2.1 – RESEARCH – A CONTINUING SEARCH FOR KNOWLEDGE

According to J.W. Best and J.V. Kahn (2006) “Human Beings are the unique product of their creation and evolution. Compared to other forms of animal life, their nervous system has enabled them to develop sounds and symbols that make possible the communication and recording of their questions, observations, experiences and ideas.”

Along with control of symbols, there is in human beings a greater curiosity which leads to more speculations about the universe and its operations. Earlier, the search for truth had been retarded all along due to rigid beliefs and religious dogma. However, people gradually began to realize that there is orderliness about the universe and a certain cause and effect relationship. People now discovered that under certain conditions, events could be predicted with reasonable accuracy. Thus, when people began to think systematically, the Era of Logic began.

The Deductive Method was the first systematic approach to reasoning. This was attributed to the Greeks, especially to Aristotle. The model of thinking that prevailed among early philosophers was Categorical Syllogism. This deductive method moved from the general assumption to the specific application. Though it made an important contribution to the development of problem solving, it was not fruitful in arriving at new truths.

The Inductive Method was propounded by Francis Bacon centuries later. This was based on

i) Observation of Phenomena
ii) Arriving at conclusions or generalizations through the evidence of many individual observations.

This method became widely used by the scientists at the time. However, it did not provide a satisfactory system for the solution of problems.

The Deductive Method of Aristotle and the Inductive Method of Bacon were integrated into the work of Charles Darwin in the 19th century. However, it was Thomas Malthus’ Essay on population that intrigued Darwin. Malthus had mentioned the struggle for existence and this was used by Darwin who suggested that ‘Natural Selection’ explained the origin of different species of animals. After this, he proceeded to deduce specific consequences suggested by the hypothesis.
Thus, the major premise of the older deductive method was gradually replaced by an assumption (or hypothesis). This was tested by the collection and logical analysis of data by using the Scientific Method in Research.

In 1938, John Dewey suggested a pattern for scientific research. This method comprised of several steps viz.

1) Identification and Definition of the Problem.
2) Formulation of a Hypothesis
3) Conceptualizing a Research Design.
4) Organization, Collection and Analysis of Data.
5) Formulation of the Conclusions.

Thus, the Scientific Method is based on certain “Articles of Faith”. These are –

1) Reliance on Empirical Evidence
2) Use of Relevant Concepts
3) Commitment to Objectivity
4) Ethical Neutrality
5) Generality
6) Predictions based on Probability
7) Public Methodology.

Following the Scientific Method, all sciences are dedicated to provide the truth or ultimate reality. L.V. Redman and A.V.H. Mory define research as “a systematized effort to gain new knowledge, we call research”.

The research scientist makes a tireless effort to collect new facts, information and knowledge about things or phenomena. Though he may not always be successful, the desire to know something new persists in him.

Social Research

Research in the realm of the social sciences has become very important today. It has become a part of social science. There are two sides to the enterprise of social research – Theory and Research. They are like two sides of the same coin. Both depend on each other. Theory inspires research that can be used to verify or disprove it and the findings of research are used to confirm, reject or modify the theory, or even to provide the basis of new theories. This is an endless process.

Pauline V. Young states “Social Research is a systematic method of exploring, analyzing and conceptualizing social life in order to extend, correct or verify knowledge, whether that knowledge aids in the construction of a theory or in the practice of an art”.
Pauline V. Young also states – “Social Research may be defined as a scientific undertaking which, by means of logical and systematized techniques aims to

i) Discover new facts or verify and test old facts
ii) Analyze their sequences, interrelationships and causal explanations.
iii) Develop new scientific tools, concepts and theories which would facilitate reliable and valid study of human behaviour.

