



A STUDY OF AN ENVIRONMENTAL EDUCATION PROJECT: ITS PRESENT STATUS AND IMPLEMENTATION AT HIGHER SECONDARY LEVEL

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Abstract

It is important to develop the awareness of environmental education among students and to develop the environmental personality of student. The objectives proposed for the present study were 1) To study the present status of an implementation of project of a subject of environment education at higher secondary level. 2) To analyze the problems with implementation of such environment project at higher secondary level school. 3) Comparative study of the implementation of environment project in urban and rural area .4) To suggest proper remedies for an implementation of environmental project. 5) To develop the handbook for an effective implementation of environmental project. The present study was based on sum assumption. Researcher had studied all about environmental education at higher secondary school level so he has used survey method. Researcher has found a problem regarding implementation of such project on the basis of findings related to research, suggestion and recommendation has been given for effective implementation. 20 higher secondary schools, 2640 students, 20 principals and 40 teachers are selected for sample. For the present study the researcher used following four tools for the collection of data. A) Questionnaire B) Interview schedule -For principal & expert)Observation- By keeping the importance of observation all parts of project prepared by higher secondary schools students of observed, with the help of Norms D) Check list-Researcher has prepared checklist to verify authenticity of responses of teachers and principals. The data collected by the tools was analysis with the help of the simple Statistical presentation method (Percentage). The collected data also represented graphically with the help of the Pie-chart and Bar-graph. According to the objectives and assumptions of such research few main findings are found , they are as follows...There is no separate appointment on environment given to teach this subject in higher secondary school but teachers of science and geography

teach this subject as their subject work load. Every teacher has to know scientific information of implementation, of effective project need an proper training. No sufficient guidance about economic, social, cultural lifestyle environment is given by teacher at the time of subject area selection subject area. No proper effort has taken for implementation of project for total fulfillment of objectives. There is no any kind of grant given to school for selected environment project and physical facilities. In higher secondary school of rural area, projects are implemented more in number of Vermicom post, disposal of garbage, underground water, saving water, preservation of trees, plantation of medicinal plants, uses of trees. In higher secondary school of urban area , project are implemented more in numbers of air pollution, water pollution , disposal of dried and wet garbage, study of water supply department. Study of private institution of environment. All projects implemented in rural and urban area are more in numbers related only with survey. But according to ratio of experimental project are less in number. Researcher has developed a Handbook on effective implementation of environment project for the teachers and students of higher secondary school of Maharashtra state.

Keywords-Environment Education, Project, Effective implementation , Present Status.

Introduction: It is important to develop the awareness of environmental education among students and to develop the environmental personality of student. For this purpose a subject of environmental education of hundred marks is compulsory for 9th to 12th standard ¹. 60 marks are for written exam and forty marks are for project work. Theoretical part enriches the knowledge and while activities are helpful for the development of experience, but it is also important to know what happens when we do implementation these projects works? Are project implemented sincerely with creativity? Whether the implementation is proper and systematic? These questions gave pavement to know the present status of an implementation of project work as well as to find out problems with proper remedies on it.

Need and Importance of Research : As per national curriculum framework 2000 and 2005 curriculum of std ninth to twelve has been reconstructed, syllabus are improvised and as the declaration made by supreme court, that a subject of environment education of hundred marks is compulsory for standard ninth to twelve.² To fulfill the objectives of environment education for the standard ninth to twelve and project are included with theory from the year of 2005 - 06 --- respectively.³ In short, there has been much distance between ideal concept in any educational field and reality. There are many problems regarding the actual implementation of environmental project since 2006 - 07. So the propose of this research is to

know the present status, to suggest some recommendations and to give proper guideline which would help for effective implementation of the project. The role of teacher is very important in the development of awareness about environment and its information. Teacher has to become active and also has to make student active directly and indirectly in manners for the protection of environment and he has to transfer the information of Environmental units and also has to develop the attitude of provision of supplement action for the protection of environment. This research has given some suggestion and recommendations for the implementation of project work for standard 11 and 12 in environmental education.

