DIGO BIKAS INSTITUTE

GREEN CITY VOLUNTEER BIRATNAGAR-2023

ACTIONABLE IDEAS PROTOTYPES 2024

IDEAS FROM YOUTHS AND CHILDREN

FOR A GREEN, CLEAN AND LIVABLE BIRATNAGAR

Published by
Digo Bikas Institute, June 2025

Writers:
Mandip Shah and Green City Volunteers (GCV), Biratnagar 2023/24
Reviewers:
Abhishek Shrestha and Prayash Adhikari
Design:
Omkar Subedi

This document is a collection of all actionable idea prototypes presented at the Actionable Ideas Exhibition on 7th June 2024 by youths and children from 14 different schools and 1 community children group across Biratnagar. Organizers acknowledged the ideators and they further discussed the practicability of those prototypes in this document.

ACRONYMS

1. 3R - Reduce, Reuse and Recycle
2. CBO - Community Based Organization
3. COVID 19 - Coronavirus Disease of 2019
4. CSO - Civil Society Organization
5. DBI - Digo Bikas Institute
6. EFLGP - Environment Friendly Local Governance Program
7. GCV - Green City Volunteer
8. NDC - Nationally Determined Contribution
9. PPE - Personal Protective Equipment

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Steam Pipe
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ACKNOWLEDGEMENT

We would like to express our heartfelt gratitude to all the students who participated and Green City Volunteers who made the "Actionable Ideas Exhibition on Green, Clean, and Livable Biratnagar for All" a great success.

Special thanks to Biratnagar Metropolitan City for their continuous support and collaboration, and to the students of the 14 participating schools who contributed their innovative ideas to address the environmental challenges of Biratnagar. We are grateful to the teachers for their guidance and encouragement in nurturing the creativity on environmental sustainability and critical thinking of their students.

We would also like to extend our sincere appreciation to the evaluators and contributors who provided invaluable insights, feedback, and support throughout the process Mr. Punam Dahal: Waste and Cleaniness Brach, Biratnagar Metropolitan City, Mr. Basu Basnet; Chairperson of Environment Committee, Biratnagar Metropolitan City, Mrs. Sudikshya Karki, Environment Expert, Biratnagar Metropolitan City and Kriti Shrestha Upadhya, Architect and Environmentalist. Thier expertise and encouragement helped in shaping the ideas that are showcased in this booklet.

Again, a big thank you and appreciation to all the students who participated in the exhibition. Your hard work, passion, and commitment to finding solutions for a greener, cleaner, and livable Biratnagar for all is truly inspiring and not a distant future.

This booklet celebrates your creativity and vision, and we hope it serves as a source of motivation for others to act towards a more just, equitable and sustainable future.

INTRODUCTION

Digo Bikas Institute (DBI) is a research and advocacy organization focused on grassroot intervention and movement building approach to address the crisis generated from profit-driven, unequal and exploitative economic and social structures. DBI promotes real solutions and alternatives based on the ideas and experience from communities at the forefront. DBI works on climate justice, energy democracy, agroecology, rethinking development, urban justice through innovation in land use redesign. The organization has been actively engaged in various awareness, advocacy, campaigning, and capacity-building activities in Biratnagar in collaboration with Biratnagar Metropolitan, Ministry of Forest Environment and Soil Conservation, youth groups, CSO, CBOs, Farmers groups, and other stakeholders.

DBI's activities include notable events like the coordinated bike action on November 6, 2022, held in solidarity with movements across Asia in over 50 cities across 7 South Asian countries. On October 1, 2022, DBI organized a Renewable Rally to promote electric vehicles and renewable energy sources. On World Food Day 2022, 16th October a Local Indigenous Food and Agriculture Exhibition was followed by a panel discussion. On 2023 , World Environment month events included a cycle rally, an open art competition, plantation, dialogue on solid waste management, and exhibitions on actionable ideas for a green, clean and livable Biratnagar. DBI also ran the Environment Greenery Protection Program, the Environment Friendly Local Governance Program (EFLGP), and conducted environmental pollution inspection and monitoring in 2024.

