

**A Study on Effectiveness of Seed.  
Environmental Evaluation Program**



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### **Abstract**

The purpose of the study was to understand the implementation of SEED programme. SEED is environmental education program by Malayalam newspaper Mathrubhoomi. The objective of the study was to understand how schools are different in the implementation of SEED. For this study case study research design is used and data collected using unstructured interviews and observations. Schools for data collection selected with the help of SEED coordinator in Idukki district. Data collected from four schools in which two schools got awards for implementation of SEED in past years. Total 20 students, four teachers and four shopkeepers interviewed during the study. Computer software NVivo is used for the data analysis. The results of the study shows that schools which found time for extra activities have implemented SEED effectively than other schools. Another finding is that both schools effectively implemented SEED effectively has involved parents in the activities of SEED in the schools. Students knowledge level and awareness has been increased because of the activities of SEED. 100 students in government up school Pazhayaviduthy have vegetable garden in their home. Interesting fact is that all the students interviewed have done something which contributes towards environmental protection. Award winning schools give more importance for the reporting and it contributed to their success.

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## **Understanding the Implementation of Project Student Empowerment for Environmental Development: A Case Study**

According to the study conducted by U.C. JHA on the environmental issues of Asia the issues like ozone layer depletion, loss of biological diversity, deforestation, increased soil degradation, drought, desertification and use of hazardous substances like pesticides are the major threat faced by present generation (JHA, 2004). People are plundering natural resources and we are facing the question of sustainability. It is our duty to protect and transfer the natural resources to the future generation. Awareness regarding the need for protecting environment is very crucial. The future of our earth is in the hands of the younger generation. We can make changes in the current situation by influencing the students.

There are lot of programmes and projects implemented through the schools for improving the knowledge and skills of students in environmental protection. SEED (Student Empowerment for Environmental Development) is an environmental intervention project implemented in the schools on behalf of the Malayalam newspaper Mathrubhumi. This study aims at understanding the implementation of SEED project in schools of Idukki district, Kerala. SEED was launched in 5<sup>th</sup> June 2009 and now 6997 schools are enrolled into this programme. The main objective of SEED is to create awareness among younger generation and protect nature. Love plastic, season watch, Keram kakkan kuttikkoottam, cradle for turtle are the main projects under this scheme.. There is one SEED coordinator in every district in Kerala to monitor the activities in each school. A teacher coordinator is there in all schools to implement the activities of SEED. Prizes are given to schools

which performed well in every year. There is a team for evaluate the activities of SEED. SEED is the main environmental education programme now we have in Kerala.

This study aims at understanding the implementation of SEED in Idukki district, Kerala. Four cases were studied for understanding the differences in implementation and data collected from the participants are qualitative in nature. There were 28 participants in the study which includes 20 students, four teachers and four shopkeepers. Collected data were analyzed using computer software NVivo. This study will help to understand what are the differences between high performing and low performing schools and which are the strategies they are using for the better implementation of the projects. The results of this study will be beneficial to both SEED and other environmental education programmes.

### **Literature review**

Arun. T. Ram (2014) conducted a comparative study among school students in Kerala on the topic Propagation of Environmental Awareness Through SEED Project: A Comparative Study on Secondary School Students of Kerala, India. The data collected from 800 students using environmental awareness scale. The objective of this study was to compare the environmental awareness among students who had gone through SEED programme and students who had not gone through SEED. The results show that the students who are members of SEED have more environmental awareness than other students (Ram A. T., 2014).

A study conducted by Ms. Katherine A. Grimmette, B.S. from University of Nebraska, 2014 on the topic of The Impacts of Environmental Education on Youth and their

Environmental Awareness among elementary school students. The purpose of the study was to identify the effect of environmental education on youth. Data for this study was collected with the help of qualitative data. The result of this study shows that those students who got environmental education had significant change in their perception towards environment. They understood the importance of animals in human wellbeing and how humans affect animals (Katherine, 2004).

In an article written by Nithin Kalorth on the topic of 'SEEDS' of 'Good Lessons' through 'Many a Drop' – Media Initiation in Environmental Education: An Indian Model of Environmental Pedagogy, he explains the influence of project SEED by Mathrubhumi newspaper and project Nallapadam by Malayala Manorama News paper on the students. The article written in the year 2015. This study analyzes the involvement of media in making environment a major part of school curriculum. Data for this collected from Kasargod, Kannur, Kozhikode, Wayanad, Malappuram, Ernakulam and Kottayam districts. The media support and coverage encourage students to involve more in environmental activities. SEED and Nallapadam projects play a significant role in providing environmental education to the students in Kerala (Kalorth N. , 2015).

### **Statement of the problem**

There is not much literature available about SEED and its implementation and that itself a problem. Not all schools are implementing the SEED effectively and they are not aware about effective implementation strategies. It is important to make the schools aware about their drawbacks in the implementation and suggest new effective ways of implementation. If there is no such studies conducted the schools and SEED will remain

unaware about this situation and solutions. This study is required to change this situation. Since this study is exploring different dimensions of implementation of SEED in each school it will help to understand the best practices and drawbacks. There is no study conducted about the implementation of SEED. Since the overall objective of SEED is to ensure environmental protection through environmental education, this study will identify the best practices and learn from the shortcomings and thus propose suggestions for such interventions.

**Research questions**

- How the knowledge, attitude and involvement of students have contributed to the implementation of SEED?
- What are the various strategies taken by different schools to implement the SEED project?
- What are the improvements and changes needed for strengthening the existing project SEED?

**General objective**

- To understand the implementation of SEED project in schools of Kerala.

**Specific objectives**

- To understand the involvement, attitude and knowledge of schools children with regard to environmental protection.

- To explore the strategies through which the projects are implemented in each school.
- To propose suitable suggestions for strengthening the existing projects.

### **Rationale of the study**

Since environmental problems are increasing day by day it's our need to protect our environment for ourselves and for the coming generations. India is facing lot of environmental problems like deforestation, pollution and loss of biodiversity. Ecological problems due to carbon emission is one of the main problem faced by India. The legislations for environmental problems are powerful but it's enforcement is not happening. Lack of environmental education is one of the reason for this (Yadav, 2013). For this we need to make our younger generation aware about the importance of environmental protection. In the present situation involving children in the environment protection activities are very important. They must have enough knowledge and skills to protecting natural resources. Moreover making them responsible for environmental preservation is vital.

Environmental interventions through schools we can enlighten the knowledge and thinking of students about environment. For the purpose of environmental protection we can educate and make positive changes in the attitude and knowledge among students who has the ability to change the situation and represent a descent percentage of the population. The objective of SEED is to develop a richer, greener and cleaner globe for the future generation and to create awareness among the student community on environment protection and enable them to protect water, air and soil and to develop a

new green culture by assembling upper primary schools, high schools and higher secondary schools in the state of Kerala. The target group of SEED comprises students in the age group of 10-17 years across 38 Education Districts spread in 14 Revenue Districts in the State of Kerala (SEED). Season watch, love plastic, keram kaakan kutti kootam & student parliament, cradle for turtle are the major projects by SEED (SEED). “Theoretically, these media supported projects encourage ‘public participation’ in environmental activities. They encourage students to be motivated and transfer the lessons they learned from school to home and to society” (Kalorth N. , 2015). This study is to understand the implementation of SEED project in different schools in Kerala. Through this study, the researcher has attempted to identify the drawbacks in the implementation of SEED projects and identified practices in overcoming the drawbacks. The findings of this study will helps schools to understand the strengths and limitations in the implementation of SEED project, which will lead to the effective implementation of project. Other environmental education programmes also can use this study to improve their strategies. The better and effective implementation of SEED and similar projects in schools will lead to the outcome of better awareness on environmental issues and effective steps to address them.

## **Method**

The purpose of this study is to understand the implementation SEED project and to explain how the knowledge of students and different strategies used by the school contributed to the success of the implementation of this programme. Case study research design is used in this study. The details of the methods used in sampling, data collection, analysis, discussion and presentation of the report are given in this section.

### **Research design**

Case study research design is used in this study. The case study method is very popular form of qualitative analysis and involves a careful and complete observation of a social unit, be that unit a person, a family, an institution, a cultural group or even the entire community (Kothari, 2004). In case study we study a unit in depth than breadth. This study aims to understand the implementation of project SEED in four schools in Idukki district. Since its only about studying the implementation of SEED, case study research design is best suited for this study. Each school will considered as a case unit. Case study can be used to understand the effectiveness of interventions. With the use of case study it is helpful to understand how the SEED influence the students knowledge and attitude involvement in activities related to environment.

### **Nature of data**

For the purpose of understanding the different aspects of the implementation of SEED qualitative data was collected. Data are collected using unstructured interviews and observations. All those data were collected in Malayalam and later it transcribed into English.

**Tools**

Unstructured personal interview was used for collecting data from the students, teachers and the shopkeepers. There was an observation checklist in order to crosscheck the data collected from the school.

**Selection procedure**

For this study purposive sampling is used to select the cases. Researcher got help from SEED coordinator in Idukki district for choosing cases. Four cases selected for this study. In order to select the cases the principle of extreme variation was used. Thus two high performing and two low performing schools were selected.

**Method of data analysis**

Data analysis was done with the help of computer software NVivo. All important ideas told by participants of study were coded and theme formed. For getting accurate results the analysis was done between themes, cases and files. Graphs made with NVivo have helped the analysis.

**Ethical consideration**

- Email address and mobile number of the researcher were given to participants for clarifying their doubts regarding the study.
- Verbal consent took from both parent and student for collecting data from the student.
- Participants were free to withdraw from the study at any point during the study.