Objectives of Research : The objectives proposed for the present study were-

To study the present status of an implementation of project of a subject of environment education at higher secondary level

To analyze the problems with implementation of such environment project at higher secondary level school

Comparative study of the implementation of environment project in urban and rural area

To suggest proper remedies for an implementation of environmental project

To develop the handbook for an effective implementation of environmental project

Assumptions of Research : The present study was based on the following assumption-

In every higher secondary school there is proper implementation of environment project as per annual planning.

It is consider that almost all 26 objectives of environment education are fulfilled through projects.

Guidance of teacher, Actual participation and interest of students in environment projects are the same.

Operational Definitions :

Higher secondary level - Classes of +2 level i.e. std 11th and std 12th of 10+2+3 structure of education.

Environment Education - A compulsory subject at higher secondary in all educational faculties to develop positive awareness among the students.

Project : An environment based problem project for 40 marks to be completed by students of std 11th and std 12th.

Teacher : Those who teach environment subject at higher secondary schools of Northern part of Pune district i.e. Ambegaon, Khed, Junner and Pimpari Chinchwad Muncipal corporation.

Students : Those who study the subjects of environment at higher secondary schools of Northern part of Pune district i.e. Ambegaon, Khed, Junner and Pimpri Chinchwad Municipal corporation.

Problems in Project : Problems regarding with administrative aspects, management planning, organizational, guidance, financial, physical material, evaluative.

Effective implementation : A systematic arrangement of a project to solve the problems under the guidance of expert and trained teacher with project material related to environment education project as per annual planning.

Present Status : Present status of environment project at higher secondary level of Northern part of pune district i.e. Ambegaon, Khed, Junner and Pimpri Chinchwad Municipal corporation in the year of 2007 - 08.

Scope and Limitations of Research :

Scope -

Std 11th and std 12th are considered for such research and findings will remain same for +2 level in Maharashtra State Only.

This research is only to study the present status of actual implementation of environment projects, and to find out problems of higher secondary level.

Limitation: Finding of this research are based on the responses given by the subject to the data collection tools.

Delimitation: The study has been delimit to the following aspect-

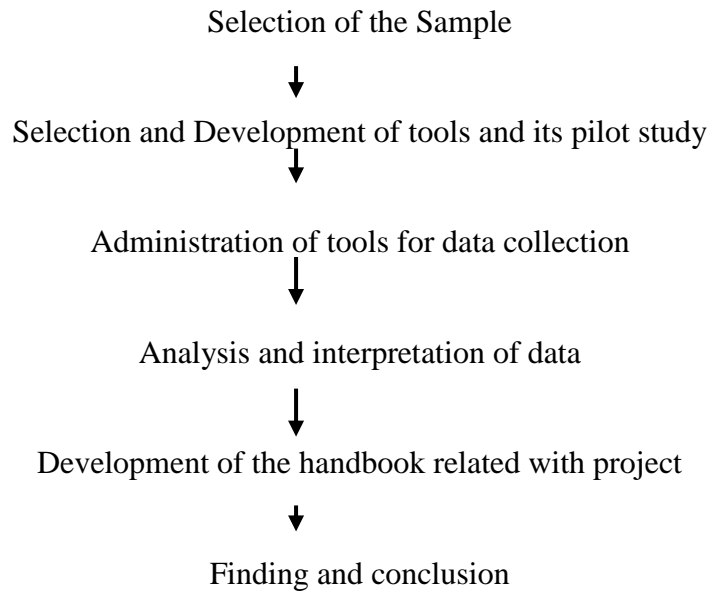
Subject of environment education is for 100 marks at higher secondary level, only 40 marks are considered for research on environment projects.

There are 12 Tehsil and 2 Municipal Corporation exist in Pune district, Out of these only three Tehsil are considered for the study i.e. Ambegaon, Khed, Junner As well as some urban area of Pimpri Chinchwad Municipal corporation.

Students of higher secondary school with various faculties of education are considered for the research. The students of MCVC and professional courses are not considered.

Research Methodology : Researcher had studied all about environmental education at higher secondary school level so he has used survey method. Researcher has found problems regarding implementation of such project on the basis of findings related to research, suggestion and recommendation has been given for effective implementation.

Procedure of the study-



Population and Sample : Research is related mainly to environmental education at higher secondary level of Maharashtra State secondary and higher secondary education council. Findings of this research are applicable to higher secondary school in Maharashtra State. So all higher secondary schools of Maharashtra are the universe of such research. All higher secondary schools of Northern part of the Pune district are included in population.

