CHAPTER VI

SUMMARY AND SUGGESTIONS

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SUMMARY AND SUGGESTIONS

6.01 Introduction:

The word 'environment' means aggregate of all the external conditions and influences affecting life and development of human beings, animals and plants including various external factors such as air, climate, culture, water, noise, temperature, soil, etc. which affect the health and development of life. These external conditions and factors interacting with each other keep an ecological balance. This balance is necessary for healthy human life.

But in the last 3-4 decades the increasing damaging influence of human activities on the environment, particularly due to pollution of atmosphere, sea and water and destruction of earth's natural green cover followed by increasing soil erosion and disappearance of several species of animals, birds etc. has now drawn the attention of planners, policy-makers and thinkers, and all those who now try to imagine the future where we would be in the next century.

If the anti-human and damaging impact of science and technology is not curbed, there will be global decline even in population after the middle of next century.
because of new diseases caused by increasing dimensions of environmental pollution.

In India, most of its population i.e., of about 76.6 per cent of population are of rural habitants. Even in these rural areas also this pollution giant begins to show its havoc. When huge dams are constructed and villages are brought under water, the rural population is shifted for rehabilitation. When overhead canals are constructed, the water logging is experienced by rural dwellers; when there is deforestation of forests for feeding modern mills producing rayon, paper, rubber etc., the sufferers are poor people whose majority is in rural areas; it is the rural folk who use bio-mass or bio-mass based products for their household needs.

The quantity of carbon-di-oxide and other affluents like sulphur-di-oxide, nitrous oxides are ever increasing into the atmosphere not only from industrial wastes, motor vehicles etc., but also from Rural India. Most of rural dwellers use bio-mass products like cow-dung, firewood, crop-waste etc., for their cooking purpose, which further add to disaster of environmental pollution.

Mostly, these rural dwellers have misconcept that the use of fertilizers and pesticides in large quantity
gives much yield in agriculture. All these mis-conceptions lead to various pollution problems. All these are mainly due to illiteracy and ignorance of the rural pollution. Hence, to curb these misconceptions, and illiteracy among them there is an urgent need to educate them. Recognizing the issue, environmental education has been discussed at length in several International and National Seminars after the deliberations at Founex (1971) and later at Stockhom (1972) followed by workshop on environmental education at Belgrade in 1975 and then Inter-governmental conference on the subject at Tbilisi in 1977 organised by UNEP and UNESCO.

The definition of Environmental Education is "the process of recognising value and clarifying concepts in order to develop the skills and attitudes that are necessary to understand and appreciate the inter-relationships among man, his culture and his bio-physical surroundings". (Reddy, V.L.N. and Sreedevi, V, 1984, p.61).

And the goal of environmental education is "To develop a world population that is aware of, and concerned about the environment and its associated problems, and which has the knowledge, skills, attitudes,
motivations and commitment to work individually or collectively toward solutions of current problems and the prevention of new ones" (UNESCO, 1981).

6.02 Title of the Problem:
"Knowledge and Educational Needs of Rural Adults in Environmental Education"

6.03 Objectives of the Study:

1. To identify the knowledge level of different categories of rural adults (adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, health workers, organised workers, unorganised workers, VDOs and village sarpanches) among different areas of environmental education.

2. To identify the need level of different categories of rural adults (adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, organised workers unorganised workers, health workers, village development officers and village sarpanches) among different areas of environmental education.
3. To find out the significant differences in the total knowledge in all the areas of environmental education (air pollution, water pollution, noise pollution, energy, forests, mines and dams, land pollution, population explosion environmental sanitation, food issues, and environmental legislation) among different categories of rural adults (adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, health workers, organised workers, unorganised workers, village development officers, and village sarpanches).

4. To find out the significant differences in the total need in all the areas of environmental education (air pollution, water pollution, noise pollution, energy, forests, mines and dams, land pollution, population explosion, environmental sanitation, food issues, and environmental legislation) among different categories of rural adults (adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, health workers, organised workers, unorganised
workers, Village development officers, village sarpanches)

5. To find out the significant differences in the knowledge in different areas of environmental education namely air-pollution, water pollution, noise pollution, energy, forests, mines and dams, land pollution, population explosion, environmental sanitation, food issues and environmental legislation among different categories of rural adults.