Importance of Social Research

According to Shankar Rao (2007), Social Research has academic and non–academic purposes. These may be outlined as follows:

1) Social Research is important to diffuse knowledge and expand its horizons.
2) Social Research helps to verify or disprove, confirm or reject, modify and re-assert the existing theories and to establish new ones.
3) Social Research provides practical clues, to undertake measures that lead to social improvement, social change and social progress.
4) Social Research provides new insight regarding the perplexing problems of today and helps us to know their nature and their magnitude.
5) Social Research has commercial importance. Industries, business firms and commercial establishments can get a lot of information and clues about their endeavours in society.
6) Social Research can provide the required data and facts to the administrators to adopt and undertake appropriate policies, plans and programs.
7) Social Research has educational importance. It is mainly an intellectual activity.
8) Social Research motivates interdisciplinary studies and stresses the interdependence of different sciences.
9) Social Research is necessary to obtain advanced degrees, to carry out research as a profession in various fields.

The Social Relevance of this Investigation on Sacred Groves:

1) This study on Sacred Groves will highlight the existence of Sacred Groves in Thane District. Though the district had been covered in the previously conducted study in 1999 by Dr. Sanjay Deshmukh, only 32 groves were found, most of which were in the rural areas.
2) This investigation brings to light the solidarity of the local people (both rural and tribal) in the maintenance of the sacred groves which they consider to be the home of their gods.
3) The study points to the fact that there is among the local people a definite movement to conserve the last vestiges of biodiversity in the region.
4) The investigation indicates that much more needs to be done in this area if some solutions are to be sought with respect to preservation, protection and promotion of sacred groves.
5) Some policy changes are required which will give the tribal people a say in the preservation and protection of sacred groves.

**Need for Research on Sacred Groves**

According to the Apex Body like the UN or the UNESCO, it is a norm that 33% of the land of any country be covered with forest. Looking at this norm from the viewpoint of India,

Forest Cover of India = 19%

Forest Cover of Maharashtra State = 15%

Forest Cover of Thane District = 27%

This depleting forest cover is due to the demand for forest products viz. wood, lac, leaves, bark seeds etc. for industrial and medicinal use. As industries grow, the natural jungles deplete and the concrete jungles loom higher and higher. In this situation, the tribal and local caste communities, anticipating depletion, developed norms, customs and traditions to preserve their sacred groves and the forestlands which are precious to them. Thus, theirs is a concerted movement to save their sacred groves which are the last vestiges of the biodiversity today.

In line with the above argument, the study of sacred groves is necessary and important

**2.2 – Area of Study**

A Pilot Study was conducted covering 85 sacred groves over 11 Talukas in Thane District. There were no available records with the Forest Department. The only records available were the names of 32 sacred groves in nearby rural villages conducted by Dr. Sanjay Deshmukh (BNHS) in 1999 for the Forest Department. Many of these were depleted.

This researcher thus had to scour the countryside by asking the local people for details. In this way –

i) details about each grove were obtained and

ii) informal interviews were held with all primary and secondary actors like priests/bhagats, adult villagers, youth.

**The Purpose of the Pilot Study was**

i) To develop a Hypothesis

ii) To develop an Interview Schedule for

a) Adult Villagers

b) Priests/Shamans

iii) To conduct Focused Group Discussions with

a) Village Adult population
b) Women  
c) Youth  
iv) To frame questions sequentially  
v) To obtain quantitative data about sacred groves in Thane District so as to add substantially to whatever little information was available.

It is interesting to note that the Forest Department was unable to provide any relevant records to the researcher. The then Chief Conservation Officer, when interviewed stated that the sacred groves face no threat of depletion. The Honorary Wildlife Warden, who was present at the time of the same interview stated – “There are no longer any sacred groves in Thane District”.

The Present Study covers 11 Talukas in Thane District. 85 groves were covered by the researcher. The Talukas covered were, Vasai, Bhiwandi, Palghar, Wada, Shahpur, Mokhada, Jawhar, Murbad, Dahanu, Vikramgad and Talasari. [Not covered were Thane proper, Kalyan, Ambarnath and Ulhasnagar. These are townships and the researcher felt that the likelihood of finding sacred groves here was less. They could be covered later if possible].