## **Results**

The purpose of the study was to understand the implementation of SEED projects in Idukki district. Case study research design was adopted and qualitative data was collected from four schools. Among that two were high schools and two were UP schools. Interviews and observation are used to collect qualitative data from the participants. Data collected from the students to know how their knowledge and attitude towards environment changed because of SEED programme and how that contributed to the effective implementation of SEED in each schools.

### **Participants of study**

Four cases were studied and data collected from 20 students, four teachers and four shopkeepers. All students were members of SEED programme. Teachers interviewed are the SEED coordinators in the school. Government UP school Pazhayaviduthi, Government high school Kattappana, S.N.V.H.S.S. NR City and St. Sebastian's high school Kanthippara are the four cases studies. UP school students were interviewed from Government UP school Pazhayaviduthi and Government high school Kattappana. High school students were interviewed from S.N.V.H.S.S. NR City and St. Sebastian's high school Kanthippara. Among these four cases Government UP School Pazhayaviduthi and St. Sebastian's high school Kanthippara got prizes from SEED for their activities.

### **Strategies used by teachers to implement programmes of SEED in school**

Implementation strategies in each school are different and it has an influence on the participation of students and the success of the programme. It is important to know how strategies differ from school to school. Analyses of cases are following.

**Case 1 – Government UP school Pazhayaviduthi*****Strategies took for ensuring the participation of students in the programme***

For ensuring the participation of students and to create more interest in them a teacher from government UP school Pazhayaviduthi school used a different strategy. It is an innovative Idea. His response is following

The first time we participate in cultivation with the students. Then we identified that there is a need for creating interest among the students. For that, we assigned each plant to each student. It created more interest among students. They started to care about their plants daily. And last we include students in harvesting. We started to use media to give more publicity to our student's activities. That gave more encouragement to the children (Binu, Pazhayaviduthi, 2019).

The below given picture is took with the permission from the teacher. The figure clearly shows the effective implementation of SEED. Government UP school Pazhayaviduthi maintains a wonderful garden in the school. Figure 1 is an evident for that.



**Figure 1: A teacher in government UP school Pazhayaviduthi with a crop from their vegetable garden**

### *Different strategies used by the school for implementing SEED*

When I asked the teacher from Pazhayaviduthi what is the main difference of your school compared to other schools he replied “We implement SEED for our students and they implement SEED For SEED” (Binu, Pazhayaviduthi, 2019). Then I asked what are the different strategies he is using for the effective implementation of SEED. He pointed out each thing he is doing. They are as follows.

- 1) Assigned each plant to each student
- 2) Provide the opportunity to the students to participate in nature camps

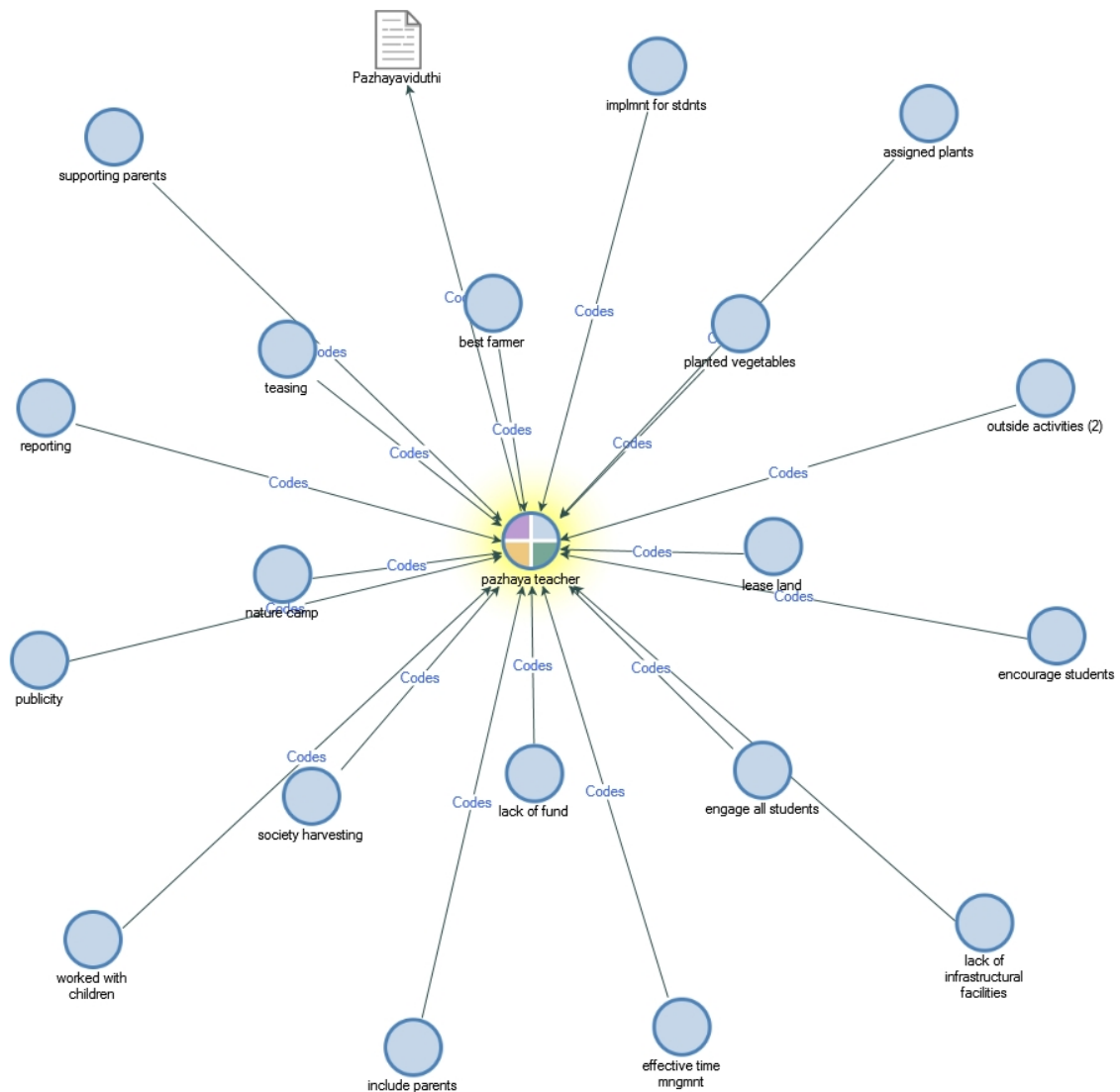
- 3) Take them outside several times for showing them environmental problems and wonders. Last time we take all the students to see neelakkurinji blooms
- 4) Prepared food with vegetables they harvest and gave it to students
- 5) Gave prize to best farmer among the students
- 6) Invite leaders and key persons to harvest
- 7) Gave more publicity to the activities of students
- 8) Accurate reporting
- 9) Leased land from outside
- 10) Include parents in our cultivation (Binu, Pazhayaviduthi, 2019).

### ***Challenges faced in the implementation***

To know more about the implementation I asked about the challenges they faced. Time was a major problem faced by schools. The responses of the teacher from the Pazhayaviduthi school about the challenges are given below.

At the beginning of our initiatives teachers from other schools teased us saying that we are doing this because we don't have any other job. The second thing is the lack of fund. We don't get any fund from the government. Lack of infrastructural facilities is another problem. For all these we ourselves spend money. (Binu, Pazhayaviduthi, 2019).

Government U.P school Pazhayaviduthi is a small school and lack infrastructural facilities. They lack fund and with the support of management they are overcoming this issue. Teachers from other schools tease the teachers in Government U.P school Pazhayaviduthi for involving in these activities.



**Figure 2: Nodes related to the responses of teacher from government UP school**

**Pazhayaviduthi**

Above figure shows the nodes related to Binu teacher from government UP school Pazhayaviduthi. He is using different strategies for the implementation of SEED. Nodes in the figure represent the implementation strategies, challenges faced, selection procedure and all other responses of Binu teacher from Pazhayaviduthi.

### **Case – 2 St. Sebastian’s High school Kanthippara**

#### ***Strategies took for ensuring the participation of students in the programme***

In St. Sebastian’s high school Kanthippara they have a lot of activities. Teacher says that students will automatically come to the programme. To motivate students teacher seek the participation of parents also.

Students are coming to the programme by seeing the works of SEED. It is an automatic process. We don’t have to anything. We include parents and society in the activities of SEED. That way we can motivate students. we also provide orientation to students about SEED (Mini, Kanthippara, 2019).

Mini teacher says that she is including parents in the activities of SEED and that motivate the students to be a part of SEED.

#### ***Different strategies used by the school for the implementation of SEED***

In St. Sebastian’s high school Kanthippara teacher is using one mixed method. She is following the SEED manual and seeking opinions from headmaster and students. She also ensures the participation PTA. Her response is following.

According to the manual of the SEED and as per the instructions of headmaster we implement each programme. We will discuss with students what they want to

do. PTA members of the school take part in the organic farming of the project. They give maximum support to the children. Informations are passed among PTA members and among the members of Farmers club and SEED club were they actively take part in Organic farming. The school has won Commendation certificate two times, Harithavidyalayam second prize in Kattapana Subjilla four times. we gave more importance to reporting. (Mini, Kanthippara, 2019.)

Teacher ensures the participation of students, headmaster, P.T.A members in decision making and that contribute to the effective implementation of SEED activities.

### *Challenges faced in the implementation*

St. Sebastian's high school is facing time management issues because they are including 10th class students in the programmes. There are also other programmes to be conducted along with this. That's why the school is facing time management issues. Teacher says that:

The activities are performed by the high school children and time was the major problem. There are various other projects like Water Conservation in the school which is implemented effectively. Compared to this project the implementation of SEED faces a limitation of time since the children are from High School and it includes the SSLC batch where children cannot afford much time for activities other than studies (Mini, Kanthippara, 2019).