In response to the challenges posed by the COVID-19 lockdown, DBI supported 102 electric city rickshaw drivers in Biratnagar Metropolitan City, helping them during a difficult period. During the pandemic, DBI also coordinated the delivery of COVID-19 PPE kits and facemasks to the

municipality and Koshi Hospital. Additionally, DBI works closely with women's cooperatives in Morang District to supporting their livelihoods and make the community climate resilient.

As part of its flagship program, DBI coordinates the Green City Volunteer initiative with Biratnagar Metropolitan City, involving youth and children from different wards of Biratnagar. This program aligns with the National Climate Change Policy 2076 and Nepal's second Nationally Determined Contribution (NDC). It engages and empowers young people to address issues such as climate change, environmental sustainability, solid waste management, air pollution, disaster risk reduction and the creation of green public spaces. The program aims to build a strong youth network while developing leadership skills, raising awareness, and promoting the motto "Green, Clean, and Livable Biratnagar for All".

On the occasion of Environment Month 2024, DBI organized the "Actionable Ideas Exhibition on Green, Clean, and Livable Biratnagar for All" in collaboration with Biratnagar Metropolitan City (BMC) and different stakeholders. This initiative encouraged students from 14 schools to create innovative prototypes addressing key environmental challenges themes in Biratnagar, i.e. climate change, solid waste management, green, clean and livable public spaces, and air pollution. By engaging in real-world problem-solving, students developed critical thinking, collaboration, and research skills that was applauded by the local government, teachers, parents and exhibition visitors. The students presented their prototypes and solutions to the public, promoting their ideas to address local environmental issues. The event attracted stakeholders from Biratnagar, who were able to review the student-led prototypes and consider their potential in solving the city's environmental problems. Thus, this actionable idea inventory has documented all the prototypes presented by different students explaining the idea's basis and its practicability/applicability.

OBJECTIVE

The purpose of this booklet is to archive the innovative prototypes developed by students during the "Actionable Ideas Exhibition on Green, Clean, and Livable Biratnagar for All" organized by Digo Bikas Institute (DBI) in collaboration with Biratnagar Metropolitan City (BMC) and other stakeholders on the occasion of Environment Month 2024.

The booklet aims to archive these prototypes, inspire others, and showcase the creativity and problem-solving abilities of the youth in addressing environmental challenges in Biratnagar. This collection of prototypes highlights the diversity of themes explored by the students as climate change, solid waste management, green clean and livable public spaces, and air pollution. These projects have the potential to create a significant impact on the community promoting practical solutions to the city's environmental and climate issues and awareness among the general public.

The booklet serves as an appreciation to the students' dedication to promoting sustainability and their innovative approach to real-world problem-solving.

PROTOTYPES THEMES & PARTICIPATING SCHOOLS OF BIRATNAGAR

THEME 1: GREEN AND LIVABLE PUBLIC SPACE

1. Birat Career Academy School, Nandamarg- 14, Biratnagar
2. Shree Goghraha Secondary School, Bargachi Chowk- 11, Biratnagar
3. Shree Mahendra Secondary School, Devkota Chowk- 08, Biratnagar
4. Shree Saraswati Secondary School, Buddha Marg- 09, Biratnagar
5. Shree Sarbanjanik Secondary School, Baijnathpur- 19, Biratnagar

THEME 2: SOLID WASTE MANAGEMENT

1. Devkota Public Secondary English Boarding School, Koshi Project- 12, Biratnagar
2. Purbanchal Vidhya Sadan Boarding School, Veterinary Road- 13, Biratnagar
3. Sarita Indra Bal Sanjal, Sumnima Tole-11, Arunodaya Marga, Biratnagar
4. Shree Adarsha Balika Secondary School, Gayeli Tole- 07, Biratnagar
5. Shree Birat Bahira Secondary School, Kochakhal- 06, Biratnagar
6. Shree Radha Krishna Bhupalman Singh Karki Secondary School, Panitanki- 01, Biratnagar
7. Shree Satyanarayan Secondary School, Dharan Road- 07, Biratnagar

THEME 3: CLIMATE CHANGE

1. Shree Jana Bikash Secondary School, Rani Biratnagar- 15, Biratnagar

THEME 4: AIR POLLUTION

1. Shree Adarsha Secondary School, Adarsha Road- 07, Biratnagar
2. Shree Gayatri Sanskrit Secondary School, Saraswati Mandir- 07, Biratnagar

In total, 14 schools and 1 community children group participated in the "Actionable Ideas Exhibition on Clean, Green and Livable Biratnagar For All" in their respective themes and are listed in alphabetical order.

