

DESCRIPTIVE REPORT ON WASTE SEGREGATION AND PLASTIC WASTE MANAGEMENT PROJECT (BEYOND THE BIN)

Aligned with Sustainable Development Goals

SDG 12 – Responsible Consumption and Production

SDG 14 – Life Below Water

School: Navrachana Higher Secondary School, Sama

Duration: 12 Weeks

Participants: Students, Teachers and Parents

1. Introduction

At Navrachana Higher Secondary School, Sama, environmental education is viewed as an essential component of developing responsible and aware global citizens. With this vision, the school undertook a comprehensive **12-week Waste Segregation and Plastic Waste Management Project**, aligned with **Sustainable Development Goal 12 – Responsible Consumption and Production** and **Sustainable Development Goal 14 – Life Below Water**.

The project was designed to move beyond theoretical understanding and provide students with meaningful opportunities to observe, investigate, practise and promote responsible waste-management habits in their daily lives. It focused particularly on waste segregation, reduction of plastic consumption, responsible disposal, recycling and understanding the connection between everyday waste and the health of rivers, seas, oceans and marine ecosystems.

The project involved the active participation of students, teachers and parents, thereby creating a collaborative learning environment in which environmental responsibility extended from the classroom to homes and the wider community.

2. Rationale of the Project

Waste generation and excessive dependence on plastic have become important environmental concerns. Students often encounter different forms of waste in their homes, classrooms and surroundings, but may not always understand the importance of segregating waste at its source or the long-term consequences of improper disposal.

Small and consistent actions such as separating biodegradable and recyclable waste, avoiding unnecessary single-use plastic, reusing materials and making environmentally responsible choices can collectively contribute towards a cleaner and more sustainable environment.

Students explored how waste generated in homes and schools can eventually enter drainage systems, rivers and other water bodies and ultimately affect marine ecosystems and aquatic life.

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3. Objectives of the Project

The major objective of the project was to create awareness among students about responsible waste management and the harmful impact of plastic waste on the environment while connecting their learning with SDG 12 and SDG 14.

The project aimed to:

1. Develop the habit of segregating waste at source into appropriate categories.
2. Encourage students to follow the principles of **Reduce, Reuse and Recycle**.
3. Encourage responsible and sustainable choices in everyday life.
4. Create awareness about the harmful effects of single-use plastic on land, water bodies, marine animals and ecosystems.
5. Help students understand the journey of waste from homes and schools to rivers, seas and oceans.
6. Introduce students to sustainable and eco-friendly alternatives to plastic.
7. Provide opportunities for students to participate in surveys, audits, campaigns and practical activities.
8. Encourage students to take environmental messages from school to their homes and communities.
9. Develop environmental responsibility, stewardship and active citizenship.
10. Help students recognise that small, consistent individual actions can contribute to global sustainability.

4. Implementation of the 12-Week Project

The project was implemented over a period of twelve weeks through a progressive combination of awareness-building, practical learning, investigation, creativity, reflection and community participation.

Session I – Awareness and Understanding

The initial phase focused on introducing students to the concepts of waste management, waste segregation and plastic pollution. Students learnt about different categories of waste and understood why waste should be separated at its source.

Special emphasis was placed on identifying:

- Biodegradable waste
- Recyclable waste
- Non-recyclable waste

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Session II – Waste Segregation in Practice

Students were given opportunities to put their learning into practice. **Colour-coded waste bins** were established in classrooms and common areas to facilitate proper segregation.

Students learnt to identify the appropriate bin for different types of waste and gradually developed the habit of disposing of waste responsibly.

Session III – Waste Surveys and Audits

Students participated in surveys and audits to understand the quantity and types of plastic waste being generated in school and at home.

Rather than simply being told that plastic waste is a problem, students were encouraged to examine their own consumption patterns and identify areas where plastic use could be reduced.

The audit process also helped students recognise the importance of responsible consumption and encouraged them to reflect on their own choices.

Session IV – Creativity and Awareness Campaigns

Creativity was incorporated into the project through the preparation of:

- Posters
- Slogans
- Models
- Awareness materials
- Campaigns promoting the reduction of single-use plastics

Through these activities, students communicated environmental messages in ways that were engaging and meaningful. They were encouraged not only to learn about environmental problems but also to become communicators and advocates for positive change.

Session V – Understanding Plastic Pollution and Life Below Water

Students participated in discussions, presentations and creative activities focusing on the impact of plastic pollution on rivers, oceans and marine life. They explored how improperly managed waste can move from land into water bodies and create environmental problems.

This helped students understand that responsible waste disposal is also an important part of protecting aquatic ecosystems and marine life.

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Session VI – Sustainable Alternatives

Students explored alternatives to plastic and discussed ways in which environmentally friendly choices could be incorporated into everyday life.

The project encouraged students to reconsider their dependence on single-use plastic and to explore practical alternatives wherever possible. This strengthened their understanding of sustainable consumption and responsible production.