The following table highlights the main findings –

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Taluka</th>
<th>No. of Sacred Groves covered</th>
<th>Tribal</th>
<th>Rural</th>
<th>Mixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vasai</td>
<td>06</td>
<td>02</td>
<td>01</td>
<td>03</td>
</tr>
<tr>
<td>2.</td>
<td>Bhiwandi</td>
<td>03</td>
<td>01</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>3.</td>
<td>Wada</td>
<td>16</td>
<td>04</td>
<td>03</td>
<td>09</td>
</tr>
<tr>
<td>4.</td>
<td>Vikramgad</td>
<td>11</td>
<td>06</td>
<td>01</td>
<td>04</td>
</tr>
<tr>
<td>5.</td>
<td>Dahanu</td>
<td>07</td>
<td>05</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>6.</td>
<td>Jawhar</td>
<td>07</td>
<td>06</td>
<td>-</td>
<td>01</td>
</tr>
<tr>
<td>7.</td>
<td>Shahpur</td>
<td>10</td>
<td>01</td>
<td>03</td>
<td>06</td>
</tr>
<tr>
<td>8.</td>
<td>Mokhada</td>
<td>13</td>
<td>12</td>
<td>-</td>
<td>01</td>
</tr>
<tr>
<td>9.</td>
<td>Talasari</td>
<td>06</td>
<td>05</td>
<td>-</td>
<td>01</td>
</tr>
<tr>
<td>10.</td>
<td>Murbad</td>
<td>02</td>
<td>-</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>11.</td>
<td>Palghar</td>
<td>04</td>
<td>04</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>85</td>
<td>46</td>
<td>09</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

| PERCENTAGE | 100% | 54.12% | 10.59% | 35.29% |

Out of the total 85 groves covered, 54.12 percent are frequented by tribal communities, 10.59 percent are frequented by rural communities and 35.29 percent are frequented by mixed communities.
Table 2.2 presents details on the Ownership of the sacred groves.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Taluka</th>
<th>Sacred Groves owned by Individual families</th>
<th>Sacred Groves owned by Tribal/Caste Communities</th>
<th>Sacred Groves owned by Private Trusts</th>
<th>Sacred Groves owned by Forest Department</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vasai</td>
<td>03</td>
<td>-</td>
<td>01</td>
<td>02</td>
<td>06</td>
</tr>
<tr>
<td>2.</td>
<td>Bhiwandi</td>
<td>02</td>
<td>-</td>
<td>01</td>
<td>-</td>
<td>03</td>
</tr>
<tr>
<td>3.</td>
<td>Wada</td>
<td>08</td>
<td>-</td>
<td>05</td>
<td>03</td>
<td>16</td>
</tr>
<tr>
<td>4.</td>
<td>Vikramgad</td>
<td>06</td>
<td>04</td>
<td>01</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>5.</td>
<td>Dahanu</td>
<td>01</td>
<td>03</td>
<td>-</td>
<td>03</td>
<td>07</td>
</tr>
<tr>
<td>6.</td>
<td>Jawhar</td>
<td>-</td>
<td>06</td>
<td>-</td>
<td>01</td>
<td>07</td>
</tr>
<tr>
<td>7.</td>
<td>Shahpur</td>
<td>04</td>
<td>03</td>
<td>02</td>
<td>01</td>
<td>10</td>
</tr>
<tr>
<td>8.</td>
<td>Mokhada</td>
<td>04</td>
<td>08</td>
<td>01</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>9.</td>
<td>Talasari</td>
<td>-</td>
<td>05</td>
<td>-</td>
<td>01</td>
<td>06</td>
</tr>
<tr>
<td>10.</td>
<td>Murbad</td>
<td>02</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>11.</td>
<td>Palghar</td>
<td>02</td>
<td>01</td>
<td>01</td>
<td>-</td>
<td>04</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>32</td>
<td>30</td>
<td>12</td>
<td>11</td>
<td>85</td>
</tr>
<tr>
<td>PERCENTAGE</td>
<td>37.64</td>
<td>35.30</td>
<td>14.12</td>
<td>12.94</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>

Out of the 85 groves covered, it was observed that 37.64 percent were owned by Individual Families and 35.30 percent were owned by Tribal/Caste Communities. 14.12 percent were owned by Private Temple Trusts and 12.94 percent by the Government Forest Department.