Time management is the issue in St. Sebastian's high school Kanthippara. There are other programmes along with SEED. I observed that school situating in a remote area and lack infrastructural facility.

**Case 3 – S.N.V.H.S.S. NR City*****Strategies took for ensuring the participation of students in the programme***

In NR city they are doing nothing special but they gave orientation about SEED and its activities in each class every year. Teacher says that more students are willing to join and work in SEED. Her response is given below.

We will introduce about SEED in each class. We will explain the activities that we have done in the past year. So that interested students will come and join us.. Normally large number of students will show their interest to join in the programme. Since we are only selecting 40 students we will choose students who are ready to spend more time and shown interest to do more works (Diney, NR City, 2019).

Here teacher gave orientation to all students and choose 40 students showing interest in SEED.

***Different strategies used by the school for the implantation of SEED***

In NR City Diney teacher is following the SEED manual to implement the programmes. The manual is circulated by SEED in all schools. For improving the effectiveness of programmes, teacher combines the activities of SEED with other clubs in the school. She says:

Actually, we got a manual from the SEED stating which are the programmes to be conducted and how each programme should conduct. I'm following that booklet. In this school, there are other clubs like NSS, NNC and scout and guide. We will



collaborate our works with them. So we can do it more effectively. We are doing a lot of activities outside the school like awareness classes, signboard cleaning, helmet awareness campaign. But not in the banner of SEED. All the units including SEED came together and do these activities (Diney, NR City, 2019).

Activities of SEED are combined with other activities in the school and that increases the participation and success of each programme.

### ***Challenges faced in the implementation***

In NR city students are coming from faraway places. So they can't stay after school time and the teacher finds difficulty in time management. She says:

Time loss is an issue. Since we are including high school students in this programme they lose their study time. Students are living in far places so we can't ask them to stay after school time. They all are going home on the school bus. Some activities need strict follow up that's also a problem (Diney, NR City, 2019).

Time management and follow up are the issue faced by Diney teacher.

### **Case - 4 Government high school Kattappana**

#### ***Strategies took for ensuring the participation of students in the programme***

In Government high school Kattappana they used a different strategy to ensure the participation of students. They designed the implementation of programmes with the help of students in SEED. Student opinions were asked before implementing each activity. The response of teacher from Kattappana government high schools is given below.

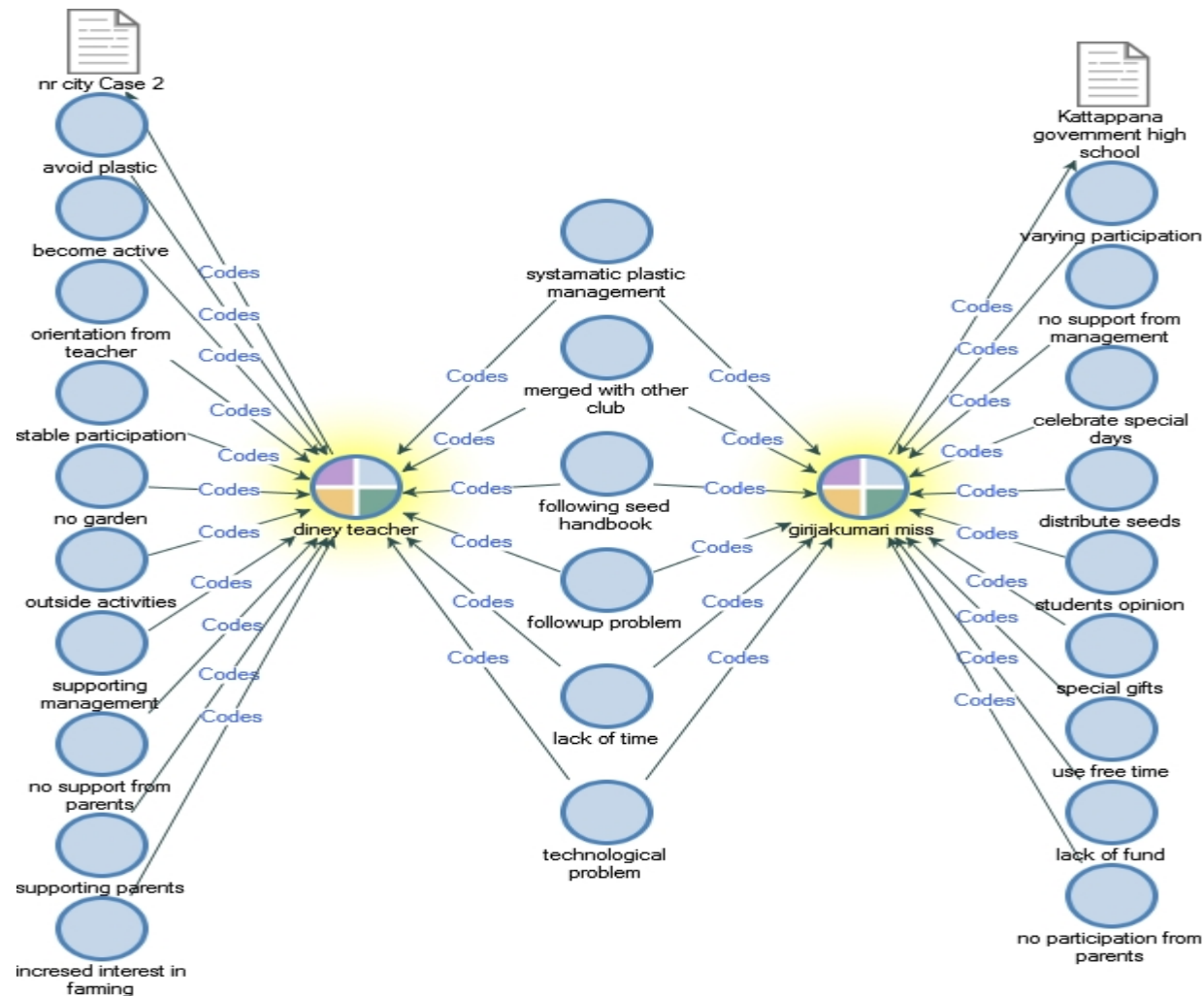
In the eco club we have a committee which includes the president, secretary, treasurer. The meeting will be conducted with the leadership of these children. in that meeting, they will discuss what are the coming programmes and how they want to execute the programme. In this way, I try to ensure maximum participation of the student. We gave more importance to the students' opinion. I won't pressure them to do anything. Sometimes we conduct a competition among them and gave the cash prizes. I took these expenses myself (Girijakumari, Kattappana government high school, 2019).

Girijakumari teacher seek the opinions of students before conducting each programme. Cash prizes are given to the students for motivating them. Girijakumari teacher believes that attention from the teacher is the best motivation to the students.

### ***Challenges faced in the implementation***

Time was the main problem faced by Kattappana government high school in the implementation of the programme. SEED coordinator in the school is not getting any support from other staffs. Girijakumari teacher says:

Time is the main problem. If there is not proper follow up things will not work well. Lack of support from other staffs is another problem. I can't manage this single-handedly. We don't have any funds to implement these activities. sometimes I have to spend more from my salary. Some activities of SEED like season watch requires more technology. We don't have that (Girijakumari, Kattappana government high school).



**Figure:3 common nodes shared by teachers in S.N.V.H.S.S. NR City and Government high school Kattappana**

Figure:3 shown the common nodes shared by teachers in S.N.V.H.S.S NR City and Government high school Kattappana. These two teachers share more nodes compare to other teachers.

Among the four cases, Government UP school is using more implementation strategies. Two schools following the SEED manual. Compared to other schools Government school Pazhayaviduthi school implementing SEED more effectively. Time management is a

problem faced by 3 schools. Government UP school Pazhayaviduthi is the only school which not affected by time management problems. In Government high school Kattappana SEED coordinator is not getting support from other staffs. But in other 3 schools, staffs and the school management is supporting the SEED coordinator in the implementation of the programme.

### **Reason for joining SEED project**

Reason for joining in SEED for each student examined. Students interest is a vital factor in the success of this programme. Students interest will result in the involvement in each activity. The response of student Anakha is given below. She said that she doesn't have much knowledge about the environment. She wanted to learn more about environmental problems and it's remedies.

I didn't have much knowledge about the environment. That's why joined. I wanted to learn more about environmental problems, how to protect the environment and to know more about agriculture (Anakha, NR City, 2019).

Another student named Saniyamol from government UP school Pazhayaviduthi also joined SEED to understand more about the environment. Her response is given below.

I choose SEED because it's an opportunity I got to know more about the environment. All students in our school are members of SEED (Saniyamol, Pazhayaviduthi, 2019).

Environment protection was the core aim of some students to join in SEED. Those students response is given below.

I Joined in SEED Programme because of the interest in the environment. The environment needs protection and it's our duty to protect the environment (Anett, Kattappana government high school, 2019).

Anett from Kattappana Government high school believes that it is her responsibility to protect the environment. Jenson from Kanthippara also wanted to protect the environment. He says:

I always wanted to protect the environment. That time I got an orientation about SEED and I joined SEED (Jenson, Kanthippara, 2019).

There are two students who joined for having fun. One student is from S.N.V.H.S.S N.R city and another from government U.P school Pazhayaviduthi. The response of these students are given below.

Just for fun. Some of my friends are on this programme. That's why I joined. (Ravishankar, NR City, 2019).

Karthik from Government UP school Pazhyaviduthi has the same opinion. He joined because of his friends are members in SEED.

Nothing. My friends are members of SEED so I joined. (Karthik, Pazhayaviduthi, 2019).

In S.N.V.H.S.S N.R city school students joined in SEED because of the orientation they got from the SEED coordinator in that school.