Session VII – School-to-Home and Community Outreach

The project extended beyond the school environment. Students were encouraged to share their learning with their families and communities.

In this way, students became **changemakers** who could influence positive environmental practices around them. Discussions about waste segregation, plastic reduction and sustainable choices were carried from the classroom into homes and the wider community.

The involvement of parents further strengthened the project's ability to encourage consistent environmental practices beyond school.

5. Student Engagement and Learning

The project adopted a hands-on and collaborative approach. Students were not passive recipients of information; they actively participated in activities, discussions, surveys, audits, presentations and creative campaigns.

This experiential approach helped students:

- Observe environmental issues in their immediate surroundings.
- Identify different categories of waste.
- Practise waste segregation.
- Analyse their own plastic consumption.
- Understand the consequences of improper waste disposal.
- Develop communication and teamwork skills.
- Express environmental concerns creatively.
- Suggest sustainable alternatives.
- Share environmental messages with their families and communities.

Regular reflection activities helped students connect their experiences with responsible consumption, recycling and environmental stewardship.

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6. Role of Teachers

Teachers played an important role in facilitating the project. They guided students during discussions, practical activities, surveys and awareness campaigns and encouraged them to reflect on their learning.

The project also provided teachers with opportunities to integrate environmental education into classroom learning and connect academic concepts with real-life situations.

Through this process, teachers acted not only as educators but also as facilitators and role models for responsible environmental behaviour.

7. Role of Parents

Parents were encouraged to support the project by reinforcing responsible waste-management practices at home.

The involvement of families helped students understand that environmental responsibility should not end when the school day is over. By taking the message of waste segregation and plastic reduction home, students were able to encourage sustainable habits within their families.

This school-home connection strengthened the overall impact of the initiative.

8. Alignment with Sustainable Development Goals

SDG 12 – Responsible Consumption and Production

The project directly supported SDG 12 by encouraging students to examine their consumption habits and adopt the principles of **Reduce, Reuse and Recycle**.

Waste segregation, plastic audits, reduction of single-use plastics and exploration of sustainable alternatives helped students understand the importance of using resources responsibly and reducing unnecessary waste.

SDG 14 – Life Below Water

The project supported SDG 14 by creating awareness about the impact of plastic pollution on rivers, seas, oceans and marine ecosystems.

Students learnt that waste generated on land can eventually reach water bodies and affect aquatic environments. This helped them understand that responsible waste management is closely connected with the protection of life below water.

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9. Outcomes of the Project

The 12-week project successfully fostered greater environmental consciousness among students. It helped students move from awareness to action by giving them opportunities to practise responsible waste management in their everyday surroundings.

The major outcomes included:

- Increased awareness about different categories of waste.
- Development of waste-segregation habits.
- Greater understanding of the importance of reducing plastic consumption.
- Increased awareness about the environmental impact of single-use plastics.
- Better understanding of the connection between land-based waste and water pollution.
- Development of teamwork, communication and creative skills.
- Greater appreciation for recycling and sustainable alternatives.
- Increased participation in environmental awareness activities.
- Encouragement for students to influence sustainable practices at home and in their communities.
- Development of a stronger sense of environmental stewardship and active citizenship.

The project reinforced the understanding that meaningful environmental change can begin with simple actions taken consistently by individuals.

10. Reflection and Learning

One of the most significant aspects of the project was the opportunity for students to reflect on their own behaviour.

Through surveys, audits and discussions, students were encouraged to ask themselves questions such as:

- How much waste do I generate?
- How much plastic do I use in my daily life?
- Can I avoid unnecessary single-use plastic?
- Am I segregating waste correctly?
- Can an item be reused instead of discarded?
- What happens to waste after it leaves my home or school?
- How can my individual choices contribute to protecting water bodies and marine life?

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Such reflection encouraged students to recognise that environmental protection is not an abstract global issue but something closely connected to their everyday decisions.

11. Conclusion

The **Waste Segregation and Plastic Waste Management Project** was a meaningful 12-week initiative that connected environmental education with practical action.

By engaging students, teachers and parents, the project created a collaborative platform for learning about waste segregation, responsible consumption, plastic reduction and the protection of aquatic ecosystems.

The project successfully connected **SDG 12 – Responsible Consumption and Production** with **SDG 14 – Life Below Water**, demonstrating how responsible choices made at the individual and school level can contribute to wider environmental sustainability.

Most importantly, the project encouraged students to see themselves as **responsible citizens and changemakers**. Through hands-on experiences, creative expression, reflection and community outreach, students developed a deeper understanding of their responsibility towards the environment.

The 12-week journey demonstrated that meaningful environmental education is most effective when students are given opportunities to **learn, practise, reflect and inspire others**. The initiative therefore represents the school's commitment to nurturing environmentally responsible citizens who are prepared to contribute positively to society and support the achievement of the Sustainable Development Goals.