Chapter-I
INTRODUCTION AND RESEARCH
METHODOLOGY

1.1. Introduction

Tilari Dam is situated in Dodamarg Taluka, of state of Maharashtra and largest one is situated in Chandgad Taluka of Kolhapur District in Maharashtra and is constructed on Tilari River as the result of a joint project by the Maharashtra and Goa governments. The water from this dam is distributed to both states. The dam is located near the border of Maharashtra and Karnataka and necessitated the relocation of several villages in the area. There are many reservoirs. The largest one is located near Belgaum in a village named Hajgoli in Maharashtra. The village is approximately 30 km from Belgaum and is a weekend spot for the people of that town.

There has been no official ribbon-cutting function, no fanfare and no announcements, but the Rs 15 billion Tilari dam, a joint venture between Goa and Maharashtra, is now complete. The construction of the dam began in 1986.

The dam may have been completed now, but the waters of the Tillari dam began flowing into Goa long time back. The right bank main canal running up to Pernem was inaugurated on 19 December 2001, and the left bank main canal running into Bicholim was inaugurated on 16 February 2007.

Presently, the dam water meets the drinking water and industrial demands of three talukas in North Goa: Bicholim, Pernem and Bardez. Tillari supplies 7.5 million litres per day to the Chandel water treatment plant in Pernem and 90 million litres per day to the Assonora water treatment plant in Bardez. "But this is only because the treatment plants do not have the capacity to treat more water. PWD is increasing the capacity and we can supply whatever quantum of water they need," Paramasivan said.

Presently the right bank main canal supplies 7.5 million imperial gallons (34,000 m³) per day to Pernem and the left bank main canal supplies 18.5 million imperial gallons (84,000 m³) per day to Bicholim. But the original project provision is
for the supply of 52 million imperial gallons (240,000 m$^3$) per day from the year 2011 onwards.

The total irrigation potential of the Tillari irrigation project in Goa is 1862 hectares, comprising 1139 hectares on the right bank main canal and 723 hectare on the left. But as of March 2009, only 301 hectares have been brought under cultivation on the right bank main canal and 165 hectares on the left bank main canal. While a total of 466 hectares have been brought under cultivation, the balance 1396 hectares will be brought under cultivation during 2009–10, Paramasivan said.

The original estimated cost of the project in 1986 was Rs 2.12 billion. Now it has risen to about Rs 15 billion. Of this, Goa’s liability is about Rs 11 billion.

1.2 **Statement of the Research Problem.**

Statement of the Research Problem is the major focus point of the research. A detailed study of economic and social conditions of rehabilitated and displaced communities due to establishment of Tilari dam is proposed. The facilities given by the government to rehabilitated families are different from village to village. As a part of this research, I will highlight the socio – economic conditions of the rehabilited families of Tilari Dam.

It is important to study the issues and conditions of rehabilited families of Tilari Dam.

1.2. **Objectives of the Study**

The objectives of the present study are –

1) To study the socio-economic condition of the rehabilitated families affected by Tilari Dam.
2) To study the present and past income sources of rehabilitated families affected by Tilari Dam.
3) The study of economic and social problems of rehabilitated families
4) To study the role of local government in the rehabilitation of rehabilitated families.
5) To give suggestions for the improvement of the condition of rehabilitated families.
1.4 Hypothesis

1) Proper significant steps are not taken by the government in rehabilitation of the families.
2) The social and economic conditions of rehabilitated families are not significantly fulfilled.
3) Very few employment and self-employment opportunities are provided by the government for the rehabilitated families.
4) The distribution of the land to the families of dam affected villages is not sufficient.

1.5. Significance of Research Study

There are so many challenges before our nation. Population control to maintain environmental balance, balanced and sustainable development are some of them. To face these challenges the government has to take some important decisions. Many people are benefited due to these decisions but some have to sacrifice their villages, dreams, expectations and culture.

Some imaginary policies are put forth by the government to solve the problems of neglected people. The dreams of prosperous future are shown to them. For time being they get sympathy from the society but it is like a mirage. Their expectations and promises given to them are never fulfilled. There is need to study all these from new and innovative way. For this the problems faced by these neglected people should be studied and should be presented in front of the society and the same is the aim of the present study of affected people due to Tilari Dam.

1.6. The scope of the research

The present research is limited to the study of Kendre Khurd, Kendre Budruk, Pal, Aynode, Sargave, Shirange and Patye, konal (Bhardongarwadi), Tervanmedhe (Harijanwadi) Randamly 10% household will be selected. The researcher will also study the socio-economic condition of the region with reference to document from the period 1984 to 1999 & 2010 to 2014.
1.7. Research Methodology

Research Methodology is a way to solve the research problem to get the problem answer hypothesis is started with the testing of these hypothesis researches can reach to certain conclusions.

There are many methods of research. The Researcher has to select one of them. This is suitable appropriate and requires minimum efforts, time, money and energy.

The Research Methodology is defined as “The procedures by which researches go about their work of describing, explaining and predicting phenomena are called methodology.

“A significant feature of the questionnaire in the design of the questions whose from and content dependent on the research objective and hypothesis. The questions should be such as to translate fully the objective minimize to distortion of the response and elect accurate replies as there is too little opportunity to sack further classification.”