Appendix No. 3 presents Taluka and Village wise sacred groves covered by the researcher.

Similarly Appendix No. 4 is a map of Thane District that pinpoints the 85 sacred groves covered in the study.

### 2.3 – Target Population

The Target population of the present study is both tribal and caste communities that inhabit within and around the sacred groves studied. Given below are the tribal and caste communities studied.

a) Tribal Communities Studied
   i) Koli Mahadeo
   ii) Koli Malhar
   iii) Thakur
   iv) Katkari
   v) Warli
   vi) Kokna
b) Caste Communities studied
   i) Kunbi
   ii) Maratha
   iii) Agri
   iv) Neo – Buddhists
   v) Bhanushali

Table No. 2.3 presents tribe/caste wise number of respondents covered

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Respondents</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Tribal</td>
<td>407</td>
<td>81.4</td>
</tr>
<tr>
<td>2.</td>
<td>Caste Communities</td>
<td>93</td>
<td>18.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>500</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Out of a total of 500 respondents, 407 (81.4%) belonged to tribal communities and 93 (18.6%) belonged to caste communities.

Table No. 2.4 presents Taluka and Village wise number of respondents studied

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Taluka</th>
<th>Village</th>
<th>No. of Hamlets</th>
<th>No. of Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bhiwandi</td>
<td>Kaasna</td>
<td>01</td>
<td>15</td>
<td>3.0</td>
</tr>
<tr>
<td>2.</td>
<td>Wada</td>
<td>Gaigota</td>
<td>07</td>
<td>13</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Waghota</td>
<td>03</td>
<td>20</td>
<td>4.0</td>
</tr>
<tr>
<td>3.</td>
<td>Vikramgad</td>
<td>Deherze</td>
<td>11</td>
<td>82</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Malvade</td>
<td>05</td>
<td>10</td>
<td>2.0</td>
</tr>
<tr>
<td>4.</td>
<td>Dahanu</td>
<td>Theronda</td>
<td>04</td>
<td>105</td>
<td>21.0</td>
</tr>
<tr>
<td>5.</td>
<td>Jawhar</td>
<td>Korthud</td>
<td>12</td>
<td>117</td>
<td>23.4</td>
</tr>
<tr>
<td>6.</td>
<td>Shahpur</td>
<td>Saatgaon</td>
<td>02</td>
<td>10</td>
<td>2.0</td>
</tr>
<tr>
<td>7.</td>
<td>Mokhada</td>
<td>Dhondamaryachimeth</td>
<td>02</td>
<td>38</td>
<td>7.6</td>
</tr>
<tr>
<td>8.</td>
<td>Murbad</td>
<td>Umbroli – Kurdh</td>
<td>02</td>
<td>40</td>
<td>8.0</td>
</tr>
<tr>
<td>9.</td>
<td>Palghar</td>
<td>Pola</td>
<td>07</td>
<td>50</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>56</strong></td>
<td><strong>500</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Out of the total population of the 11 Talukas, 500 adults were selected randomly out of 9 Talukas, 11 villages and 56 hamlets.
Table No. 2.5 indicates Taluka, Village and House wise, the number of respondents