Responders of data collections :Students of higher secondary schools (25% students of Northern part of Pune district means total no. of students are 2640). All teachers of higher secondary schools who teach environment education (total 40 teachers, Ratio 100%)All Principal of higher secondary schools (total 20 principals, Ratio 100%)

Sample :

A) Selection of higher secondary schools : Schools affiliated to Maharashtra State secondary and higher secondary school council. Out of 80, higher secondary schools 25% means 20 higher secondary schools are selected on the basis of probability method in which under simple random method, Lottery method is used. ⁵

Ratio of selection is as follows

Table 01:Total Numbers of School in Northern Pune District

Sr.No.	Urban Area	Total Nos. of Higher Secondary School	Ratio of Sample Selection	Total Number of Selected Higher Secondary School
01	P.C.M.C.	33	25 %	08
Sr.No.	Rural Area	Total Nos. of Higher Secondary	Ratio of Sample Selection	Total Number of Selected Higher Secondary School

		School		
01	Ambegaon	11	25%	03
02	Khed	17	25%	04
03	Junner	19	25%	05
Total		80	25%	20

(Ref. Chapter 03. pg. No. 76)

Selection of Students : 25% students are selected by incidental sampling method. Total no. of students in std 11th from 20 higher secondary schools are 10560 for the year of 2006- 07 as per information given by secondary and higher secondary education council. 25% of population i.e. 2640 students are selected for such research.

Table 02: Number of Students as per Research Field

Sr.No.	Urban Area	College selected in sample	Total no. of students	Ratio	No. of students selected
01	P.C.M.C.	08	3128	25%	782
Sr.No.	Rural Area	College selected in sample	Total no. of students	Ratio	No. of student selected
01	Khed	03	3324	25%	832
02	Ambegaon	04	1816	25%	454
03	Junner	05	2292	25%	572
Total		20	10560	25%	2640

(Ref. Chapter 03. pg. No. 77)

Selection of Teacher : Teacher concerned with environment education are selected from 20 higher secondary school, 2 teachers of each higher secondary schools who teach environment education are selected and total no. of teacher are 40 for sample.

Selection of Principal : All principle of 20 respective schools are selected for sample.

Tools of Data collection : For the present study the researcher used following four tools for the collection of data.

Questionnaire : Total no. of questions are 70 in which closed and open questions are included questions are mixed by nature. Nature of questionnaire is formed on the basis of pilot study. (Ref. Chapter 3 Pg. 78- 79)

Interview schedule

For principal - Principal of higher secondary school for interview. Nature of interview schedule is formed by informal discussion with teachers, guidance of expert and pilot study. (Ref. Chapter 3 Pg. 80-81)

For expert - How to implement effective project ? by keeping this purpose of interview, ten experts has been taken.

Observation -By keeping the importance of observation all parts of project prepared by higher secondary schools students of observed, with the help of Norms (Ref. Chapter 3 pg. no.82-86)

Check list - Researcher has prepared checklist to verify authenticity of responses of teachers and principals.(Ref. Chapter 3, pg. no. 87)

Tools of Data Analysis :The data collected by the tools was analysis with the help of the simple Statistical presentation method(Percentage). The collected data also represented graphically with the help of the Pia-chart and Bir-graph.

Review related Literature: The researcher went through the previous researches related to the environment education and environment education project. He came Forty Five researches related directed or indirectly to the present study. To facilitate analysis he has classify them in seven categories. The number of researches conducted as per their categories is given in the table

Table 03: The number of researches as per their categories

Sr. No.	Researches related to	Total no. Of researches
01	Environmental Factor	05
02	Environmental Awareness	09
03	Environmental Interest	05
04	Teacher	07
05	Student	10
06	Evaluation	05
07	Other	04
	Total	45

(Ref. Chapter 02. pg. No. 57-60)

The review makes it clear that the present status of environmental education and its implementation at higher secondary level was not studied. Therefore this study was a felt need . In order to fulfill the gapes in previous researches the researcher has planned and executed this study and develop Handbook for environmental education project work

Major findings of Research :According to the objectives and assumptions of such research few main findings are found , they are as follows...

Objective no. 01 To study the present status of an implementation of environmental project of environmental education at higher secondary level.

Findings-

There are actual implementations of project on environment education at every higher secondary school (table no 64 65 pg. no. 181- 182)

There is no separate appointment on environment given to teach this subject in higher secondary school but teachers of science and geography teach this subject as their subject work load.(Table no 67, pg. no. 184.)

There is no awareness of environment education committee among teachers to implement project on environment education. (Table no. 11, 13, pg. no.117-118

Every teacher has to know scientific information of implementation, of effective project need an proper training. (table no.10 pg. no. 116.)

No sufficient guidance about economic, social, cultural lifestyle environment is given by teacher at the time of subject area selection subject area. (Table no. 17 pg no. 121)

No proper effort has taken for implementation of project for total fulfillment of objectives. (Table no. 23 pg no. 125-127)

Objective No. 02 to analyse the problem while implementation of environment project at higher secondary level school.

Findings

Finding regarding Administration problem. - No proper appointment of qualified teacher to teach the environment education to guide the project. (Table no. 67, 71. pg. no. 184-188)

Findings regarding Managerial problem.-

Teachers are passive for establishing environment education committee and proper implementation about subject environment education. (Table no. 11, pg. no. 117.)

There is lack of space in schools for separate laboratory of environment and also for environmental classroom. (Table no. 35.pg. no. 136.)

Findings regarding planning –

A) Students are more in number is the main problem for implementation of project. (Table no. 71, pg. no. 188)

B) Two periods are not sufficient to the subject Planning of environment education. (Table no. 71, pg. no. 188.)

C) No framework of planning is prepared for the successful implementation of project. (table no. 12 pg. no. 117.)

Findings regarding Guidance problem –

A) Students are more in numbers in higher secondary level, so teachers are less in number, but it becomes the problem to guide all students in limited time of period. (Table no. 71, pg. no. 188.)

B) Subjects selected by the student are mostly science and geography oriented so there is no guidance of field like economic , social , cultural, lifestyle rules of environment while selection of subject. (Table no. 17, 20. pg. no. 121-122.)

Findings regarding Economic problem.

A) All reports are written by students in their own handwriting because typing of reports is not affordable to them. (Table no. 30, pg. no.133.)

B) There is no any kind of grant given to school for selected environment project and physical facilities.(Table no. 28, Pg. 131)

Findings regarding physical problems.

A) There is complete lack of physical facilities regarding with environment project in higher secondary school. (for exam. Instrument of testing water pollution, air pollution, soil pollution audio visual aids, reference material and tools for practical. (Table no. 32 34 42 43 51. pg. 134-150.)

Finding regarding evaluation problems.

A) Problems of evaluation arise when grades are kept for project, instead of marks to the subject of environment education.(Table 53, pg. 166)

Findings regarding the project report writing problem.

A) Students of higher secondary school are not able to write references they do not have any knowledge about Appendixes, Which are seen usually at on last pages? (Table no. 62. pg. 179.)

B) Students get problem regarding proper use of statistical techniques and its ways of usage. (Table no. 61, pg. 178.)

C) Students get problem in writing of proper introduction, drafting data in proper sequence as well as problems of data collection, methodology and also problems in presentation of collected information. (Table no. 60.Pg. 174-176)

Objectives 03. Comparative study of the implementation of environment Project in rural and urban area.

Findings.

In higher secondary school of rural area, projects are implemented more in number of Vermicompost, disposal of garbage, underground water, saving water, preservation of trees, plantation of medicinal plants, uses of trees....etc. (Ref. Table no. 46 to 49. PG. NO. 153-160.)

In higher secondary school of urban area , project are implemented more in numbers of air pollution , water pollution , disposal of dried and wet garbage , study of water supply department. Study of private institution of environment....etc. (Ref. Table no. 46 to 49. pg. no. 153-160.)

All projects implemented in rural and urban area are more in numbers related only with survey. But according to ratio of experimental project are less in number.(Ref. Table no. 50, graph 7, pg.161.)

Collection of factors related to environment and implementation of collective projects found more in numbers. (Ref. Table no.50, graph no.7 pg. 161.)