So the research methodology is the description explanation and justification phenomena these entire processes fact finding mission constitute ‘Research Methodology’.

Research Methods Undertaken for the Study:

1) Survey Method
2) Sampling Method
3) Quantitative Method & Qualitative Method

Sample Design

The researcher has applied Proper Sampling Method according to Pilot Survey about the Dam Affected families in Tilari Dam N= 1101 the finite Population. According to the reliable information from District Collector of Sindhudurg for the year 2014, 1101 families have been included in the list of beneficieries of Tilari Project.
The sample size of the families for finite population is given by the formula from Research methodology Book by C. R Kothari.

\[ n = \frac{(z^2*p*q*N)}{(e^2*(N-1)+z^2*pq)} \]

Where \( N = 1101 \) finite population (families) \( z = 1.96 \) 5% Level of Significance

- \( P = 0.5 \) Proportion for success of result
- \( q = 0.5 \) proportioning failure of result
- \( e = 0.09 = 9\% \) to Tolerable error in the result
- \( n = \) Sample size.

\( n \) is calculated by using Excel worksheet

\[ n = 107.13 \] sample size

\[ n = 114 \] sample size approximately

In the sample design there are 9 villages under the Tilari dam affected area; the sample design will be on the basis of Stratified Proportional random sampling method and equal quota \( \pm 10\% \) for each village. The families are as the quota as in the table.

Each quota for 9 villages is collected by random sampling (lottery) method.
Table No. 1.1

The Stratified Quota Sample Size

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of Villages</th>
<th>Population of Families affected by the Dam</th>
<th>Random Quota Sample collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pal</td>
<td>125</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>Saragave</td>
<td>120</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Shirange</td>
<td>279</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>Patye</td>
<td>283</td>
<td>29</td>
</tr>
<tr>
<td>5</td>
<td>Aynode</td>
<td>221</td>
<td>23</td>
</tr>
<tr>
<td>6</td>
<td>KendreKhurda</td>
<td>08</td>
<td>01</td>
</tr>
<tr>
<td>7</td>
<td>KendreBudruk</td>
<td>24</td>
<td>03</td>
</tr>
<tr>
<td>8</td>
<td>TervanMedhe (Hareejanwadi)</td>
<td>13</td>
<td>02</td>
</tr>
<tr>
<td>9</td>
<td>Konal (Bhardongawadi)</td>
<td>29</td>
<td>03</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>N = 1101</td>
<td>N= 114</td>
</tr>
</tbody>
</table>

Data Collection

1.7. Research Methodology:

(I) Data Collection: There are many methods and techniques of data collection. Data collection begins after research problems have been identified. The researcher should keep in mind the two types of data while making the data collection. i.e. primary data and secondary data.

a) Primary Data: Primary data is the data which is collected by the researcher for the purpose of investigation. This data is original in character and generated by surveys. Various methods of collecting primary data are observation method, interview method, questionnaires and schedules. For the Research works, the researcher has collected primary data by
Following ways:

i. Discussion with the Officials of the District Rehabilitation Office, Sindhudurg.
ii. Observation of the working of the various villages.
iii. Collection of various information of rehabilitated family Tilari dam.
iv. Survey of the Dam affected Families and Villages by using questionnaire method.

b) Secondary Data: Secondary data is the data, which is not collected by the researcher but is already available. Various methods of collecting secondary data are different publications of the central, state, local governments, technical and trade journals, books, magazines, newspapers, reports developed by the research scholars, universities and Economists, public records, statistics and historical documents. The sources of unpublished data include diaries, letters, unpublished biographies and autobiographies.

Here, the researcher has collected the Secondary Data by the ways of:

(1) Government Office records
(2) Magazines
(3) Journals
(4) Periodicals
(6) Internet Web Sites, etc.

Following suitable research methods and tools are used for study of objectives and testing of hypothesis.

i) Ratio Analysis & Graphical Tools
II) Ranking Methods
III) Chi-Square Test
IV) Kolmogrov- Smirnov Test
v) Z–test
vi) T-test

1.8. Chapter Scheme

The present research study has been organized and presented in seven chapters as follows:

Chapter – I: Introduction and Research Methodology

This chapter covers introductory part of the study, which will include the meaning, classification and significance of rehabilitated people from Tilari dam which will include statement of the problems, objectives of the study, hypothesis, research methodology, limitation, and chapter scheme of the study.

Chapter—II: Review of Literature

In this chapter an attempt has been made to take review of studies related to present study.

Chapter—III: Tillari Dam – A Profile

This chapter covers Introduction, Importance of Dam, main types of plants in Maharashtra and Goa Dams, Business/Industries dependent on Dams the features of dams in Maharashtra and Goa, Forests and Transportation etc.

Chapter—IV: Critical Examination of Government Policies


Chapter -V: Government Record of Rehabilited Family of Tilari Dam

1236 project affected families but district collector Sindhudurg gave benefit to 1101 families after verification as per government record.
Chapter—VI: Analysis and Interpretation of Data.

The chapter covers the analysis of collected data and its interpretation by means of tables and Graphs.

Chapter—VII: Findings, Conclusions and Suggestions.

This chapter covers major findings of the research, conclusions and some remedial measures for the problems of the Family before and after rehabilitation.
Reference:


