Title of Thesis:

“Watershed Programme and Social Change with Special Reference to Datia District of Madhya Pradesh”

A Watershed can be defined as an independent hydrological unit. It is a drainage basin or catchment area of a particular stream or river. In simple terms, it refers to the entire upstream topography around a defined drainage channel which feeds water to the lands below. In Madhya Pradesh the agriculture sector accounts for nearly one-third of Gross State Domestic Product (GSDP) and forms the backbone of the State's economy. Sustainable and continued agricultural development is essential for the overall development of the State. In Madhya Pradesh, agriculture is characterized by several problems, prominent among which is that of wide year-to-year fluctuations in production and consequently, farm incomes. The absence of assured irrigation in large parts of the State and of appropriate technology for dry land and drought prone areas compounds the problem. The State has 5 crop zones, 11 agro climatic regions and 4 soil types, which add to biodiversity in the State and acts favorably for production of various agriculture and horticulture crops. There are a high proportion of low value crops with low productivity and agriculture holdings are highly fragmented. There are also large areas of cultivable wastes and fallow lands. According to the 2000-01 Agriculture Census there were 73.60 lakh operational holdings in the State. Sixty five of agriculture in the State is still traditional and mostly rainfed. With its most cropped area belonging to the rainfed category, the incidence of drought has become more or less a perpetual feature. It is pertinent to note here that in the last ten years the State has faced drought in nine years, which has impacted the Gross State Domestic Product (GSDP) adversely. Added to this the relentless exploitation of the natural resources base in the form of soil cover, vegetative cover and ground water
due to increased biotic pressure mounting pressure on fragile eco-system. Rural poverty and extensive unemployment amongst the casual farm and non-farm workers indicates inadequate work opportunities. As consequences the livelihood of rural people's in rainfed agriculture areas has always been under constant threat.

Ministry of Rural Development, Govt. of India had started watershed management programme in the year 1994 under Drought Prone Area Programme (DPAP), Employment Assurance Scheme (EAS) and Integrated Wasteland Development Programme (IWDP). Considering its importance, Government of Madhya Pradesh, Panchayat and Rural Development Department had also constituted Rajiv Gandhi Mission for Watershed Management (RGMWM) in August, 1994 to plan and implement the watershed projects in mission mode with the aim of reducing the vulnerability to droughts, improving the incomes and livelihood of people and also providing short-term employment opportunities. The watershed projects of National Watershed Development Programme in Rainfed Areas under Department Of Agriculture and Watershed Projects funded by NABARD have also been implemented in the state.

Watershed development project is aimed at containing the deterioration natural resources, conservation of soil and water and maintaining the ecological balance for sustainable farming system and economic development of the area by simple and indigenous method. In other words watershed, watershed management is the overall development of a particular region including the development of animal husbandry, forest, soil and water conservation, soil fertility, pastureland, agriculture, horticulture etc. For both scientific and functional management of micro watershed area 500 ha each is taken for the development on guidelines recommended by Hanumanta Rao Committee. Since
then till date, number of micro-watershed is under implementation in the
deserted pockets of our society.

The explicit importance and the crucial contribution of the watershed
development programme in agriculture, certainly calls for a scientific study to
assert the real impact of these programmes on the farmers’ community. Hence,
a study of watershed programme with reference to management practices
followed by beneficiaries of Datia district in Madhya Pradesh was undertaken
with the following objectives:

**Specific objectives**

- To study the personal and socio-economic traits of the beneficiaries.
- To study the social and economical aspects of rural structure and change
  made therein due to the watershed programme.
- To study the attitudinal change in modernization process due to
  watershed programme.
- To explore the relationship between socio-personal & socio- economic
  traits of the beneficiaries with their annual income change due to the
  programme.
- To seek the hindrances in the proper implementation of the programme
  and suggestions for its improvement feedback.

Datia district consists with three blocks namely- Datia, Bhandar and
Sendhawa. Datia district was selected purposively due to watershed
development programme was started on April, 2000. After the selection of the
study area ten villages/ watershed areas were selected randomly for the study
and each village/ watershed area, thirty beneficiaries were selected by using the
simple random sampling. Thus the total sample consists of 300 respondents.
The independent variable used in the study were-age, education, social
participation, farming experience, size of land holding, annual income, socio-
economic status, extension contact, sources of information, extension participation, mass media exposure, risk preference, attitude towards watershed programme, knowledge of watershed management technologies and adoption of watershed management technologies. Dependent variable studied in the present investigation was ‘impact of watershed development programme on annual income’. The data were collected with the help of structured schedule by personal interview and it was prepared on the basis of objectives and variables considered in the investigation. The interview schedule was comprised four parts. They were-

(i) The first parts of the schedule were comprised of the questions related to personal, socio-economical, technological and communicational attributes of the respondents.