6. To find out the significant differences in the need in different areas of environmental education, namely air pollution, water pollution, noise pollution, energy, forests, mines and dams, land pollution, population explosion, environmental sanitation, food issues and environmental legislation among different categories of rural adults.

7. To identify the priority items in the area of air pollution, water pollution, noise pollution, energy, forests, dams and mines, land pollution, population explosion, environmental sanitation, food issues and environmental legislation of the rural adults taking into account both their
knowledge and educational needs.

6.04 Hypotheses of the study:

Keeping in view the objectives, the following null-hypotheses were formulated.

1. There exists no significant difference in the total knowledge in all the areas of environmental education (air-pollution, water pollution, noise pollution, energy, forests, mines and dams, land pollution, population explosion, environmental sanitation) among different categories of the rural adults (adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, health workers, organised and unorganised workers, village development officers (VDOs) and village sarpanches).

2. There exists insignificant difference in the total needs in all the areas of environmental education among different categories of the rural adults.

3. There exists no significant difference in the knowledge in air pollution among different categories of the rural adults.
4. There exists no significant difference in the educational need in air pollution among different categories of the rural adults.

5. There exists no significant difference in the knowledge in water pollution among different categories of the rural adults.

6. There exists no significant difference in the educational need in water pollution among different categories of the rural adults.

7. There exists no significant difference in the knowledge in noise pollution among different categories of rural adults.

8. There exists no significant difference in the educational need in noise pollution among different categories of the rural adults.

9. There exists no significant difference in the knowledge in energy among different categories of the rural adults.

10. There exists no significant difference in the educational need in energy among different categories of the rural adults.

11. There exists no significant difference in the knowledge in forests among different categories of the rural adults.
12. There exists no significant difference in the educational need in forests among different categories of the rural adults.

13. There exists no significant difference in the knowledge in mines and dams among different categories of the rural adults.

14. There exists no significant difference in the educational need in mines and dams among different categories of the rural adults.

15. There exists no significant difference in the knowledge in land pollution among different categories of the rural adults.

16. There exists no significant difference in the educational need in land pollution among different categories of the rural adults.

17. There exists no significant difference in the knowledge in population explosion among different categories of the rural adults.

18. There exists no significant difference in the educational need in population explosion among different categories of the rural adults.

19. There exists no significant difference in the knowledge in environmental sanitation among different
categories of the rural adults.

20. There exists no significant difference in the educational need in environmental sanitation among different categories of the rural adults.

21. There exists no significant difference in the knowledge in food issues among different categories of the rural adults.

22. There exists no significant difference in the educational need in food issues among different categories of the rural adults.

23. There exists no significant difference in the knowledge in environmental legislation among different categories of the rural adults.

24. There exists no significant difference in the educational need in environmental legislation among different categories of the rural adults.

With regard to the objectives number I, II and VII no specific hypotheses was framed since, it is exploratory in nature.
6.05 Limitations of the Study:

1. The study is limited to 10 groups of rural adults viz., adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, health workers, organised workers, unorganised workers, village development officers and village sarpanches.

2. The sample consists of 600 respondents from one revenue division i.e., from Tirupati revenue division of Chittoor district.

3. The areas covered under environmental education are air pollution, water pollution, noise pollution, energy, forests, dams and mines, land pollution, population explosion, environmental sanitation, food issues and environmental legislation.

4. The study is limited to identify the knowledge and educational needs of rural adults in environmental education only.

5. The questionnaires are the only instruments used to collect the data.
6.06 **Methodology:**

6.06.1 **Construction of the Tools:**

For the purpose of the study, the researcher has constructed two questionnaires, one for testing the knowledge and another for the need assessment. The questionnaires constructed consist the following areas with same items stated suitably.


The questionnaire to test knowledge contains multiple choice questions and to assess the need level consists of three alternate responses namely necessary, uncertain and unnecessary.