I got an orientation from the SEED coordinator in this school. That's why I joined SEED

There are students joined in this programme from the inspiration got from their seniors in the school. Response Akhila Mathew is given below.

I got inspired by my senior's work in this school and I wanted to maintain a good relationship with nature (Akhila, Kattappana government high school, 2019).

The response of student Vishnupriya from S.N.V.H.S.S N.R city is given below. She joined because she believes that there should be her participation in environmental protection activities.

Because I really wanted to contribute more to the environment protection. I have noticed the works of my seniors and I got an orientation from the SEED coordinator in this school. That's why I joined SEED (Vishnupriya, NR City, 2019).

Students joined in SEED because of different reasons. Among 20 students from four schools, 4 students joined in SEED because of their interest to protect the environment. 2 students joined because of the orientation they got from the SEED coordinator in the school. Learning was the objective of 4 students to join in this programme. Among these four 2 students are from government U.P school Pazhayaviduthi. 2 students joined because of the inspiration they got from their seniors. Another two students joined to have fun because their friends are on this programme.

**Knowledge of students about environment problem**

To understand the knowledge of students about environmental problems questions asked to all 16 students from the four schools. Answers were almost same. All of them mentioned plastic as the main problem.

I asked the question what are the environmental problems faced by the earth. Answer from student Ajay is given below

Plastic is a main problem. It causes cancer (Ajay, Kanthippara, 2019).

For further clarification I asked him is plastic is the only problem environment is facing? He said yes. Responses of other students from Kanthippara school are following. They all said plastic is the problem. But they have different perspectives. Increased plastic use, dumping plastic wastes and plastic waste management are them. Deforestation and use of chemical fertilizers are other environmental problems identified by the students in St. Sebastian's school Kanthippara. Responses of students from Kanthippara are given below.

Cutting trees, increased plastic use (Kishor, Kanthippara, 2019).

Dumping plastics, chemical fertilizer use (Aromal, Kanthippara, 2019).

Plastic waste management, water pollution, air pollution (Joyal, Kanthippara, 2019).

Three out of four students said that plastic is the main problem. Water pollution, deforestation and use chemicals are also the problems Identified by the students.

Responses of students from Kattappana government high school on the same question are given below.

Plastic is the main problem faced by environment. People throw plastic wastes to the road side and it makes problem to the environment (Anett, Kattappana government highschool, 2019).

Since plastic is main environmental problems mentioned by students. Here I attached a word tree of plastic.

Akhila have a clear view on the problem she stated. She said that we can't avoid plastic completely but it becomes a problem when we manage plastic wastes carelessly.

Management of plastic is the main problem. It is true that we can't avoid plastic. Even the mobile covers we use is plastic. It becomes a problem when we manage it carelessly. In our surroundings plastic is dumped by people and now it's like a heap. It's a big problem. (Akhila, Kattappana government highschool, 2019).

Edwin from Government high school says that, along with plastic; deforestation and destroying hills are the other problems. His response is following.

Burning plastic is one of the main problem. It pollutes the environment. Cutting trees are another problem. People these days destroys hills and construct flats. The waste from these flats are dumping into rivers. That is a major problem (Edwin, Kattappana government highschool, 2019 )

Another student have a same opinion about environment problem. Abhijith says:



Plastic, deforestation and waste management. (abhijith, Kattappana government highschool, 2019).

Here in Kattappana government school also students believe that plastic and careless plastic management is the main problem. Students from NR city gave some different answers to the question. They are as follows

Ravishankar described the environmental problem along with examples. He connected each problem he said with another. He says:

Using fertilizer is main problem. In idukki farmers are largely use pesticides and chemical fertilizers. This will affect the quality of soil and other living organisms. This will make imbalance in the environment. Plastic is another problem that affects environment these days (Ravishankar, NR City, 2019).

Vishnupriya from NR city says that deforestation is the main problems and we are destroying ourselves. She said plastic is the second problem needs immediate attention. Her response is following.

Deforestation is the first problem which requires immediate attention. I feel like we are destroying ourselves. It reduces the amount of oxygen in the atmosphere. Then plastic is an another problem. Other things will dissolve in the soil. But plastic will make problems in the soil because it is not biodegradable (Vishnupriya, NR City, 2019).

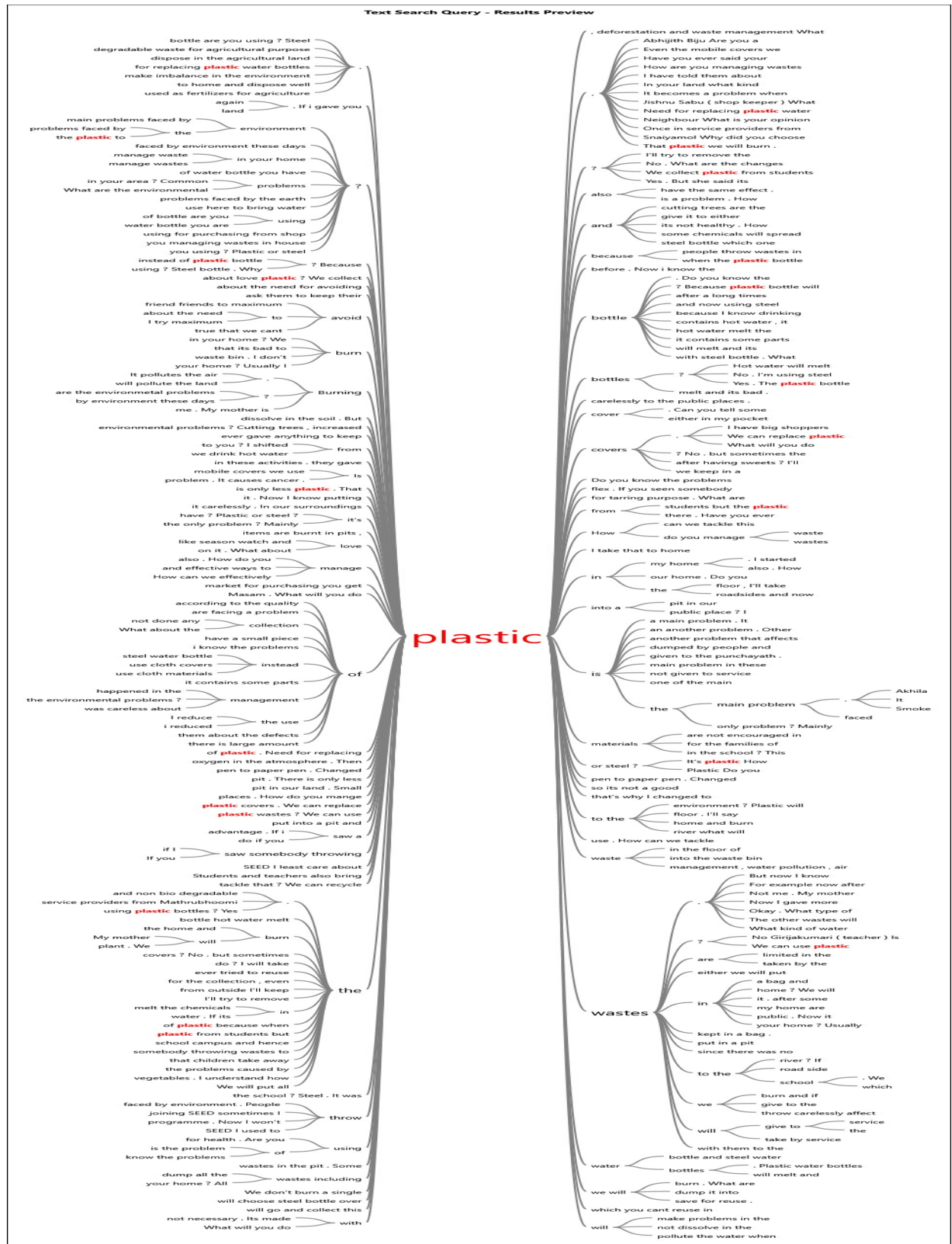
Another student Anakha stated that atmosphere temperature is increasing because of deforestation.

Deforestation is the environmental problem which requires immediate attention. people are cutting trees and destroys agricultural land. the result is increase in the temperature and imbalance in the eco system (Anakha, NR City, 2019).

Compared to other schools students have a different view on the environmental problems. Now let's check the responses of students from government UP school Pazhayaviduthi.

Burning plastic and cutting trees are the environmental problems we are facing now (Athulya, Pazhayaviduthi, 2019).

Figure no: 4 shows the most used word in the plastic during the study. From this figure we can understand that the students identified plastic as the major problem. Another fact is that some students think plastic as the only environmental problem.



Lakshmi said about different environment pollutions. She mentioned about water and air pollutions. She says

Water pollution is one problem. People dump wastes to the water and it gets polluted. Using chemical fertilizers and pesticides is another problem. This will pollute the land. Burning plastic also is a problem (Lakshmi, Pazhayaviduthi, 2019).

Saniyamol also have same view on environmental problem. She is the only one mentioned about the depletion of natural resources.

Pollution is the main problem. Pollution means water pollution and air pollution. Plundering natural resources is another problem. Since resources are limited over using these resources will lead to more problems (Saniyamol, Pazhayaviduthi, 2019).

Another student from Pazhayaviduthi says that:

Deforestation, global warming, air pollution, water pollution, waste management (AnnMariya, Pazhayaviduthi, 2019).

Students have different views on the environmental issues. Most of the students believe that plastic is the main environmental problem. Deforestation is another problem said by most number of students. Among four cases students from S.N.V.H.S.S have better awareness about the environmental problems. Another thing is that some students don't have much awareness about environmental problems other than plastic.

**Waste management among students**

It is very important to understand how children are managing waste. During the study most of the students said that plastic is big problem. So it's very important to know how they are managing their wastes. Responses of students when I ask them how they are managing wastes are following.

