

CHAPTER 6

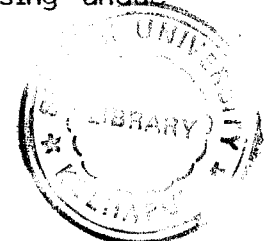
CONCLUSIONS AND SUGGESTIONS

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The present work deals with a study of Tulshi Irrigation Project in respect of its stages of progress, its economic feasibility and impact on agricultural economy. This study is based mainly on the secondary data available from Irrigation Circle Reports, Tulshi Project Reports and Statistical Abstract of Kolhapur District.

Under irrigation development programme in Kolhapur district, by now, two major projects and 69 minor schemes have been completed. As a result, it has been possible to bring under irrigation 74,856 hectares of agricultural land which accounts for 14.64 percent of the aggregate culturable area of Kolhapur district.

Tulshi Irrigation Project is one of the major projects of Kolhapur district. It is located in Radhanagari taluka of Kolhapur district and built on Tulshi river. Radhanagari and Karvir talukas are the beneficiaries of this project. In all, 22 villages from Radhanagari and Karvir talukas are covered under the Tulshi project command area. This project was administratively approved in 1965, the work of the main dam was started in 1970 and the entire project came to an end in 1978. Total irrigable command area spreads over 4,720 hectares. Completion of the project without causing undue



delay has made ample water available to the needy cultivators. The agricultural scenario of the region has undergone a phenomenal change. Rural life of the command area is gradually changing for better living.

A noteworthy feature of Tulshi project is that the entire construction work envisages only lift irrigation, canal irrigation has been kept out and so is conspicuous by absence. Hilly terrain of the command area is a major constraint in the development of the canal system. therefore, a convenient alternative to the canal network is found in the construction of few Kolhapur-type weirs in the river bed at suitable places. As a result, the project has not become top-heavy by undue financial burden, and its gestation period also is less. Sooner the water was available for use. The conserved water resources have acted as the driving force for changing the attitude of the agriculturists and thereby the quality of agriculture.

Benefit-Cost ratio is an important indicator of the worthiness of the project. An ideal ratio should exceed 1.5. Calculations of the B-C ratio in respect of the Tulshi project by using two alternative methods gives the ratio above 2 and thus, cements the understanding that the project is economically viable.

An important problem with every major irrigation project is displacement the families in the catchment area and their quick and convenient rehabilitation. Fortunately, in the

planning and execution of Tulshi project, due thought was given to this issue and suitable measures were taken right from beginning to provide alternate abodes and lands to the affected families, besides cash compensation. Happily, therefore, problem of rehabilitation of the displaced persons does not hang over now.

The agriculturists have now realised that agriculture is not merely the instrument of livelihood but an important instrument of production and wealth too. The cultivators are taking cash crops like sugarcane and vegetables. The high-yielding varieties of paddy and wheat are grown by the farmers on account of assurance of perennial irrigation. Yield per hectare of these new crops has moved up substantially. The cultivators have intensified the farming activity by adopting new technique. They are now using high-yielding varieties of seeds, fertilizers, pesticides and agricultural equipments to produce maximum yield with the benefit of irrigation water. Increase in productivity and production, ultimately change the economic condition of the cultivators and also improve their livelihood. Post-irrigation cropping has led to a manifold increase in net benefits accruable to the users of the lands. Agricultural prosperity is serving as a driving force for rural transformation of the command area. Agricultural employment is on increase and composition of labourforce is changing. New roads were constructed initially as an approach to the dam and for better irrigation management. But sooner this has developed,

transportation of goods to and from the market places along with passenger transport. Educational and medical facilities are now being made available extensively. Small-scale and cottage industries have sprung up in the command area. Agro-based industries like sugar factories, oil mills, rice mills, etc., are strengthening the rural economy. Now, there is better communication between district place Kolhapur and the villages in the command area of the project. The agro-industrial development in Kolhapur has direct linkage with the agricultural development on account of Tulshi and Radhanagari projects. The small farmers are taking more production in the same patch of land. The opportunity of employment to the agricultural labourers is increased in the command area. Therefore, there is improvement in the earnings of the marginal farmers and agricultural labourers and their tendency of migration to the urban area has been curbed. In brief, signs of rural change are vivid in the Tulshi command area. A few suggestions on the future cropping pattern would not be out of place.

- (1) Growing of vegetable crops should be encouraged instead of sugarcane as returns from vegetables are said to be more than sugarcane, as per experience of the vegetable-growers in the belt.
- (2) Additional area from upper part of the command should be brought under plantation of fruit trees with the technique of drip irrigation.
- (3) In the catchment area of the Tulshi dam, instead of

cultivation of crops like sugarcane, the plantation of fruit trees should be taken as the Government of Maharashtra encourages horticultural activities by giving assistance to the farmers. It also protects the soil erosion.

- (4) While growing sugarcane and increasing its area, due precaution is to be taken against the possibility of land damage on account of salinity through excess irrigation. Experience of the neighbouring district of Sangli and Hatkanangale and Shirol taluaks of Kolhapur district should not be lost sight of.

Other suggestions can briefly be enumerated as under:

- (1) A system of periodical evaluation of the benefits and costs of the project should be evolved. This work should not be entrusted entirely to the personnel of Irrigation Department or Agricultural Department. The team should include experts from these two departments, no doubt, but in addition, agricultural economists too. Such a team would be able to view the benefits and costs on a comprehensive basis. Because, it is a common complaint, especially from the class of the agricultural economists, that the calculations of benefit-cost ratio by the irrigation department pertain only to actuals and neglect indirect benefits and costs. Even the model cropping pattern visualised by them goes astray from the one actually comes in vogue.

- (2) Regional planning activity should give due attention to the socio-economic needs of fast changing rural life of such command areas. The District Plan should give special attention to meeting the genuine needs of a development-oriented economy of this kind. Supply of drinking water through taps, post office, health facilities, market centres, etc., can be pointed out as some areas which cannot be neglected for long.
- (3) Periodical activity-income surveys of the covered villages would be useful in understanding the employment pattern and the process of income generation. Such information is presently lacking. Therefore, correct assessment of the economic impact of the project is not possible. Adequate data would facilitate the work of researchers in analysing changes in employment - income - saving pattern in the agricultural economy benefitted by major irrigation project. Collection of data from all the villages is a task impossible for individual researchers. It should be made a regular feature within the Irrigation Department itself.
- (4) Reports of the Irrigation Department on the major projects should deal elaborately with the effect of the project on the environment. Often, enough details are lacking.

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