A STUDY OF DETERMINANTS OF ADOPTION AND PRODUCTIVITY OF RURAL TECHNOLOGY: THE CASE OF SERICULTURE TECHNOLOGY IN DEHRADUN DISTRICT (UP)

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CERTIFICATE

This is to certify that the thesis entitled "A Study of Determinants of Adoption and Productivity of Rural Technology: The Case of Sericulture Technology in Dehradun District (UP)" being submitted by Mr. A.K. Mathur to the Indian Institute of Technology, New Delhi, for the award of degree of Doctor of Philosophy, is a record of bonafide research work carried out by him.

Mr. A. K. Mathur has worked under our guidance and supervision and has fulfilled the requirements for the submission of the thesis, which to our knowledge has reached the requisite standard.

The results contained in the thesis have not been submitted in part or full to any other University/Institute for the award of any degree or diploma.

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ABSTRACT

In India, with increasing population (846.3 million, 1991), the absolute number of the rural unemployed (41-42%) have also been increasing. Various anti-poverty programmes of the government have not brought about any significant change in the poverty scenario in the country. There is thus a need for an appropriate technology which can be adopted by the resource poor rural population, and which provides opportunities for gainful employment and income enhancement in an equitable manner.

Sericulture technology has been found to be well suited for adoption by the rural poor for providing them gainful subsidiary employment. It has additional advantages of requiring low investment and having short gestation period.

In spite of the fact that (i) the Plan allocations by the Central and State governments for expansion of sericulture industry in the country have been steadily increasing, (ii) an internationally funded National Sericulture Project (1988-89 to 1993-94) was specially conceptualised and implemented to diffuse the sericulture technology in the five traditional and 12 non-traditional States of India, the production of raw silk in India (17,800 tonnes, 1994-95) falls short of its consumption (21,700 tonnes, same year) by about 4000 tonnes.

The present study is an attempt to bring out the factors which influence the adoption of sericulture among the rural poor in the non-traditional States (where diffusion has been particularly slow) and also those which influence the productivity of sericulture enterprises, being managed by them -- particularly, since there appeared to be a lack of any systematic study on these aspects.

District Dehradun was chosen for the present study since (a) The climate here is most suited for the production of quality cocoon; (b) in spite of creation of an adequate infrastructure here for the promotion of sericulture, the number of families practising sericulture here (about 2,600) has been stagnant for last 20 years, (c) 95% of the rural population of this district has marginal or small land-holdings.

Hence, 122 house holds (69 adopters and 53 non-adopters) from five villages of Dehradun District were selected for carrying out the study. Data was recorded based on survey method using an interview schedule (for a number of variables selected on the basis of literature survey and pilot study) and analysed using univariate and multivariate statistical tools. Case study method

was also used for an in-depth analysis of the techno-economic viability of sericulture enterprises and for investigating how resource constraints influenced adoption of the prescribed technology.

The study showed that the following factors have a strong influence on adoption of sericulture technology among the population of villages studied : (a) Proximity of the villager from a sericulture extension centre and the cocoon market; (b) Enough space and money with the villager for constructing a separate silk worm rearing shed; however, only the poorer classes adopted sericulture and the rich classes had a dislike for the tasks of silk-worm rearing; (c) Availability of mulberry leaves with him; (d) Lack of knowledge about the technology; (e) Perceptions of risk involved due to occurrence of diseases among the worms.

It was found that the following factors positively influenced the productivity of the sericulture enterprise: (a) Proper adoption of the prescribed norms of technological practices; (b) Having one's own mulberry plantation; (c) Having a separate rearing shed for maintenance of hygienic conditions for rearing.

Based on the study it has been recommended that integrated and well coordinated actions should be initiated to simultaneously address all the constraints which influence adoption and productivity of sericulture, namely, improving credit flow, raising mulberry plantation in the adjoining forests under social forestry programme, generating better awareness about technology, improving extension support and cocoon market services, strengthening cooperative movement, etc. The recommendations, it is hoped, would provide necessary inputs to planners and administrators for promoting sericulture in the country, thereby serving the cause of poverty alleviation as well as boosting silk production in the country.

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