Jenson from St. Sebastian's school Kanthippara says that SEED changed his attitude towards plastic waste management. He is now well aware about the need for systematic management. His response is following:

Before joining SEED I was careless about management of plastic wastes. Now I gave more importance to that. Even if I have a small piece of plastic I take that to home and dispose well. Plastic wastes in my home are stored and once in two months it will be given to the punchayath. We don't have waste bins in our school. Everyone manages there waste by their own (Jenson, Kanthippara, 2019).

Another student from Kanthippara also giving their plastic for recycling. Their answers to the question are given below.

Plastic wastes will give to the service providers from punchayath (Kishor, Kanthippara, 2019).

Anett from Kattappana government high school separate the wastes in her house and managing wastes properly. Repose of Anett is following.

We will separate the wastes into bio degradable and non bio degradable. The plastic wastes kept in a bag. In every month service providers from punchayath

came to home and take that. Other food wastes we will dump into the pit in our land (Anett, Kattappana government high school, 2019).

Akhila's response is matching with Anett's response. She also manages wastes properly.

Plastic wastes will give to service providers from gramapunchayath (Akhila, Kattappana government high school, 2019).

Degradable wastes are put into a pit and plastic wastes are taken by the punchayat (Arun, Kattappana government highschool, 2019).

I learned about the problems of chemical fertilizers and reduce the use of that. Now we are mostly use slurry from biogas plant. In my home i reduced the use of plastic in my home. I started to separate the wastes and give it to punchayath (Anakha, N.R City,2019).

Before joining SEED I used to throw plastic wastes in public. Now it changed. I have a insight that it's our surroundings, it's our nature and we need to protect environment. Bio degradable wastes will dispose in the agricultural land. Plastic wastes will give to the service providers from punchayath (Olivia George, N.R City, 2019).

We will put all the plastic wastes in a bag and people from punchayath come once in two months and collect the waste. We don't burn a single plastic in our home (Devika, NR City, 2019).

Plastic wastes will take by service providers from punchayath. We have a biogas plant in our home. So the bio degradable wastes will put in the biogas plant and we will get slurry (Annmariya, Pazhayaviduthi, 2019).

All these students are managing their wastes systematically. They are giving their plastic wastes to the service providers from the punchayth instead of burning the plastic. They says that through SEED they understood the importance of managing the wastes effectively. But there are students who manage wastes carelessly. Their comments are given below.

Food wastes we put into the pit in our land. Small plastic wastes we burn and if there is large amount of plastic we will dump it into the other persons land. There is a big pit in that land (Ravishankar, NR City, 2019).

All wastes including plastic wastes put in a pit and after we burn in (Ajay, Kanthippara, 2019).

Another student from S.N.V.H.S.S N.R city reduced the use of plastic. He is using paper pen instead of plastic pen. But he is burning the plastic in the home. His response is following.

Bio degradable wastes will put in the pit. There is only less plastic. That plastic we will burn (Aromal, Kanthippara, 2019).

Joyal from St. Sebastian's high school Kanthippara also burns plastic. He is using bio degradable wastes to produce biogas.

Bio degradable wastes will use for making biogas. We have a biogas plant. We will burn the plastic (Joyal, Kanthippara, 2019).

Below given figure shows those students managing their wastes systematically. They are giving plastic wastes for recycling. Among 20 students 10 are managing wastes by giving it for recycling. The figure includes all individuals managing wastes including teachers.

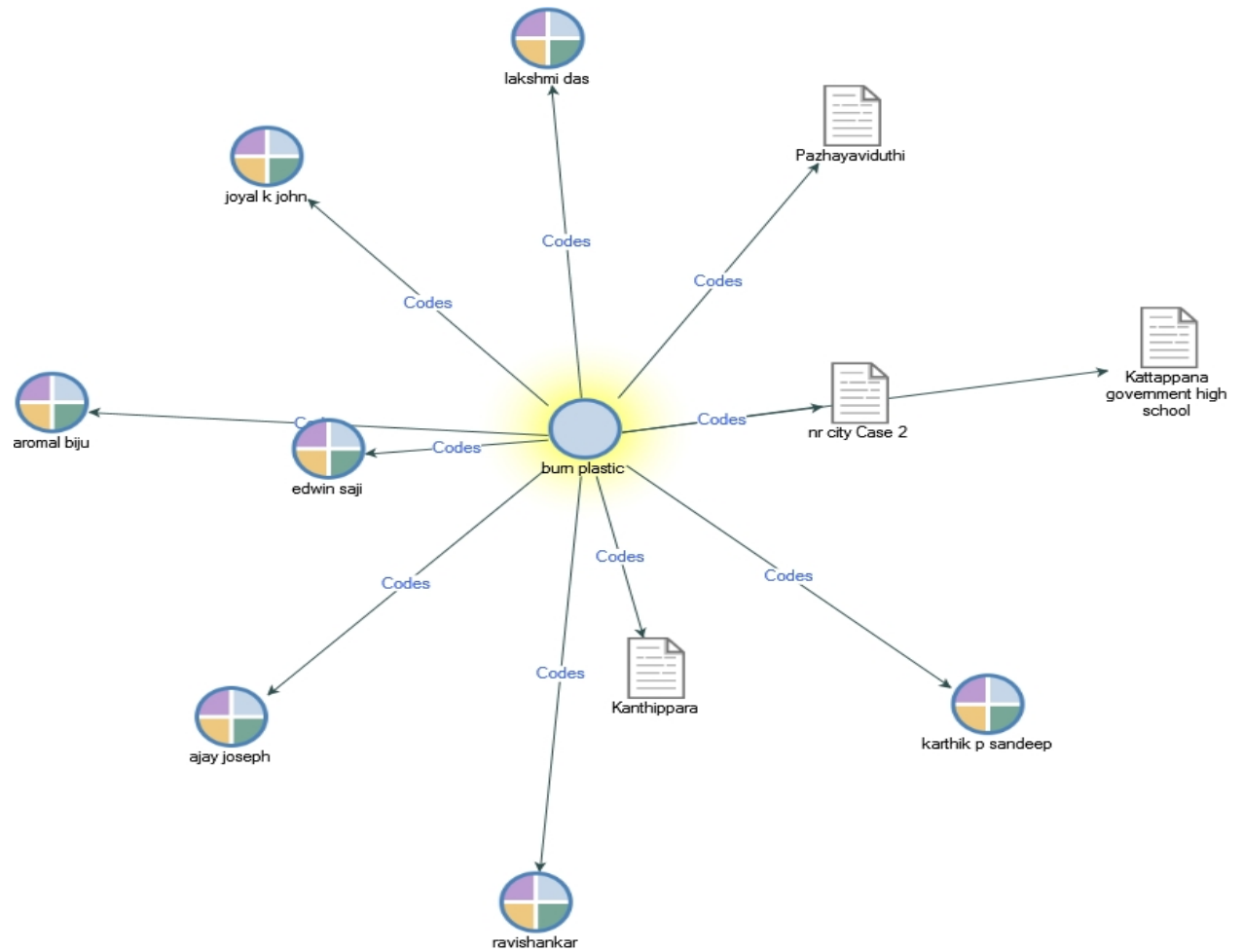




**Figure 5: Individuals managing wastes systematically**

In Kattappana government high school only one student burn plastic even if he knows that burning plastic is bad. One student try to reuse the plastic. But after that plastic is burning.

We will use bio degradable waste for agricultural purpose. Plastic we will save for reuse. After that my mother will burn the plastic (Edwin, Kattappana government high school, 2019).



**Figure 6: students who burn the plastic**

Figure: 6 shows those students burning plastic. Among 20 students 10 students are managing their plastic wastes by burning. Even if they are aware about proper waste management strategies they are not following proper waste management strategies.

To my question if you saw somebody throwing plastic to the river what will you do? He responds that

I will take the plastic to the home and burn the plastic (Edwin, Kattappana government high school, 2019).

In every school there are students who manage wastes systematically. When 10 students interviewed manage wastes systematically, another 10 burn or dump plastic wastes. There are students who changed their attitude towards waste management after joining SEED. It is notable that students who know about the defects of plastic still continue burning plastics.

### **Actions taken by students for environmental protection**

It is important to understand how many students have taken actions in favor of environment. Here I'm including students who planted vegetables, trees and students who took corrective actions against an environmental issue and students who reduced the use of plastic.

Kishor started cultivation of vegetables after getting inspired from the vegetable garden in the school. His response is given below.

After seeing the vegetable garden in this school I started a vegetable garden in my home (Kishor, Kanthippara, 2019).

Aromal contribute more for the environmental protection. He started using paper pen. He avoid plastic bottles and gave awareness to his friends about the defects of plastic. He says:

I shifted from plastic pen to paper pen. Changed plastic bottle and now using steel bottle. If I saw plastic wastes I'll try to remove the plastic from there. I have told

to my friend friends to maximum avoid plastic. I have told them about the defects of plastic. Need for replacing plastic water bottles. Plastic water bottles will melt and its not good for health. I have vegetable garden (Aromal, Kanthippara, 2019).

Joyal also have a vegetable garden in his home. And he is well aware about the defects of chemical fertilizers. His response is following.

I'm maintaining a vegetable garden in my home. Not only in home. I have planted trees in the road side also. And its completely organic farming (Joyal, Kanthippara, 2019).

Here I found one interesting person. He got an award from punchayat for his cultivation.

He said he got inspiration from the activities of SEED. Jenson says:

I have vegetable garden and I got an award from the punchayath for my farming. It's completely organic farming. I educated my younger relatives and friends about the need to avoid plastic (Jenson, Kanthippara, 2019).

I asked Ajay what will he do if somebody put plastic wastes in the water? He responded as follows.