Instruments of testing water pollution are available in urban area rather than rural area. (Ref. Table no. 51 graph no.8,PG. 162-163)

Availability of material for collective project are more in numbers.(Ref. Table no. 51 graph no. 8 pg. 162-163)

In rural area co-operation of local administration found more than urban area. (Ref. Table no. 52 graph no. 9. pg. 164-165)

Lack of operation of officers in environment field, while implementation task of environment project in rural and urban areas.(Ref. Table 52 graph 9 , pg 164-165)

Private institution of environment gives 100% co-operation for the completion of environment project in rural and urban area.(Ref. Table 52 Pg. 164-165)

Objective 04. To suggest proper remedies for an implementation of project on environment. For an effective implementation of project interview of college professor are taken who teach environment education. Whatever thoughts came out of their interview, on the base of these thought and with the help of finding of research some suggestions are given as follows.

Suggestions regarding implementation of project.

There must be establishment of environment education committee and principal must be a president of this committee, importance of this committee should bring in notice of teacher. (Ref. With The Help of Handbook Implementation of Project.)

There must be framework of planning about implementation of project in every higher secondary school (Ref. finding No. 17C)

There must be separate appointment of environment education teacher and he must have completed pre service and in service training (Ref. finding. No. 4,15, 24E.)

To give the guidance about implementation of project, cooperation of experts from the nearby private institution as well as government institutions must be taken. (Ref. finding No. 36,37,38,)

As per government regulation annual 180 period and 3 hours for theory and 2 periods for guidance of project in a week for a subject of environment education for 100 marks should be allotted.(Ref. finding No. 17B, 19A)

For the completion of project , there must be a provision of material for testing pollution and tools for experiment (Ref. finding No. 12)

There must be separate environment laboratory and classroom. (Ref. Finding No. 8C)

Suggestions regarding the guidance of teacher of project work.

There must be equal distribution of students for the guidance of environment project to every subject teacher. (Ref. finding no. 19A)

Teacher has to make understand to every student the importance, aim and objectives of this project work. (Ref. finding no. 23.)

Suggestions regarding the determination of subject for environment project.

Everyone must have separate subject, it must be interdisciplinary and inclusive (Ref – as per the handbook prepare by researcher.)

Teacher has to give overall information about improvised curriculum of environment education before determination of subject for project than student has to select subject. (Ref. as per handbook of project prepare by researcher)

There must be discussion about implementation of project after determination of subject for project. (Ref as per the handbook prepare by researcher)

To select the topic as per given objectives of project work. (Ref. as per the handbook prepare by researcher)

Topic of environment project must be selected and reflection of environment factors, effects of these problems on society, social, economical, cultural, environmental values, environmental principles, environmental lifestyle, environmental life skills and rules. (Ref. finding no. 13)

Suggestions for Report writing on environmental project.

(Ref. As per the handbook prepare by researcher.)

The title of the project must be meaningful , and it should give proper idea about the study of project.

All things must be considered while making the front page,(i.e. full name, date, year, title, name of the degree. ...etc.)

Acknowledgement of person and institute must be written in simple and lucid language.

In the project report, explanation of title, its importance , why it became problem , must be written properly in the introduction of the report.

All objectives of the project must be written properly to get exact purpose.

All information regarding project must be written in proper sequence of report writing.

Whatever tools are used for getting information must be written properly for validity of information and usability of such project.

While presentation of collected data , there must be use of explanation of information , picture, figures, maps, and proper interpretation of information.

There must be exact use of statistical technique for project .

There should be well coordination between objectives and findings, and also must be interrelation between objectives , problems and finding.

Application of the finding must be written meaningful for the educational purpose.

Bibliography must be written at the end of the project.

Objective 05 - To develop the handbook for effective implementation of environment project.

Purpose- Researcher has developed a handbook on effective implementation of environment project for the teachers and students of higher secondary school of Maharashtra state.

Implementation- For the creation of handbook, great contribution of Prof. Panditrao Patil , secretary of higher secondary education council and all the experts as well as studious professors of same council and Dr. D V Kulkarni research guide, has given proper shape to this book. Various references, books are used to design the new ideal project.

Units of Handbook- Units of Handbook are as follows – 1 concept 2. project 3. Types of project 4. Factors considered while implementation and planning of project. 5. Factors considered for determination of problem. 6. stages of planning of project. 7. Developments of the skill and abilities through projects. 8. Evaluation of project. 9. specimen of report writing of project. 10. project – subject list as per the types of project.