(ii) The second part schedule was comprised of the questions related to knowledge of watershed technology.

(iii) The third part of the schedule was comprised of the questions related to adoption of watershed technology.

(iv) Finally the fourth part of the schedule was comprised of various problems faced by beneficiaries in the follow-up of watershed programme and suggestions to overcome them.

Before collecting the data, the schedule was pre-tested in the research area and necessary corrections were made. The responses were recorded in free and frank manner before starting the purpose of investigation of the respondents (Appendix). The needed, secondary data were obtained from the published research journals, books, magazines, detailed project report and soil conservation department etc. The data was properly coded and entered in a master sheet for the purpose of classification and tabulation. The classification of the data was done through quartile method so as to form normal distribution. Wherever, necessary the highest and lowest score obtained by the respondents
were considered for analyzing the data tabulation, percentage and statistical chi-square test. On the basis of the results, main findings are mentioned here under:

**Socio-personal and Socio-economic profile of beneficiaries:**

- Most of the respondents (39.33%) belonged to middle age group.
- Maximum respondents (27.67%) had middle school.
- Most of the respondents (48%) had medium social participation.
- Majority 48.67 per cent of respondents had 5 to 10 years of farming experience.
- Maximum respondents (34%) possessed 1 to 2 ha of size of land holding.
- Majority of the respondents (63.33%) belong to medium category of material possession.
- Most of the respondents (41.67%) belong to low category of extension contact.
- Most of the respondents (40.67%) belong to medium category of source of information.
- More than half of respondents 53.33 per cent were medium category of extension participation.
- More than half of the respondents 50.33 per cent were in medium mass media exposure.
- Majority of the respondents 45.67 per cent were in the medium risk preference.
- Majority of the respondents 46 per cent had medium knowledge of watershed management technologies.
- Most of the respondents (44%) had more medium adoption of watershed management technologies.
Impact of watershed development programme on annual income:

Overall impact of watershed project on annual income revealed that 19.67 per cent respondents were shifted from low category to medium and high category.

Attitudinal change in modernization process due to watershed programme:

Attitude is one of the components of behaviour. It is attitude of a person that decides his action. On the basis of attitudinal change in modernization process due to watershed development programme in watershed area, revealed that 59.33 per cent respondents were shifted from less favorable attitude to favorable and most favorable attitude, while 8 per cent respondents were increase in favorable attitude and 25.66 per cent respondents were in most favorable attitude.

Determine the association between socio-personal & socio-economic traits of the beneficiaries with their annual income:

In reported that the variables viz. education, social participation, farming experience, size of land holding, annual income, socio-economic status, extension contact, sources of information, extension participation, mass media exposure, risk preference, attitude towards watershed programme, knowledge of watershed management technologies, and adoption of watershed management technologies were found to exercise significant bearing on annual income of respondents in watershed areas, while age did not exert any association with annual income of respondents in watershed areas.

Impact of watershed development programme on productivity of major crops in the area:

Overall impact of watershed project on productivity of major crops revealed that 22 per cent respondents were shifted from low category to medium and high category while 11.34 per cent respondents were increase in medium level category and 10.66 per cent respondents were in high category.
Problems faced by the beneficiaries in adoption of watershed management practices:

Reported that respondents felt that organizational related constraints was ranked first, followed by market related constraints, soil and water conservation related constraints, storage constraints, agro-forestry, horticulture and silvi-pasture related constraints and social and psychological constraints were ranked II, III, IV and V respectively.

Suggestion for overcome the problems faced by the beneficiaries in adoption of watershed management practices:

In reported that the beneficiaries suggested there should be proper and fair selection of watershed committee, SHG and UG. This suggestion was followed by suggestions as input should be provided to farmers at minimum rates, loan should be available for easily and suitable time, there should be no caste feeling in selection of beneficiaries & encouragement and exploration of additional irrigation facilities, education facilities should be provided to farmers family, training programme should be arrange in time & avoid conflict between watershed committee and PIA team, there should be no political interference in the programme, marketing facilities should be provided to sale the farmers’ produce, knowledge of the agriculture and watershed management technologies should be updated, there should be improved in cottage industry, encouragement to plantation and pasture development work, regular, timely visit of field functionaries, wide publicity should be given before formation of various group, provision of incentives and reward, rural institution should actively participate in watershed activities, organization of need based field trials, drought tolerant short duration variety should be easily available and visiting schedule of watershed field functionary should be well informed to watershed farmers.