I will tell them it's not good it will pollute the river. Moreover I will be a model for them. I won't throw wastes carelessly (Ajay, Kanthippara, 2019)

All students I have interviewed from St. Sebastian's high school Kanthippara has contributed one way or another to the environmental protection. Among them one student got an award for best farmer from the punchayath. The responses of students from Kattappana Government high school are following.

Now I know the need for avoiding plastics. I have planted vegetables along with my father. You can see that if you come to my home. We got vegetable seeds from the school (Anett, Kattappana government high school, 2019).

I learned lots of good things. We planted vegetables in the school surroundings. And we take care of those plants. We also planted herbs (Akhila, Kattappana government high school, 2019).

To my question if you seen somebody throwing wastes to river, what will you do? She responded that

I'll definitely respond to that person. Once my elder sister did this and I said her don't do that again (Akhila, Kattappana government high school, 2019).

Edwin from Kattappana helped his father in farming and he planted lot of trees. He says

Me with my elder brother and father planted lot of trees in our land.(Edwin, Kattappana government high school, 2019).

Arun Also have same opinion.

Sometime I help my father. Also I have planted vegetables in my home (Arun, Kattappana government high school, 2019).

Four out of five students in Kattappana government high school has done farming in their house. Only one student didn't do anything for environmental protection. Responses of students from S.N.V.H.S.S NR city are as follows.

Main change happened in the management of plastic wastes. For example now after having a sweet the cover will dispose in the waste bin. And i try to educate other students in the class also. Before this I didn't have any knowledge about agriculture. But now i planted vegetables in my home and i got satisfied when it comes the harvesting. I'm using steel. It was plastic before. Now i know the problems of plastic that's why I changed to steel (Vishnupriya, NR city, 2019).

She also gave awareness to other students.

I gave awareness to others several times in my classroom. We have planted some plants outside in the grow bags. So if I saw somebody plucking the leaves or flower I say them don't do that we have the responsibility to protect the plants (Vishnupriya, NR city, 2019).

To my question have you planted anything in your home, Ravishankar replied that:

Yes. I plantes vegetables in my home. Sometimes I help my father in farming (Ravishankar, NR city, 2019).

Anakha is a students from NR City and she took several actions to protect environment. She reduces the use of chemical fertilizers and plastics. She is cultivating enough vegetables in the home itself. Her response is following.

I learned about the problems of chemical fertilizers and reduce the use of that. Now we are mostly use slurry from biogas plant. In my home I reduced the use of plastic in my home. I started to separate the wastes and give it to punchayath. I

have a vegetable garden. Now we have enough vegetables for our need. Only sometimes we need to buy it from outside (Anakha, NR city, 2019).

Olivia from NR City also identified differences in her attitude towards plastic waste management. She started a vegetable garden in her house. She says:

Before joining SEED I used to throw plastic wastes in public. Now it changed. I have an insight that it's our surroundings, it's our nature and we need to protect environment. Now I started cultivation of vegetables and I harvest twice (Olivia, NR city, 2019).

Another student Devika has done lot of things for environmental development. She finds time for educating others about need for environment protection. She is taking care of plastic wastes and managing it properly. Her response is following:

Before joining SEED I least care about plastic wastes. But now I know I have some responsibilities. I try to be responsible and try to make others responsible. Like if I saw somebody throwing plastic to the floor I'll say that's not the right manner. Another thing is if I'm having a sweet from outside I'll keep the plastic cover either in my pocket and dispose that in waste bin. I don't burn plastic in my home also. I have vegetable garden and I got vegetable seeds from school and also we bought it from outside. Now we are self sufficient in the case of vegetables. Rarely we bought vegetables from outside (Devika, NR city, 2019).

Another student Athulya planted vegetables in her home. And she is trying to avoid plastic from her daily life. She says:

Now I have a vegetable garden in my home. That's the major change happened to me. My knowledge about environment increased. Now I know the importance to protect environment. And Im using steel water bottle(Athulya, Pazhayaviduthi, 2019).

Lakshmi have a same opinion. She also have vegetable garden and reduced the use of plastic.

I started to plant more vegetables. I have a garden. Now i can identify more plants than before. Because here in every plants there is name board. I reduce the use of plastic (Lakshmi, Pazhayaviduthi, 2019).

Saniyamol from Pazhayaviduthi reduced plastic and it is in a very practical way. she take big shopper to avoid plastic. She is maintaining two vegetable garden in her house. Her response is following.

Normally I try maximum to avoid plastic covers. I have big shoppers in my home and usually I take that with me when I go for purchasing. Apart from my parent's garden I have a vegetable garden. I planted these with the seeds I got from the school. We get a decent amount of vegetables from the vegetable garden (Saniyamol, Pazhayaviduthi, 2019).

Responses of other students are following.

I have a vegetable garden. its completely organic. I planted trees also (Annmariya, Pazhayaviduthi, 2019).



I'll take the plastic wastes on the floor and put that in the waste bin. I prefer Organic farming. In my vegetable garden also I use cow dung as fertilizer (Karthik, Pazhayaviduthi, 2019).

All students in government school pazhayaviduthi shown interest to farming. Even they are in UP classes they have done lot of activities for environment protection. It is interesting that every students have contributed to the environmental development.

### **Responses of shop keepers**

For crosschecking the data I have collected data from the school, I collected data from the shopkeepers also. Almost all of them provided information matching with the information provided from the school. Data collected from 3 shop keepers and one neighbor.

Vivek a shopkeeper from Pazhayaviduthi says that students and teachers are doing a lot of activities. it is matching with the information provided by the school.

They are very active and do a lot of activities. They leased the land of the public library and cultivated vegetables. It was a success. Lot's of news about them comes in newspapers. Both students and teachers are active (Vivek shopkeeper, Pazhayaviduthi, 2019).

Since there is no shops near the school data was collected from the neighbor named mathayi. His response is given below.

They are very active. Sometimes they clean the school surroundings. Students are keeping discipline all the time. There is vegetable garden in the school. Students are getting seeds of vegetables from the school (Rasheed, Kanthippara, 2019).

But in Kattappana Shopkeeper doesn't know what is exactly happening inside the school.

I don't have much awareness about the things happening inside the school compound. Sometimes students clean the surroundings. Nothing more. (Rajesh, Kattappana government high school, 2019).

The response of shopkeeper from NR city is following. This is a shop which situating near to the school.

I don't know the activities happening inside the school. But sometimes they clean the surroundings of the school. They provide notices regarding some common problems. One day they conducted a campaign. The students stop all the bike travelers who ride bike without helmets and make them aware about the need for wearing helmet. I don't know what's happening inside (Jolly, NR City, 2019).

Shopkeepers responses are matching with the information I got from the schools. Only responses become contradictory in the case of government high school Kattappana.

### **Comparison of cases**

Here I'm comparing each case studied during the research. Figure no: 7 represents nodes shared by two best schools namely St. Sebastian's high school Kanthippara and Government U.P school Pazhyaviduthi. They are sharing 18 common nodes. Even though St. Sebastian's high school has more nodes compared to Government U.P School

Pazhayaviduthi, in case of number of the implementation strategies Government U.P School Pazhayaviduthi, has more number. Both of these schools gave importance to the documentation and reporting.

