

Research Studies

Ph.D. for the Study on BAIF's Wadi Programme

Dr. Ramachandra N. Hegde, former General Manager, NABARD, conducted a study on the impact of BAIF's orchard development programme on the socio-economic transformation of tribal areas in Maharashtra, for his Ph.D. under Yashwantrao Chavan Maharashtra Open University, Nashik in August 2008 and the degree was awarded to him based on this work. Under this study, he surveyed the wadi participants from 2 tribal blocks each in Thane and Nashik districts who established fruit orchards on 0.4 ha during 1996-2004 and made the following observations:

- Among the participant families, 59.58% were medium holders, 36.67% were small holders and only 3.75% were large holders. All of them were living in poverty. 73% of the tribal households participated in the programme. Out of their landholding of 1.71 ha, 0.52 ha was fallow. The wadi programme enabled them to bring the wastelands under wadi and reduce the fallow area to 0.3 ha. None of them had wadi before.
- As none of the families had irrigation facilities, 70% of them renovated their own wells, 17% tapped water from springs and 12.5% families availed of



Nursery management

water from check bunds, enabling them to ensure more than 95% survival of fruit trees.

- Fruiting of cashew started in the third year, but sustained income began from the sixth year. 40 grafted trees of Vengurla-1 and Vengurla-4 varieties yielded 41 kg in the sixth year and the yield increased steadily to reach 357 kg in the eleventh year. The yield further increased with the size of the tree. The yield from 20 mango trees also steadily increased from 122 kg in the sixth year to 1076 kg in the eleventh year.

The total income from fruits in the sixth year was 3493 which increased to Rs. 35,381 in the eleventh year, with a net income of Rs. 29,781. The net present value of the orchard was Rs. 85,305 with a benefit cost ratio of 2.78 and internal rate of return of 27% with a pay back period of 13 years.

- Most of the farmers utilised their earnings on the development of their land and irrigation facilities, purchase of houses, repair of houses, purchase of radio, TV, wrist watches bicycles, furnishings and power connection for the houses. A few (about 7%) purchased motorcycles. The

rise in income had a direct impact on the increase in food commodities such as pulses (73%), meat (47%), fruits (72.63%), vegetables (41.87%) and milk (70%). There was an increase in the expenses on clothing (91.83%), footwear (25%), education (53.4%), medical expenses (44.92%) and cosmetics (17.26%). Their expenses on festivals and marriages also increased by 50%. The increase in food intake had a positive impact on the health. The literacy level increased from 15.33% in 1996-97 to 47.73% in 2007. More than 95% of the children were now enrolling in schools. The level of participation of the tribal families in the activities of Panchayati Raj Institutions and cooperatives was significantly high. With the establishment of wadi, the livestock population was also steadily increasing which further increased through income as well.

- Presently, 55% families were maintaining milking animals, 37% were keeping goats and 65% were maintaining poultry. Over 77% livestock owners allowed their animals to graze on their own lands, while others sent them to common lands and forests for grazing.
- The wadi development programme did not have any impact on traditional custom and religion. It only helped in elimination of certain superstitions with relation to health practices.
- The major aim of the participants was to enhance their income and quality of life. While joining the wadi programme, 81.25% participants had discussed with



Sustainable livelihood

their wives and taken a joint decision. Over 95% participants confirmed substantial benefits from the wadis.

- As a result of wadi establishment, the migration of male members came down from 74.17% to 37.1%. Further, the number of days of migration came down from 81.60 days to 29.2 days. The female migration came down from 53.75% to 6.67% and the number of migration days from 55.52 days to 6.8 days. This had a significant impact on the quality of life of the women and the children.
- The study revealed the scope for further strengthening the programme in the areas of water resource development, livestock husbandry and forward and backward linkages, to further enhance their income. 93.75% participants expressed that BAIF was the main source of information for availing new technologies.

The wadi programme which was unknown in the region before a decade, has now become the most popular programme, in demand by almost every tribal family. ♣