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Taluka</th>
<th>Village</th>
<th>No. of Houses</th>
<th>No. of People per Village</th>
<th>No. of Adults</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bhiwandi</td>
<td>Kaasna</td>
<td>80</td>
<td>250</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>Wada</td>
<td>Gaigota</td>
<td>105</td>
<td>250</td>
<td>50</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Waghota</td>
<td>29</td>
<td>185</td>
<td>37</td>
<td>20</td>
</tr>
<tr>
<td>3.</td>
<td>Vikramgad</td>
<td>Deherze</td>
<td>287</td>
<td>965</td>
<td>193</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Malvade</td>
<td>14</td>
<td>110</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>4.</td>
<td>Dahanu</td>
<td>Theronda</td>
<td>130</td>
<td>1350</td>
<td>270</td>
<td>105</td>
</tr>
<tr>
<td>5.</td>
<td>Jawhar</td>
<td>Korthud</td>
<td>987</td>
<td>2000</td>
<td>400</td>
<td>117</td>
</tr>
<tr>
<td>6.</td>
<td>Shahpur</td>
<td>Saatgaon</td>
<td>95</td>
<td>200</td>
<td>40</td>
<td>10</td>
</tr>
<tr>
<td>7.</td>
<td>Mokhada</td>
<td>Dhondamaryachimeth</td>
<td>75</td>
<td>700</td>
<td>140</td>
<td>38</td>
</tr>
<tr>
<td>8.</td>
<td>Murbad</td>
<td>Umbroli – Kurdh</td>
<td>350</td>
<td>800</td>
<td>160</td>
<td>40</td>
</tr>
<tr>
<td>9.</td>
<td>Palghar</td>
<td>Pola</td>
<td>320</td>
<td>800</td>
<td>160</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TOTAL</td>
<td>2472</td>
<td>7610</td>
<td>1522</td>
<td>500</td>
</tr>
</tbody>
</table>

Out of a total of 2472 houses over 9 Talukas, 11 Villages and 56 Hamlets, the number of respondents were randomly selected according to the number of houses per hamlet.

**In Bhiwandi Taluka**, one village (Kaasna), having one large hamlet was randomly selected and 15 adult respondents interviewed. (3.0%).

**In Wada Taluka**, 2 villages (Gaigota and Waghota) were randomly selected. Gaigota had 07 hamlets and Waghota had 03 hamlets. Thus, over 10 hamlets, 33 adult respondents were randomly selected and interviewed. (6.6%).

**In Vikramgad Taluka**, 2 Villages (Deherze and Malvade) were randomly chosen. Deherze has 11 hamlets and Malvade has 5 hamlets. Over 16 hamlets, 92 adult respondents were randomly selected and interviewed (18.4%).

**In Dahanu Taluka**, one village (Theronda) with 4 Hamlets was randomly selected and 105 adult respondents interviewed. (21.0%).
In Jawhar Taluka, One village (Korthud) was randomly selected and over 12 hamlets 117 adult respondents were interviewed. (23.4%).

In Shahpur Taluka, one village (Saatgaon) was randomly selected having 2 Hamlets and 10 adult respondents interviewed. (2.0%).

In Mokhada Taluka, one village with 2 Hamlets was selected at random and 38 adult respondents interviewed (7.6%).

In Murbad Taluka, one village with 2 Hamlets was randomly selected and 40 adult respondents interviewed (8.0%)

In Palghar Taluka, one village with 7 Hamlets was randomly selected and 50 adult respondents were interviewed (10.0%)

This researcher noticed the discrepancy between the number of houses and the total number of people in the hamlets. Thus, overall, the researcher took a 33% sample of adult respondents from the total number of adults over the 9 Talukas.

2.4 – Method of Data Collection

Data collected for the present study was both primary as well as secondary

   a) Primary Sources – Primary data was collected from the villages in and around the sacred groves.
   b) Secondary Sources – Books, Encyclopaedia’s, Journals, Newspapers, Internet References, and Government Documents were referred to by the researcher to gather secondary data.

2.5 – Research Tools

a) Interview Schedule – The researcher conducted a Pilot Study before designing the research tools by informally talking to respondents belonging to caste/tribal societies living in and around sacred groves.

   After careful scrutiny and analysis of the questions informally asked to the respondents, an interview schedule was designed and pretested for village elders so as to gather primary data. The researcher administered 500 interview schedules over 9 Talukas, 11 Villages with 56 Hamlets.
b) **Interview Guide** – An Interview Guide was designed and pretested to document informal interviews of shamans (bhagats), priests (pujaris) and important customary role holders in the village study.

