops in watershed area on the small,

*Department of Agricultural Economics and Farm Management, Madhya Pradesh Pashu Chikitsa Vigyan Vidyalaya, College of Veterinary Science and Animal Husbandry, Mhow, District Indore - 452 001 (Madhya Pradesh).
medium and large farms. In some of the regions, it has silently revolutionised the agriculture and allied sectors through various technological interventions, particularly soil and water conservation, and crop diversification. Lack of appropriate institutional arrangement, inadequate capital and lack of technical guidance for all aspects of crop production were the constraints identified in the study areas. Therefore earnest efforts to enthuse stakeholders for their voluntary participation would sustain watershed development and bring prosperity in the rainfed areas. Institutionalising participatory monitoring and evaluation at the watershed level is a vital one. Also, the local villagers should be given proper training in monitoring and evaluation aspects. The study suggests measures like adoption of land, soil and water conservation practices by the farmers, better co-ordination among government functionaries, better co-ordination between development agencies and voluntary organisations and land development activities for effective implementation of WDP in the rainfed areas. The periodic evaluation of the watershed development programme is essential in order to measure the progress of work to make it more effective, share experiences, compare with other programmes, assess strengths and weaknesses and improve activities. The farmers who adopted the watershed development programme are saving labour, water and energy cost, attaining higher yields and getting more returns. The ability of the watershed development programme would be therefore in enhancing grain yields, in providing better economic performance and in reducing production risks to improve energy use efficiency. It has been concluded that the watershed development programme is a valuable adoption strategy that can lead to a significant increase in food production, if practised scientifically. The role of policies and institutions are highlighted in accelerating the adoption of the watershed development programme.

**Agricultural Performance in Different Plan Periods in India:**
**An Economic Analysis**

**R.P. Singh and Jai Prakash†**

The present study attempts to examine the performance of agriculture and allied sectors in different plan periods with respect to increase in the forest area, net area sown, gross cropped area, net irrigated area, cropping intensity, productivity of important cereals crop, use of plant nutrients, production of fish and milk and its availability. The plan wise allocation of funds revealed that nearly 20 per cent of the funds of the total plan outlay were allocated to agriculture including irrigation and allied sector in different plans in the country except a few plan periods (i.e. first plan, fourth and sixth plans). The growth rate analysis further revealed that the forest area grew at an annual rate of 1 per cent which was maximum in the decade 1960-61 to 1970-71 in the country. The net area sown also increased at an annual rate of merely

---

†University Professor and Chairman and Senior Research Fellow, respectively, Department of Agricultural Economics, Birsa Agricultural University, Kanke, Ranchi - 834 006 (Jharkhand).
0.35 per cent which was also higher in the decade of 1960-61 to 1970-71. The gross area also increased at less than one per cent rate per annum in the country. The area under irrigation converted at an annual rate of 3 per cent in the country which increased the gross cropped area at a rate of 5 per cent per annum. The cropping intensity increased at a rate of less than half per cent per annum. The proportion of foodgrains area to the total cropped area has been continuously declining over the plan period. The productivity of rice, wheat, jowar, bajra and maize grew at annual rates of 3 per cent, 5.64 per cent, 4.50 per cent and 4.76 per cent respectively resulting in an overall growth rate of 5.24 per cent in food grains production. The consumption of plant nutrient in the form of N, P and K was about 117 kg per unit of gross cropped area. All these parameters clearly indicate that the agricultural performance was not satisfactory in different plan periods of the country. The fishery sector is a promising enterprise for export earnings as well as livelihood security and nutritional security of the poor base farmers/fisherman which needs further attention in the plans. There is ample scope for strengthening animal husbandry and dairy sector in the country through the allotment of more funds in the plan periods as the per capita arable land is declining and the magnitude of landless agricultural labourers is swelling in the country. Agriculture being the backbone of our economy special attention requires to be given to this sector through reallocation of the plan outlays in the country.