Discussion : Correlation between previous research and present finding of the research.
As per finding of (Ref pg 52) research of Gopalkrishnan, Sarojani students of higher secondary level can develop self learning ability due to active participation in the project of environment, life skills and other skills are also developed through it.

As per the finding of Joshi B, P. (Ref. Pg 54), students of higher secondary level are eager to learn subject through project and inclusion of project is essential as well and must be compulsory at this level.

As per the finding of research of Pal S.G. (Ref. Pg 55) students of higher secondary level may develop all round development of well equipped environmental personality.

As per the finding of research of Shahanawaj (Ref. Pg 53) there is no need of separate teacher for this subject because there is much awareness among teachers about environment . Awareness about environment is essential for the teacher of this subject.

As per the finding of the research of Pradhan, P.C. (Ref. Pg 51) Teaching workload is giving to the teacher of science and geography subject for teaching environment subject.

As per the finding of research of Patel and Others (Ref. Pg 50) There is proper awareness among teacher about environment but for completion of this project teacher gives information about audio visual aids , references material for practical purpose and same guidance to complete the project.

As per the finding of research of Sundarajan and Raj Shekhar (Ref. Pg 50), Economical status of the students is considered while implementing project in wide scope , students have economical problems.

As per the finding of Gakhar and Karla (Ref. Pg. 51), the only 30% of the report writing found with creativity, experimental, in proper sequence. So its deals relationship between the awareness about environment among students and their intelligence.

As per the finding of research of Narwane Meena (Ref. Pg. 55), projects of higher secondary school are based on mainly wastage pollution, soil pollution, water pollution, air pollution, and plantation of trees. Teachers select subject which are science and geography subject oriented. There is no place for guidance of economical, cultural, lifestyles and rules of environment...etc. By studying finding of previous research and present finding, it came to know that finding of previous research are limited to subject area, more numbers of findings are related with awareness of environment. Interest in environment, aptitude in environment. Findings are from primary level to secondary level, findings are also related with teachers and students, rural and urban area also considered in findings. But present findings are different from previous research. findings of research are related to teacher and students of higher secondary school of rural and urban areas. Interest of student and teacher towards environment, general awareness about environment as well as implementation of project, planning, problems in the implementation and how to implement effective project and

remedies are given on the basis of findings. By studying finding of previous research and present research mainly suggestion and recommendation are given to further research.

Suggestions and Recommendation : First chapter of this theses deals with the importance and usefulness of its units. Mainly suggestions have been given for effective implementation of project. All suggestion are given to the principals and teachers of all students of higher secondary school. Many suggestions are useful for the educational purpose and all are given separately because these suggestions are applicable for an effective implementation of project. For the implementation of project on environment, Higher secondary school has to take the help of NGO and its members and its overall information about projects done by their organization. There must be good coordination between NGO and Higher secondary school for effective implementation of project.(Finding 38.) Higher secondary schools of rural area has to take the help of Grampanchayat, Government officers and research officers of Tribal Department... For the purpose of effective implementation of project.(finding 36.) Higher secondary school of urban area has to take the guidance of local municipal officers , collectors, various government officers, research officers for the effective implementation of the project.(finding 37) Environment subject become the most important issue in all over the world. So state Govt. has keep it compulsory subject at higher secondary school level. There must be proper weightage for its marks and periods, at present there is grading system for this subject but instead of grading system there must be quantitative or marks oriented approach (finding 22) State Government has to provide grant to environment laboratory for various materials, reference books for an effective implementation of project. (finding 20)

Contribution to Education field: The nature of environment study should not be through books only but it should also through project and study tours activities. This research is helpful to the teachers and they can know that how to implement the project at rural and urban areas effectively, on the basis of problems. The handbook prepared by researcher would be helpful to principal, teacher, and students to effective implementation. So this research would be is an applied research and real contribution to education field. “If you care to nature , nature will care to you” this principle is the base of such Research.

Direction for future Research :

There is wide scope for research on small of every aspect of Environment education and project work.

Awareness about environment and interest about environment can be studied properly, as well as there would be comparative study about awareness of environment among boys and girls of the school.

College level environmental project and its effective implementation also can be studied in the same way.

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