The validity and reliability of the tools have been established. Utmost care has been taken to see that question is direct, simple and easily intelligible to the respondent. The two questionnaires were framed in Telugu language, because it is local language of the region.
6.06.2 Sample Design:

The locale of the study is the Chittoor district of Andhra Pradesh. This district comes under Rayalaseema region of Andhra Pradesh which is agriculturally, economically and also socially backward. The Chittoor district comprises of 56 newly constituted Mandalas with three revenue divisions namely, Chittoor, Tirupati and Madanapalle.

The study covered 10 mandals of Tirupati revenue division. From each mandal sample of six persons were chosen at random from each of the 10 groups of rural adults namely, adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, health workers, village development officers, village sarpanches organised and unorganised workers. The total sample was 600 from the 10 groups of respondents, at the rate of 60 members from each group.

6.06.3 Data Collection:

The required data were collected by the investigator from the respondents directly, through the questionnaires prepared for the purpose. The investigator collected data through interview technique from the adult
education learners and unorganised workers as they could not write the answers.

The rest of respondents were handed over the questionnaires and then collected by the investigator. No time limit was set up for the respondents.

6.06.4 Scoring the Questionnaires:

For scoring the knowledge and need assessment questionnaires, the following procedure was adopted. The knowledge items were given 1 mark for right responses, and 0 for wrong one. The need assessment items were scored as 2, 1 and 0 for necessary, uncertain and unnecessary responses respectively.

6.06.5 Statistical Techniques used in the Study:

The data was analysed by using mean, standard deviation, and ANOVA technique. The priority items were identified taking into account their mean values of knowledge and need scores.

6.07 Results of the Study:

1) Summary of the results of this part is as follows: All the following hypotheses of the study are rejected:
1. There exists no significant difference in the total knowledge in all the areas of environmental education (air pollution, water pollution, noise pollution, energy, forests, dams and mines, land pollution, population explosion, environmental sanitation, food issues and environmental legislation) among different categories of the rural adults (adult education learners, adult education volunteers, non-formal education instructors, elementary school teachers, anganwadi workers, health workers, organised and unorganised workers, village development officers and village sarpanches).

2. There exists insignificant difference in the total needs in all the areas of environmental education among different categories of the rural adults.

3. There exists no significant difference in the knowledge in air pollution among different categories of the rural adults.

4. There exists no significant difference in the educational need in air pollution among different categories of the rural adults.

4. There exists no significant difference in the educational need in air pollution among different categories of the rural adults.
5. There exists no significant difference in the knowledge in water pollution among different categories of the rural adults.

6. There exists no significant difference in the educational need in water pollution among different categories of the rural adults.

7. There exists no significant difference in the knowledge in noise pollution among different categories of rural adults.

8. There exists no significant difference in the educational need in noise pollution among different categories of the rural adults.

9. There exists no significant difference in the knowledge in energy among different categories of the rural adults.

10. There exists no significant difference in the educational need in energy among different categories of the rural adults.

11. There exists no significant difference in the knowledge in forests among different categories of the rural adults.

12. There exists no significant difference in the educational need in forests among different categories of
the rural adults.

13. There exists no significant difference in the knowledge in mines and dams among different categories of the rural adults.

14. There exists no significant difference in the educational need in mines and dams among different categories of the rural adults.

15. There exists no significant difference in the knowledge in land pollution among different categories of the rural adults.

16. There exists no significant difference in the educational need in land pollution among different categories of the rural adults.

17. There exists no significant difference in the knowledge in population explosion among different categories of the rural adults.

18. There exists no significant difference in the educational need in population explosion among different categories of the rural adults.

19. There exists no significant difference in the knowledge in environmental sanitation among different categories of the rural adults.
20. There exists no significant difference in the educational need in environmental sanitation among different categories of the rural adults.

21. There exists no significant difference in the knowledge in food issues among different categories of the rural adults.

22. There exists no significant difference in the educational need in food issues among different categories of the rural adults.

23. There exists no significant difference in the knowledge in environmental legislation among different categories of the rural adults.