Rashtriya Krishi Vikas Yojana and Agricultural Sector in India: With Special Reference to Maharashtra

S.S. Kalamkar and Sangeeta Shroff*

An attempt has been made in this paper to look into the allocation, release and expenditure incurred under the Rashtriya Krishi Vikas Yojana Scheme (RKVY) in India with special focus on its impact in the agricultural sector of Maharashtra state. In spite of a substantial acceleration in the growth of the Indian economy during the past two decades, there has been a distinct slow down in agricultural growth. Realising the gravity of the situation and a steep fall in the growth rates in state domestic product from agriculture, a number of schemes/programmes were initiated to revive and accelerate growth in the agriculture and allied sectors during the Tenth and Eleventh Plans. RKVY was launched during 2007-08 to incentivise the states to enhance public investment to achieve 4 per cent growth rate in agriculture and allied sectors during the XI plan period. The states of Andhra Pradesh, Gujarat, Karnataka, Uttar Pradesh, Maharashtra, Tamil Nadu and Rajasthan accounted for 67 per cent of the total expenditure made under RKVY during a three year period from 2007-08 to 2009-10. Though the economy is expected to grow at 7.2 per cent in 2009-10, growth

*Gokhale Institute of Politics and Economics (Deemed University), Pune – 411 004 (Maharashtra).
An Improvement in Agricultural Sector During XIth Five Year Plan: A Comprehensive District Agriculture Plan Approach

B.V. Pagire, H.R. Shinde and D.B. Yadav†

The objectives of the study are to analyse the performance of agricultural and allied sectors of Jalgaon district of Maharashtra during the Tenth Five Year Plan and with this estimate the projections of agriculture and allied sectors during the Eleventh Five Year Plan and project the gross domestic product of agriculture and allied sectors with the existing growth rate during the XIth Plan Period. The study revealed there has been a continuous increase in district domestic product throughout the Tenth Five Year Plan. However the share of agriculture GDP of the district declined from 24 per cent to 18 per cent during the same period. The acreage under the major cereals, oilseeds, groundnut and safflower declined significantly, whereas, an increase was observed in the area of mung, soybean, sunflower and cotton in the district. The compound growth rates of area, production and productivity of banana in the district recorded a massive rise during this period of 10 years with higher magnitude than that of the state averages. The per cent share of gross cropped area for the year 2000-01 and 2005-06 in the case of cereals and cotton was more than 72 per cent, however, the gross value added (GVA) by them was around 21 per cent. The per cent share of GCA in the case of fruits and vegetables was around 7 per cent

†Associate Professor, Senior Research Assistant and Head, respectively, Department of Agricultural Economics, MPKV, Rahuri- 413 722 (Maharashtra).
however, GVA by them was around 53 per cent during the period. The compound growth rates of the gross value of output from the livestock sector increased at the rate of 1.31 per cent whereas in case of fishery sector, it declined by 6.69 per cent during the Xth Five Year Plan. The gross value added was just 1.67 per cent against the target set of 6.88 per cent by making interventions of the technologies developed by the MPKV, Rahuri. The estimated additional GDP resulted from adopting interventions and creating infrastructure was expected to achieve an annual compound growth rate of 4.77 per cent per annum, which is more than the targeted 4 per cent rate of growth during the XIth Five Year Plan. Thus the concept of Comprehensive District Agricultural Plan seems to be an effective tool for improvement in the agricultural sector of the district in particular and in the state and nationwide in general, if it is estimated carefully and implemented efficiently.

Planning for the Development of Agriculture in Jabalpur
District of Madhya Pradesh

S.K. Gupta*

An attempt is made in this paper regarding planning for the development of agriculture in Jabalpur district of Madhya Pradesh. It is a centrally located district in the State and comes under the Kymore Plateau and Satpura hills of the agroclimatic zone (Zone-VII). The district has 1393 villages and is spread over 5,19,757 ha. geographical area. The district comes under the paddy-wheat zone but arhar, soybean, pea, gram, maize and mustard are also grown predominantly. The major objectives were (i) to formulate the major strategic points for the development of agriculture, (ii) to find out the agencies involved in the development of seeds of major crops, (iii) to study the crop substitution and diversification for an increase in the agricultural production, (iv) to formulate the impact points to increase the production of major crops of the district and examine the constraints and thrust area to increase the agricultural productivity. The agencies involved in the seed development programmes of the district are Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur for developing nucleus, breeder and foundation seeds, Madhya Pradesh State Seeds and Farms Development Corporation, State Federation of Seed Cooperative Societies, government farms, private seed industries, National Seeds Corporation and NGO’s, SOPA and IARI Regional Station. Regarding the substitution and diversification of crops for increasing agricultural production, the area under sugarcane can be increased from 300 ha to 3000 ha in paddy wheat area of Shahpura, Patan and Panagar blocks, introduction of hybrid and scented rice in Shahpura, Patan, Sihora and Panagar blocks, gradual replacement of kodo-kutki area by maize and jowar, intercropping of gram + linseed (4:2) in 500 ha area of the district,