The researcher conducted 20 informal interviews of shamans/priests over 11 Talukas.

Besides indepth interviews of the shamans and priests, the researcher conducted about 15 Focused Group Discussions of adults (men and women) in the Talukas. About 10 Focused Group Discussions of youth were also conducted.

c) **Case Studies of Sacred Groves** – Case Studies of the sacred groves have been depicted on the basis of the Hypothesis i.e.

a) Uniqueness of the sacred grove in terms of the religious beliefs, myths and legends to preserve the grove, and the people’s movement to preserve and protect the grove.

b) The Impact of Tourism on the sacred grove which moves towards the Great Tradition.

c) Inaccessibility of the grove which keeps it protected.

d) Threats faced by the grove which are leading to its depletion.

**Table 2.6 – Indicates the Case Studies of the Sacred Groves as per the Hypothesis.**

<table>
<thead>
<tr>
<th>Case Studies</th>
<th>Uniqueness of Groves</th>
<th>Impact of Tourism</th>
<th>Facing Threats</th>
<th>Are Inaccessible</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Groves</td>
<td>35</td>
<td>16</td>
<td>29</td>
<td>05</td>
<td>85</td>
</tr>
<tr>
<td>Percentage</td>
<td>41.2</td>
<td>18.8</td>
<td>34.1</td>
<td>5.9</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Out of 85 Groves 35 (41.2%) classify as per the uniqueness in terms of a people’s movement to preserve and protect and have strong religious myths and legends. All these groves are in good condition.

5 Groves (5.9%) are inaccessible i.e. they are either in the mountainous regions or the roads to the grove are not in good condition.

16 Groves (18.8%) are faced with the impact of tourism and more and more show a movement into the Great Tradition of Hinduism. There is a change in these grove with respect to myths, worship and rituals.

29 Groves (34.1%) are facing depletion threats due to factors like industrialization, urbanization and changes in land allotment policies of government.
d) Observation – Besides documenting data and using interview schedule and guide, the researcher also used observation method to gather and crosscheck the written, recorded data.

e) Photography – The researcher took over 2000 photographs covering various aspects related to the 85 groves studied over 12 Talukas and 62 Villages. Photography thus contributed in validating the data and highlighting factual reality of the status of sacred groves in Thane District.

2.6. – Analysis of Data

The researcher collected both quantitative as well as qualitative data. Quantitative Data was collected using 500 Interview Schedules. It was analyzed using SPSS Package. The Interview Schedules were scrutinized, processed and verified before entering relevant indicators to prepare statistical tables. Important tables were prepared and interpreted in the data chapters of this thesis.

Qualitative data was collected using an Interview Guide, Observation Method and Case Studies, and was analyzed manually and presented in relevant sections of the thesis.

2.7. – Sampling Procedure

a) Snowball Sampling – This technique is a non – probability type of sampling which is used to find subjects of interest from those who are most likely to identify them. Here, the researcher uses a few extant subjects to identify other individuals who might be appropriate for the study. This continues with the new subjects till the researcher has a sufficient sample size.

It was observed that for the 12 blocks of Thane District, there was no adequate record with the Forest Department. According to a study captioned – “Biodiversity Studies in Sacred Groves in Maharashtra” by Deshmukh Sanjay (1999) via BNHS, there are 32 sacred groves in Thane District.

However, this researcher observed while conducting the Pilot Study as well as actual field work that 85 sacred groves were found by the researcher using snowball sampling technique within a span of one year of field work.

There is a possibility of the existence of more sacred groves in Thane District that need to be discovered by a competent government department or a research agency by carrying out actual field work in Thane District to survey the unexplored Sacred Groves. Given this limitation of the non – availability of an authentic list of sacred groves with forest department or other departments, the researcher used snowball sampling technique to identify 85 sacred groves.
b) **Simple Random Sampling** – This technique falls under Probability Sampling. This is a method of sampling in which each and every item of the universe has equal chance of being selected in the sample. This means that there is equal probability for every item of the universe of being selected in the sample.