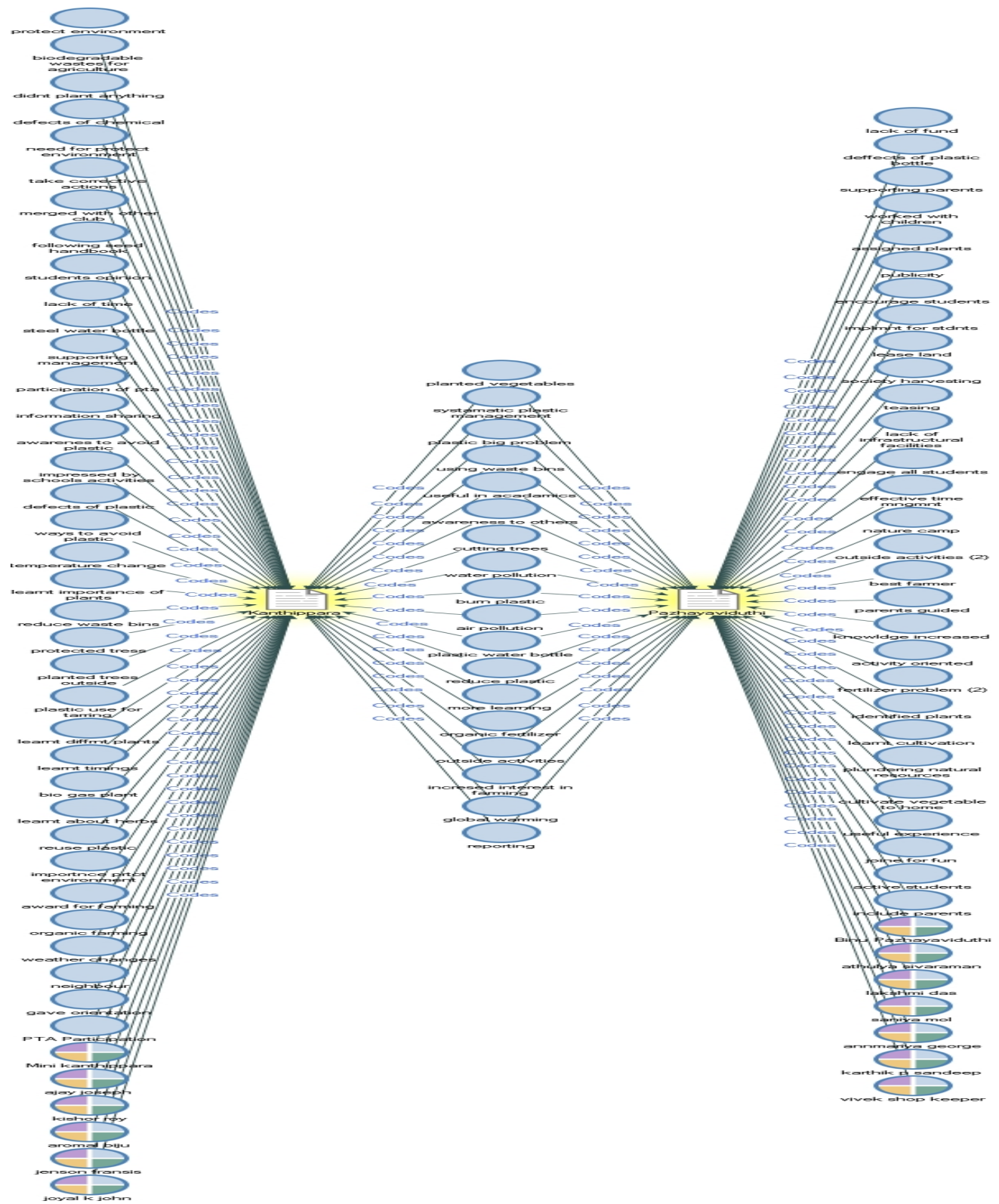
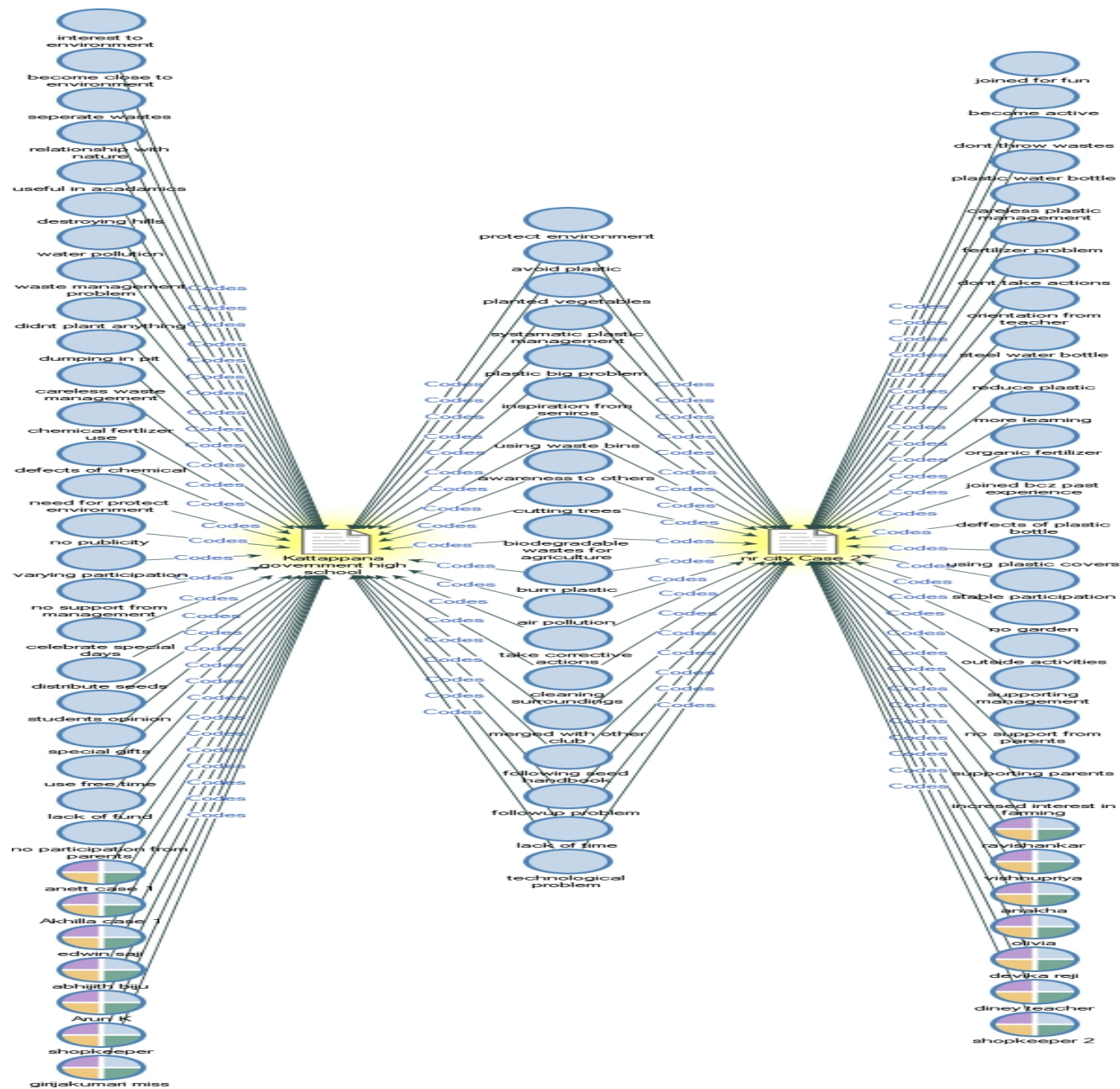


Figure 7: common nodes shared by Government U.P school Pazhayaviduthi and St. Sebastian's high school Kanthippara

When it comes to those schools which are not performing well, they are sharing 19 nodes. The figure no: 8 represents government high school Kattappana and S.N.V.H.S.S NR city.



**Figure 8: Common nodes shared by Government U.P school Kattappana and S.N.V.H.S.S. N.R City**

Both of these schools are facing time management issues. In government high school Kattappana the SEED coordinator is facing lack of support from other staffs. These schools collaborate SEED's activities with other clubs in the school.

Among the four cases schools which implementing SEED found more time for extra activities and when I reached there for data collection I observed that St. Sebastian's high school Kanthippara took students outside for exploring nature. In government U.P school Pazhayaviduthi also teachers took students outside for getting real exposure. Government U.P school Pazhayaviduthi and St. Sebastian's high school Kanthippara have extra activities for implementing the activities of SEED. Government high school Kattappana and S.N.V.H.S.S. N.R city following the SEED manual and haven't got any extra activities. They are not giving much importance to documentation and reporting.

### Observations

**Table: 1**

Observations	Government UP school Pazhayaviduthi	St. Sebastian's high school Kanthippara	Government High school Kattappana	S.N.V.H.S.S NR city
Waste bins	Yes	Yes	Yes	Yes
Plastic wastes in the school	Clean	Very clean	Not clean	Clean
How clean is the schools out side?	Clean	Clean	Not clean	Not clean
Whether students using plastic bottles	Some students	Some students	Some students	Some students
School garden	Excellent	Very good	Good	Not up to mark

Environmental awareness content in notice board	Yes	Yes	Yes	Yes
Name boards in trees	Yes	Yes	No	No



## **Discussion**

The data collected have been analyzed in the analysis chapter. This section will interpret and conclude the results on the basis of analyzed data with researcher's observations. This section also provides the limitation faced by the researcher and the scope for further study. The objective of the study was to understand the implementation SEED in different schools. Case study research design was used for this study and collected data analyzed with the help of NVIVO software.

### **Participants of the study**

Data collected from four schools in Idukki district namely Government high school Kattappana, Government UP school Pazhayaviduthi, St. Sebastian's high school Kanthippara and S.N.V.H.S.S N.R city. Personal interview conducted among 20 students, four teachers, three shopkeepers, and one neighbor. Among that 10 students are from UP standard and 10 students are studying in high school standards. Data collected from both 10 boys and girls. All the 20 students are part of SEED programme in school and 19 students have an experience of one year and one student has 2 years of experience in SEED.

### **Strategies used by teachers to implement programmes of SEED in school**

Government UP school Pazhayaviduthi using more different strategies compared to other schools. It is visible in the school surroundings also. They are doing lots of environmental-related activities both inside and outside the school. One fantastic idea implemented in Pazhayaviduthi school is to assign plants to each student and gave the plant the name of the student which will increase the participation and Interest of

students. Another thing is that all the teachers are working together as a family. They are doing lots of activities to increase the interest of students. To get the real exposure teachers take students to outside the school and show them the conditions of rivers and forest. The school includes parents along with the students in the cultivation of vegetables and that motivates the students. One significant point is that all the students in the school are members of SEED. The teacher said that management giving extra importance to the reporting both in media and to the SEED.

When it comes to St. Sebastian's high school Kanthippara they are also doing lots of inside and outside activities. For implementing the activities of SEED the teacher follow the SEED manual and consider opinions of both headmaster and students. Normally school managements provide wastebaskets in the classrooms and fix some wastebaskets in the school compound. But in this school, they avoid wastebaskets and students avoid maximum wastes. They are managing their wastes on their own. School management includes PTA in the decision making and activities of SEED. To motivate students teachers also ensure the participation of parents in the activities. When I reached the school I observed that some students just came back from Chathurangappara, a hilltop near the school. They were taken by the teachers to that hilltop in the early morning to show the sunrise. It shows that they are taking initiatives to give outside exposure to the students. In the school compound, I didn't find a single paper or plastic waste. the courtyard was very clean and they maintain a vegetable garden in the five cent land. Management gave publicity for the activities of students in the newspaper and they gave importance to the reporting.

In S.N.V.H.S.S NR City teacher gave orientation to the students about SEED and its activities and interested students will join in the programme. Activities of SEED are integrated with other groups in the school in order to increase the effectiveness of the activities. Here in NR city teacher follows the SEED manual to implement the programmes. The school doesn't have a vegetable garden but they are doing other activities such as cleaning the outside of school, awareness to the public and signboard cleaning. They don't have any special strategies other than following the SEED manual in the implementation of SEED's activities.