---

*Principal Scientist (Agricultural Economics) and Technical Officer to Dean, Faculty of Agriculture, J.N. Krishi Vishwa Vidyalaya, Jabalpur - 482 004 (Madhya Pradesh).
intercropping of gram + coriander (8:2) in 500 ha area, large scale promotion of the SRI method of cultivation in the irrigated eco-system, green-pea area is proposed to be increased by 4000 ha in the Patan block of the Jabalpur district. The agricultural production of the district can be increased by providing training to the farmers and rural youth under different development programmes like ISOPAM, ATMA, Sugarcane, organic farming, IPM, watershed management, coarse cereals development programmes etc. Nearly 65 per cent of the cultivated land is rainfed where the fertility status of the soil is poor, large run-off and soil erosion in some parts of the district, water congestion in the monsoon season, inadequate moisture in post-rainy season, degraded land lying fallow, low cropping intensity, low value crops in the cropping pattern, low seed replacement rate, low consumption of fertilisers, large number of marginal and small farmers and a high incidence of pests and diseases are identified as the major constraints. The major strategic points for the development of agriculture in the Jabalpur district are to increase the seed replacement rate by increasing seed production through a seed rolling plan, and a breeder seed production plan as per estimated demand, replacement of low productive crops through crop diversification, strengthening of agricultural extension services and training programmes, improving recommended crop production practices through incorporation of crop geometry, integrated nutrient management, integrated pest and disease management and soil and water management, etc.

National Rural Employment Guarantee Scheme in Maharashtra: Case of Jawhar Taluka

Jayanti Kajale†

An attempt is made in the paper to examine the impact of National Rural Employment Guarantee Scheme (NREGS) specifically in terms of trends in the employment generated during the relevant period at the state level (district wise) as well as at the micro-level, i.e., at taluka and also village level in Maharashtra based on the data available and reports from the beneficiaries of the scheme as well as government officials. For the purpose the Thane district and Jawhar taluka were selected. The Thane district presents a classic case of the urban centric lopsided growth with some parts of the district highly industrialised and the remaining part being a tribal belt where a majority of households are below poverty line (BPL). Jawhar is one such taluka where 71 per cent of population is BPL and 90 per cent is tribal. The study observed that NREGS is indeed a policy decision which has had an impact on the socio-economic profile of the most backward districts of the state. In 2008-09, when NREGA was fully operationalised in Maharashtra, the person days of employment generated was 34.21 million. However there was a sharp fall in the

†Gokhale Institute of Politics and Economics, Pune - 411 004 (Maharashtra).
following year when only 12.57 million person days were generated. The same was observed in all districts across the state. The demand for employment was however negligible in the districts where NREGS was implemented in the third phase. In Thane district where an in-depth study was made, it was observed that while 65158 households were provided employment in 2008-09 under NREGS, this number declined sharply to 28507 in 2009-10 which is less than half of the previous year. In the Jawhar taluka, notably, in 2008-09, majority of the households participated in the NREGS, but again the number was reduced to half in the following year. This decline in employment was apparently due to certain limitations in the implementation of the scheme. Planning for work in every village was always not feasible and farmers were also reluctant to give their land for work. The workers also sometimes migrated for a few months for construction and other work, as wages in the non-farm sector were two to three times higher than NREGS wages. Overall, the study concluded that NREGA served as a supplementary source of employment during the slack season. The scheme is especially beneficial to women workers who are unable to migrate to the nearby industrial areas due to inherent limitations. The government officials who are in charge of NREGS must therefore ensure that work is available on demand so that additional employment and income is generated for rural households especially during the post-kharif season when agriculture ceases to be a source of employment. Concerted efforts should be made at the government level to popularise the scheme and increase the participation of rural people in the scheme.