24. There exists no significant difference in the educational need in environmental legislation among different categories of the rural adults.

ii) The significant differences between different groups of rural adults in knowledge and need in environmental education and different areas of environmental education are summarised and presented in tables 34 & 35
Table 34: Showing significant differences between different groups of Rural Adults in Knowledge in Environmental Education and different areas of Environmental Education

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Area</th>
<th>Groups between whom significant differences exist</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>12</td>
<td>Environmental Education (all areas put together)</td>
</tr>
</tbody>
</table>

Adult Education learners (-) and Elementary school teachers (+)

Adult education learners (-) and Adult education volunteers (+)
Adult Education Learners (-) and Anganwadi workers (+), Adult Education Learners (-) and Village Development Officers (+), Adult Education Learners (-) and Health workers (+), Adult education learners (-) and Non-formal Education Instructors (+), Adult Education Learners (-) and village sarpanches (+), Adult education learners (-) and Unorganised workers (+), Adult Education Learners (-) and Organised workers (+), Anganwadi workers (-) and Health workers (+), Anganwadi workers (-) and Non-formal Education Instructors (+), Anganwadi workers (-) and village sarpanches (+), Anganwadi workers (-) and Unorganised workers (+), Anganwadi workers (-) and Organised workers (+), Village development officers (-) and
<table>
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<tr>
<th></th>
<th></th>
<th>Health workers (+), Village Development Officers (-) and Non-formal Education Instructors (+), Village development officers (-) and village sarpanches (+), Village development officers (-) and Organised workers (+), Village development officers (-) and Organised workers (+), Health workers (-) and Organised workers (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>13</td>
<td>Air pollution Adult education learners (-) and Village development officers (+), Adult education learners (-) and Village sarpanches (+), Adult Education learners (-) and Anganwadi workers (+), Adult Education learners (-) and Anganwadi workers (+), Adult education learners (-) and Organised workers (+), Adult Education volunteers (-) and Unorganised workers (+), Adult education volunteers (-) and Organised workers (+)</td>
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<tr>
<td>3</td>
<td>14</td>
<td>Water pollution Elementary school teachers (-) village sarpanches (+), Elementary school teachers (-) and Unorganised workers (+).</td>
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<td>1</td>
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<tr>
<td>4</td>
<td>15</td>
<td>Noise pollution</td>
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<tr>
<td>5</td>
<td>16</td>
<td>Energy</td>
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<td>6</td>
<td>17</td>
<td>Forests</td>
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<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elementary School Teachers (−) and Anganwadi workers (+), Elementary School Teachers (−) and Organised workers (+).</td>
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<tr>
<td>7</td>
<td>18</td>
<td>Dams and Mines</td>
</tr>
<tr>
<td></td>
<td>Adult Education Learners (−) and Village sarpanches (+), Adult Education learners (−) and Anganwadi workers (+), Adult education learners (−) and Health workers (+), Adult education learners (−) and Village development officers (+), Adult education learners (−) and Organised workers (+).</td>
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<tr>
<td>8</td>
<td>19</td>
<td>Land pollution</td>
</tr>
<tr>
<td></td>
<td>Adult education learners (−) and Organised workers (+), Adult education learners (−) and Adult education volunteers (+), Adult education learners (−) and Elementary School Teachers (+), Adult Education learners (−) and Village development officers (+).</td>
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</tr>
<tr>
<td>9</td>
<td>20</td>
<td>Population explosion</td>
</tr>
<tr>
<td></td>
<td>Adult education learners (−) and Non-formal Education Instructors (+), Adult education learners (−) and Village sarpanches (+), Adult education learners (−) and Unorganised workers (+), Adult education learners (−) and Organised workers (+), Elementary School Teachers (−)</td>
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<tr>
<td>1</td>
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<tr>
<td></td>
<td></td>
<td>and Organised workers (+), Elementary School Teachers (-) and Organised workers (+).</td>
</tr>
<tr>
<td>10</td>
<td>21</td>
<td>Environmental Sanitation</td>
</tr>
<tr>
<td>11</td>
<td>22</td>
<td>Food issues</td>
</tr>
<tr>
<td>12</td>
<td>23</td>
<td>Environmental legislation</td>
</tr>
</tbody>
</table>
Table 35: Showing significant differences between different groups of Rural Adults in Need in Environmental Education and different areas of Environmental Education.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Table No.</th>
<th>Area</th>
<th>Groups between whom significant differences exist</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>Environmental Education</td>
<td>Anganwadi workers (-) and Non-formal education instructors (+), Anganwadi workers (-) and Village sarpanches (+), Anganwadi workers (-) and Village development officers (+), Organised workers (-) and Non-formal education instructors (+), Organised workers (-) and village sarpanches (+), Organised workers (-) and Village development officers (+), Adult education volunteers (-) and village development officers (+), Adult education learners (-) and Village development officers (+), Health workers (-) and Village development officers (+), Elementary school teachers (-) and Village development officers (+).</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>Air pollution</td>
<td>Adult education volunteers (-) and Health workers (+), Adult education volunteers (-) and Village sarpanches (+).</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>Water pollution</td>
<td>Adult education volunteers (-) and Village development officers (+).</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>Noise pollution</td>
<td>Adult education learners (-) and Village sarpanches (+), Adult education learners (-) and Village</td>
</tr>
</tbody>
</table>
development officers (+), Organised workers (-) and Village development officers (+),