GREEN AND LIVABLE PUBLIC SPACE PROTOTYPES

Birat Career Academy School
biratcareeracademy2063@gmail.com
+977 9807326300

Theme: Green and Livable Public Space

School: Birat Career Academy School, Nandamarg- 14, Biratnagar

Participants (Name-Grade): Sijal Ghimire-7, Purnima Mahato-7, Aachal Yadav-8, Yubaraj Shahi Thakur-6 and Kainat Siech-6

Problem addressed:

The lack of common spaces, especially in urban areas like Biratnagar, where modernization and busy lifestyles have resulted in limited safe and eco-friendly public areas, particularly for children. The need for peaceful and accessible public spaces to foster community interaction and address health.

Innovative solution:

A Green and Livable Public Space prototype that integrates nature, clean energy, and community needs. The model focuses on creating safe, walkable spaces for the community with a special emphasis on children's safety, the use of solar panels for lighting, beautification, and the integration of greenery to improve the urban environment.

Tools and procedures:

Solar panels for clean energy, green spaces, well-planned walkable areas for accessibility, and community involvement for maintenance. The process involves designing spaces that balance nature, community interaction, and eco-friendly practices while addressing health and a peaceful environment.

Outputs and outcomes:

A sustainable, eco-friendly, and accessible public space that promotes community interaction, children's safety, and environmental health. The project provides a cleaner and greener environment, encouraging the use of clean energy and community responsibility in maintaining public spaces.

Scalability:

The model can be replicated in other urban areas, with its success depending on community participation and collaboration with local authorities. It offers a practical solution to urbanization challenges by creating spaces that are both environmentally friendly and conducive to community well-being.

Goghraha Secondary School
gograha.schoolbrt@gmail.com
+977 021-590585

Theme: Green and Livable Public Space

School: Shree Goghraha Secondary School, Bargachi Chowk- 11, Biratnagar

Participants (Name-Grade): Manoj Kamat-9, Madhav Yadav-7, Krishna Mehta-9, Menu Chhetri-9 and Diweshwori Mandal-9

Problem addressed:

The loss of green spaces and the challenges of urbanization, where modern appliances and indoor lifestyles impact the preservation of communal outdoor areas. The need for livable, green public spaces that promote community interaction and environmental stewardship.

Innovative solution:

A community-driven prototype that transforms public spaces into clean, green, and sustainable environments, encouraging the use of indigenous plants, promoting cleanliness, and fostering biodiversity. The model focuses on creating communal areas for social interaction.

Tools and procedures:

Indigenous plants for landscaping, waste management systems, community involvement for maintenance, and space development for social gatherings. The process includes promoting community responsibility, cleanliness, and biodiversity conservation while providing a peaceful and engaging public space for all ages.

Outputs and outcomes:

Cleaner and greener public spaces, enhanced community engagement, and a greater sense of environmental responsibility. The project encourages social cohesion, promotes biodiversity, and raises awareness of the importance of maintaining green areas in urban environments.

Scalability:

The model is scalable to other urban areas by fostering community involvement and collaboration with local authorities. It can be replicated in various neighborhoods to create shared, green public spaces that encourage community ownership and environmental stewardship.

Shree Mahendra Secondary School
shreemahendramavi4@gmail.com
+977 021-442758

Theme: Green and Public Space

School Name: Shree Mahendra Secondary School, Devkota Chowk- 08, Biratnagar

Participants (Name-Grade): Rabindra Mukhiya-8, Dipesh Rajbansi-10, Prabesh Mandal-10, Swati Jha-10, Tejashwi Yadav-10.

Problem Addressed:

Improper solid waste collection and management in Biratnagar Metropolitan City.

Innovative solution:

Reducing plastic usage, encouraging the use of dustbins, recycling materials, and segregating waste.

Tools and procedures:

Sufficient dustbins and designated waste collection areas. Awareness campaigns on waste management and segregation.

Outputs and Outcomes:

Proper waste segregation and collection in the city. Reduced pollution and improved environmental health.

Scalability:

Different levels of government and other concerned actors could collaborate. The process can begin with awareness campaigns, followed by practical interventions.