The investigator has no control over the items that are selected from the universe. The selection is left entirely to chance factors. Such sampling is used when the items are homogeneous or identical to one another. Also, this method is economical and impartial.

**Random Systematic Sampling** involves selecting the Nth number from the list at regular intervals.

Out of the identified and listed 85 sacred groves, the researcher had to obtain a representative sample. 10 percent of 85 amount to 8.5 groves. The researcher however, selected 11 groves by picking out every 8th groove in the prepared list, to carry out detailed characteristics of these groves and present relevant data in the form of 11 case studies in Chapter 4 of this thesis.

Similarly out of the 1522 adults in 56 numbers of Hamlets in and around 11 groves selected geographically and spread over 9 Talukas of Thane District, the researcher randomly selected 500 respondents as the final sample out of a total of 1522 adult respondents. Thus, a representative sample of 33% was selected by the researcher using simple random sampling procedure.

c) **Purposeful Sampling** – This is a non-probability sampling technique. It is also called Judgmental Sampling. This is often used in qualitative research studies. In case studies and ethnographies, the participants are often selected because they are typical or particularly interesting.

Purposeful Sampling allows the researcher to select those participants who will provide the richest information, those who are most interesting and those who manifest the characteristics of most interest to the researcher.

Priests and Shamans of a few groves were selected using purposeful sampling technique. This was done as and when they were present in the village or in the sacred grove while the researcher was conducting field work.

**2.8 – Rationale of the Study**

1) India is a Mega diversity Nation. Two of the world’s biodiversity hotspots are found in India viz. Eastern Himalayas and the Western Ghats.

The Western Ghats have several Natural Ancient Heritage Sites in the form of Sacred Groves. However, this researcher is of the view that Manmade Heritage Sites like Jawhar Palace in Thane
and Gateway of India in Mumbai are given much more importance by the Government because they rake in profits.

Thane District has 3, 30,000 hectares of land under forest cover (supposedly 27%) and 1748 villages. The sacred groves found by Dr. Sanjay Deshmukh in 1999 were only 32 numbers and most of them were in the rural areas. This researcher discovered 85 groves over 12 Talukas, many of which were in the tribal areas also.

2) Thane is one of the few districts in Maharashtra where industrialization co exists with forests. Talukas like Ambarnath, Vasai, Khargar and Wada, which were totally green some years ago, have developed large industrial belts at several points. If care is not taken, these forest tracts will become depleted and die out and Thane will stand to lose the last vestiges of its biodiversity.

The local people i.e. the tribals and the caste communities are together attempting to save their sacred groves and their forest tracts through tradition and religion. This move of theirs may be recognized as a definite social movement to save the biodiversity. More awareness needs to be made in this area. The local people need support of the Government and other agencies in their endeavour.

3) Thane is one of the districts with the maximum water bodies. There are 10 lakes in Thane, giving it the title of “The City of Lakes”. Though there are 2 main rivers viz. Ulhas and Vaitarna, these have several tributaries. While much of these water bodies are used to transport water to cities like Mumbai, the tribal people living next to the Vaitarna River do not have any pipeline. Many of the tribals of Talukas like Mokhada and Vikramgad have to walk miles for 2 pots of water. Saving sacred groves will also save many water bodies which will benefit the tribal and local caste communities in Thane District.

4) As given by Dr. Sanjay Deshmukh in his study titled – ‘Biodiversity studies on sacred groves in Maharashtra’, out of the 12 districts it was observed that only two districts which are metropolitan and have municipal corporations and are urbanized, modernized and technologically advanced as compared to other districts were, Thane and Pune. According to the 2001 Census, the tribal population of Thane is One Crore, Nineteen Lakh, Nine Thousand (1,199) over an area of 6725 sq. km. Also, the number of tribal communities in Thane district is more compared to Pune. The tribal population of Pune is only Two Lakh, Sixty Two Thousand (2, 62) over an area of 1,239 sq. km. The types of tribal communities in Thane are also much more as compared to Pune.