Energy

Organised workers (-) and Village development officers (+).

Forests

Elementary School Teachers (-) and Adult education volunteers (+), Elementary school teachers (-) and unorganised workers (+), Elementary school teachers (-) and Anganwadi workers (+), Health workers (-) and Anganwadi workers (+).

Dams and Mines

Unorganised workers (-) and Adult education learners (+), Unorganised workers (-) and Adult education volunteers (+).

Land pollution

Health workers (-) and Adult education volunteers.

Population explosion

Village development officers (-) and Non-formal education instructors (+), Village development officers (-) and Adult education volunteers (+), Village sarpanches (-) and Adult education volunteers (+).
<table>
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<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
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</thead>
<tbody>
<tr>
<td>10</td>
<td>21</td>
<td>Environmental Sanitation</td>
<td>Adult education volunteers (-) and Village development officers (+), Adult education volunteers (-) and Elementary school teachers (+), Adult education volunteers (-) and Adult education learners (+), Anganwadi workers (-) and Elementary school teachers (+), Anganwadi workers (-) and Adult Education learners (+).</td>
</tr>
<tr>
<td>11</td>
<td>22</td>
<td>Food issues</td>
<td>Village sarpanches (-) and Organised workers (+), Village sarpanches (-) and Non-formal education instructors (+), Adult education learners (-) and Non-formal education instructors (+), Health workers (-) and Non-formal education instructors (+).</td>
</tr>
<tr>
<td>12</td>
<td>23</td>
<td>Environmental legislation</td>
<td>Village development officers (-) and Organised workers (+), Village development officers (-) and Non-formal education instructors.</td>
</tr>
</tbody>
</table>
II. Priority items of each category of Rural Adults under each area of Environmental Education:

The priority items of each category of rural adults under each area of environmental education were identified and given in the Vth chapter in detail.

6.08 Implications of the Study:

1. The curriculum planners may keep in mind the findings of the study while developing the curriculum to different groups of rural adults.

2. The results of the present study facilitate the educational planners to prepare appropriate teaching-learning material in environmental education to create environmental consciousness among rural adults.

3. The trainers may give adequate emphasis on the priority items.

4. The results help to prepare post-literary materials for adult education programmes.

5. The findings help to prepare popular books on environmental education for general public.
Suggestions for Further Research:

1. Similar study may be conducted by covering more number of categories of rural adults taking into account their age, sex, income, caste etc.

2. Similar study may be conducted to find out the differences between urban and rural people.

3. The study of knowledge, attitudes and practices on environmental education may be attempted.

4. The effectiveness of strategies for launching environmental education particularly to the rural people and elementary school learners (children) may be identified.

5. Studies which throw light on creating awareness about environmental issues may be attempted and encouraged.

6. Similar study may be conducted covering in the whole of Chittoor district and differential districts of Andhra Pradesh.

7. The same study may be conducted by using different types of tools.

8. New areas which may come under environmental issues may also be identified.