In Government UP School Kattappana Girijakumari teacher created an eco club under the banner of SEED and celebrated all special days by doing some environment-related activities. she is also following the SEED manual. She has an opinion that students need our recognition other than any rewards. She said she is giving maximum appreciation to the students and that encourage the students. She is not giving much importance to the reporting because she is not expecting any rewards from these activities.

Before drawing a conclusion from this its necessary to evaluate the challenges faced by these teachers in the implementation of this project. In Government UP school pazhayviduthi teachers never said time was a problem. The main problem faced by them is lack of fund and insufficient infrastructural facilities. They have to face humiliation from the teachers of other schools for involving in these activities. They managed to handle this problem by working as a group. The main problem faced by St. Sebastian's school Kanthippara and S.N.V.H.S.S NR City was time. In Kattappana government high school teacher facing lack of support from other staffs in the school and she is also facing time management problems.

Implementation becomes more effective when schools found more time to implement activities of SEED. Schools which performed well in the implementation of SEED are those schools which take extra initiatives to involve students in environmental activities and include parents in the activities. Reporting of activities conducted in the schools have an extra importance.

### **Reason for joining in SEED**

Reason for joining SEED is different in each student. But more students joined because of the interest to the environment. Some students wanted to contribute more to the environment and environmental protection. Few students joined to learn more about the environment. But some students answers were not trustworthy and seem they are building up the answers. It is in the case of very few students in every school. There were only two students joined in SEED because of their friends are members of the programme. One student joined because of the instruction they got from their parents and he is studying in UP standard. But the overall intention of students for joining in SEED was their interest in the environment.

### **Students' knowledge about environmental problems**

Questions were asked to every student to understand what is their knowledge about environmental problems. Most of the students believe that plastic is the main problem. Deforestation is the second problem mentioned by more students. But an interesting fact is that some students don't know about any other environmental problems other than plastic. Students stated the problem of plastics in a different way. Burning plastic, throwing plastic, lack of waste management techniques are they. Use of chemical



plastic wastes or dump it carelessly. It shows that even if the students know the defects of burning plastic, they have not developed the practice of recycling or proper management of plastic waste.

### **Actions took by students for environmental protection**

Most of the students have contributed to the development of the environment one way or another. All students in St. Sebastian's school Kanthippara have done a variety of things which is beneficial for environment development. Few students have reduced the use of plastics, some gave awareness to others and some students planted trees. In Government UP school Pazhayaviduthi all students have a vegetable garden. There are 100 students studying in that school and all of them have a vegetable garden. They also planted trees in the school compound and in their home. Four out of five students in government high school Kattappana has done something in favor of the environment. They also planted vegetables. One student said that she educated her sister about the need for protecting the environment. Compared to other schools students in S.N.V.H.S.S. NR City had a clear idea about what they are doing. They started to avoid plastic. One student said that she reduce the use of chemical fertilizers in the home. Another student planted vegetables and now she is getting enough vegetables to their home. All students from this school have done things which enhance the environmental protection activities.

With regard to the question I asked to understand how each student in SEED has contributed towards the environmental protection activities, I understood that SEED has a good effect on the students and almost all of them did farming and reduced the use of

plastic. Answers seemed to be sincere because for the questions I asked to confirm their answers he replied honestly.

### **Responses of shopkeepers**

Data collected from shopkeepers agree with the things said by the teacher in Government UP School Pazhayaviduthi. The shopkeeper has an idea about the environmental activities conducted by school both inside and outside the school. It shows the effectiveness of the environmental activities of the school. A neighbor interviewed near St. Sebastian's high school Kanthippara also has an idea about the environmental activities of the school. He knows about the vegetable garden in the school. But shopkeeper interviewed from the government high school Kattappana don't know anything about the environmental activities of the school. He said that he doesn't know what happens inside. Actually, this statement is contradictory with the statement of Girijakumari teacher from Kattappana. The shopkeeper from S.N.V.H.S.S NR City have some idea about the outside activities of the school. But he is not aware of the activities inside the school.

### **Major findings**

- Schools which had conduct more environmental activities seems to be more effective in implementation than other schools.
- Parents participation in activities of SEED encourage students
- Most numbers of students believe plastic as the main environment issue

- Support from other staffs in the school has a positive effect on the implementation of SEED
- Documentation and reporting of activities done in the school have contributed to winning prices
- SEED was able to improve the environmental awareness of the students
- Among 20 students from whom data collected. 10 students are managing wastes systematically. Other 10 students are burning or dumping plastic wastes in their home or in public places.
- Not all students practice what they have learned from SEED
- Students planted vegetables and trees from the inspiration they got from SEED
- Students reduced the use of plastics because of the awareness they got from SEED
- SEED contributed to the development of the school

### Summary and comparison among cases

**Table: 2**

Variables	Government UP school Pazhayaviduthi	St. Sebastian's high school Kanthippara	S.N.V.H.S.S NR City	Government High school Kattappana
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Implementation strategies	More outside activities, participation parents and local community, importance to documentation and reporting.	Consider opinions of students and PTA, reporting, followed SEED manual	Followed SEED manual, collaborated with other clubs.	Followed SEED manual, considered students opinion, celebrated environmental related days
Challenges faced	Lack of funds, Humiliation from other schools	Lack of time	Lack of time, transportation facilities	Lack of support from other staffs, lack of fund, lack of time
Awareness of students	High	High	Excellent	High
Environment development actions took by students	Everyone	everyone	Everyone	everyone

**Suggestions for the better implementation of SEED**

- Including parents in the activities of SEED will increase the interest of students in SEED activities.
- Spend more time on environment related activities. Schools spends more time seems to be more effective than other schools.
- Extension activities will help the students to get real exposure about environmental problems and that will reflect in their behavior.
- School management's support is vital in the implementation.
- Choose students who have more time to spend on the programme.
- Publicity given to the activities will encourage students to contribute more.
- Documentation and reporting should be effective.

**Limitations of the study**

This study has some limitations. Time was a problem for both students and for me. Because of lack of time I was not able to collect data from the parents of the students. Students interviewed are from different standards so their answers have those differences. Only limited cases were studied in which only 5 students are interviewed from each case. The study might become more accurate if I had included more variables in this study.

**Implications of the study**

Schools implementing SEED can compare their strategies and with the strategies of schools implementing SEED effectively. They can adopt or modify their strategies and implement SEED effectively. Based on this data SEED can make changes in order to ensure that students are doing what they are learning from SEED. Other environmental education programmes also can use the results of this study to improve their implementation strategies.

**Areas for further study**

Apart from SEED, there are other projects like Nanma and BELLS. A study is needed to understand how these projects contribute to the implementation of the SEED project. Another study is required to generalize the findings of the study. Another study can be conducted to understand how the SEED contributed to the education of students.

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## **Appendices**

### **Appendix: 1: Interview schedule**

#### **Interview schedule for students**

1. What is the reason for joining SEED?
2. How do you manage waste in your home?
3. What kind of water bottle are you using? Whether it is plastic or steel?
4. What are the changes happened to you after joining SEED?
5. Do you have a vegetable garden in your home?
6. What will you do if you saw a plastic waste on the floor?

#### **Interview schedule for teachers**

1. How did you ensure the participation of students in SEED?
2. What are the strategies you used for implementing the SEED activities?
3. Is the school management is supporting?
4. What are the challenges faced during the implementation of SEED?

#### **Interview schedule for shopkeepers**

1. What is your knowledge about the outside activities of school?
2. Have seen students cleaning the surroundings of school?

3. What are the environmental activities of school?

### **Appendix: 2 Observation checklist**

- Waste bins in the school surroundings
- Plastic wastes in the school premises
- Cleanliness in the school premises
- Whether students using plastic bottles or not
- The area allocated for school garden
- Name boards on trees and plants
- Condition of school garden
- Environmental information content in the notice board

# **Understanding the Implementation of Project Student Empowerment for Environmental Development: A Case Study**

A dissertation submitted to

**Marian College Kuttikkanam (Autonomous)**

Affiliated to Mahatma Gandhi University, Kottayam

In partial fulfillment of the requirements for the award of the degree of

**Master of Social Work**

**BY**

**Tom Joy**

**Reg. No. 17psw128**

**Under the Supervision of**

**Br. Joseph C.G.**



**MAKING COMPLETE**

**School of Social Work**

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**March 2019**

## **Certificate**

This is to certify that the dissertation titled “**Understanding the Implementation of Project Student Empowerment for Environmental Development: A Case Study**” is a research work done by Tom Joy in partial fulfillment of the requirements for the award of Degree of Master of Social Work during 2017-2019 at school of social work, Marian College Kuttikkanam (Autonomous), Affiliated to Mahatma Gandhi University, Kottayam. This certificate also acknowledges that this dissertation has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or any other similar title to anyone and that the dissertation represents entirely the independent work on the part of the candidate.

**Br. Joseph C.G.**

Research supervisor

**Dr. Fr. Hubby Mathew**

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### **Certificate**

This is to certify that, Tom Joy has undertaken the dissertation work under the guidance of Br. Joseph C.G., Assistant Professor, School of Social Work, Marian College Kuttikkanam (Autonomous). He is permitted to submit this dissertation to Marian College Kuttikkanam (Autonomous), affiliated to Mahatma Gandhi University.

Kuttikkanam

**Dr. Fr. Roy Abraham P.**

Date:

Principal

### **Declaration by the candidate**

I hereby declare that dissertation in partial fulfillment of requirement for the award of post graduation degree in social work on “**Understanding the Implementation of Project Student Empowerment for Environmental Development: A Case Study**” is my original work and that it has not previously formed the basis for award of any degree, diploma, associateship or any other similar titles.

Place: Kuttikkanam

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