5) It was observed during the pilot study that Thane sacred groves are much more prone to threats compared to other districts. Interviews with activists, social workers revealed that since Thane is part of Greater Mumbai and that forest resources, including timber are in great demand not only in Mumbai, but artifacts and other articles prepared from teak wood and other commercial wood trees are exported to other countries from Mumbai by air and sea routes.
Activists also stated that forest resources are smuggled illegally from rural areas of Thane to Mumbai on a regular basis. Thus, the sacred groves face constant threats.

Hence, Thane District was chosen.

2.9 – Limitations

Some of the major disabilities faced by the researcher were as follows:

1) Unavailability of adequate records/list of sacred groves of Thane District with Forest and other departments of government research institutes as well as N.G.O.’s. Hence the researcher used Snowball Sampling Technique to identify 85 sacred groves, most of which were not on Government records.

2) Unavailability of Priests/Shamans It was observed that the priests and shamans who were connected with temples in the sacred groves were also cultivators, hunters and food gatherers. Hence, finding them in the village was another limitation faced by the researcher. However, this was overcome by tracing 20 priests/shamans while carrying out field work over 12 Talukas.

2.10 – Chapter Scheme

The data gathered, analyzed and interpreted is presented in Seven Chapters which are as follows:

1) Chapter One: Sacred Groves and Environmental Conservation – A People’s Movement
   This chapter presents an overview of the concept, definition, theories, research problem, hypothesis, objectives of study and the significance that revolves around sacred groves in Thane District.

2) Chapter Two: Research Methodology
   As the title of the chapter indicates, this chapter throws light on the process and method of developing research tools, testing and finalizing them, gathering, interpreting and presenting data in appropriate chapters.

3) Chapter Three: Reigning Deities of the Sacred Grove
   This chapter highlights the association of the sacred grove with the various deities. It outlines the nature and role of the deities, the taboos associated with them, with a special focus on ‘Gaondevi’ (the reigning deity) and ‘Waghoba’ (The Tiger God).

4) Chapter Four: Case Studies of 11 groves and 20 Priests/Shamans.
   This chapter comprises of detailed case studies of 11 groves, chosen by systematic random sampling. It highlights the geographic location of the grove, its uniqueness in terms of myths, legends and the local people’s effort to conserve. It points out the threats
the groves are facing in terms of depletion. It also gives a clear picture of grove ownership and management and thus brings to light the role of the priests/shamans and the caretakers of the grove, the rituals and community worship associated with the groves all from primary data. Photographs have been included here.

As the title of the chapter indicates, the focus is on the socio – economic background of the respondents who live in and around the 11 sacred groves that have been selected by random systematic sampling technique. Their age group, the community to which they belong, their educational status, income, landholdings, type of house they live in, facilities available to them viz. water, electricity etc.

6) Chapter Six: Sacred Groves and Threats.
This chapter outlines the changes taking place today due to industrialization, urbanization and advanced technology which are having an impact on the sacred groves. The groves are facing several threats which will be explained from the viewpoint of the 85 groves covered by this research. Photographs of threats and depletion have been included here.

7) Chapter Seven: Summary and Conclusions.
This is the final chapter of the thesis. It summarizes the entire study. After verification of the hypothesis, it makes some generalizations about the sacred groves, deities, priests and the local people living in and around the grove. Based on these generalizations, some predictions have been made, giving suggestions for changes in terms of protection and preservation of the sacred grove and biodiversity.

Appendix:

i) Semi structured Interview Schedule for adult villagers living in and around the sacred groves of Thane District.

ii) Interview schedule for Priests/Shamans.

iii) Questions for Focused Group Discussions for Youth

iv) Questions for Focused Group Discussions for Women

v) Map outlining the sacred groves covered by the researcher.

vi) List of Sacred Groves covered Taluka wise and Village wise.

vii) Some photographs of interaction with the village people in their homes.
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