Shree Saraswati Secondary School
saraswatibiratnagar@gmail.com
+977 021-522314

Theme: Green and Livable Public Space

School: Shree Saraswati Secondary School, Buddha Marg- 09, Biratnagar

Participants (Name-Grade): Laxmi Kumari Singh - 9, Neha Dev - 9, Subhash Chandra Yadav - 9, Siddhartha Gautam Kamat - 9 and Pinky Shah - 9

Problem addressed:

Lack of green and public spaces, health concerns related to urbanization, and the need for clean energy solutions in the face of the climate crisis. The prototype aims to create livable spaces that prioritize health inclusivity and environmental sustainability.

Innovative solution:

A model that combines nature, clean energy, and vacant community spaces to create shared, walkable, green areas. The prototype includes solar panels for lighting, greenery to improve the environment, and walkable spaces for community engagement, prioritizing both health and environmental benefits.

Tools and procedures:

Solar panels for energy, green spaces for beautification, walkable pathways for accessibility, and community involvement for upkeep. The process involves integrating clean energy solutions with environmental design, enhancing both the aesthetic appeal and functionality of public spaces.

Outputs and outcomes:

A cleaner, healthier, and more connected community with the creation of public green spaces that encourage physical activity, social interaction, and environmental responsibility. The prototype also promotes sustainability through clean energy use and improved public health.

Scalability:

The model is scalable to other urban areas by adapting the concept of shared, green public spaces and integrating clean energy solutions. The sustainability of the prototype depends on community involvement and local government support for its long-term success.

Shree Sarbanjanik Secondary School
sarbajanikmavinij@gmail.com
+977 9800955370

Theme: Green and Livable Public Space

School: Shree Sarbanjanik Secondary School, Baijnathpur- 19, Biratnagar

Participants (Name-Grade): Pakhi Giri-9, Sushil Shah-9, Sujita rajbanshi-10, Dipesh Reshiver-9 and Manisha Sardar-10

Problem addressed:

Lack of public spaces, areas accessible to children, unmanaged waste, and the negative effects of urbanization on the environment. The goal is to create an eco-friendly, manageable public space that balances the needs of the community, habitat, and environment.

Innovative solution:

A public space prototype that integrates cleanliness, walkable streets, beautification, preservation of habitats, and waste management. The model emphasizes the creation of a livable, clean, and environmentally sustainable community through waste management and shared responsibility.

Tools and procedures:

Waste management systems, eco-friendly infrastructure, walkable streets, and preservation efforts for local habitats. The process includes community awareness campaigns, the establishment of a waste management plant, and encouraging the reduction of waste in daily life.

Outputs and outcomes:

A cleaner and more livable community with a strong focus on sustainability and shared responsibility. The prototype will promote cleaner streets, better waste management, and the preservation of local ecosystems. It aims to foster a zero-waste mindset and a collaborative approach to environmental sustainability.

Scalability:

The model can be replicated in other communities by adapting the Environment Friendly Local Governance Model. Its success depends on the active involvement of community members and local governance to ensure continuous participation and monitoring.

SOLID WASTE MANAGEMENT PROTOTYPES

Devkota Public Secondary English Boarding School
devkotaschool12@gmail.com
+977 021-474712,

Theme: Solid Waste Management

School: Devkota Public Secondary English Boarding School, Koshi Project- 12, Biratnagar

Participants (Name-Grade): Ritesh Pariyar-8, Pranish Chaudhary-7, Bhoomi Arya Karna-9, Sujata Rai-7, Aashika Kamat-9

Problem addressed:

Biratnagar, known as an industrial and educational hub, with problems of unmanaged solid waste on streets and in areas surrounding offices, industries, and institutions. Improper waste disposal and the lack of zero-waste practices in agriculture further worsen environmental pollution and degrade urban livability.

Innovative solution:

The students designed a prototype and process showcasing an integrated waste management system that spans from individual households to larger industrial organizations. Their idea promotes waste separation, efficient collection using vehicles, organized deposition, and effective waste treatment in landfill areas.

Tools and procedures:

The prototype involves separate dustbins for waste segregation, waste collection vehicles, and promotes landfill management. The process starts from waste segregation at entities, followed by systematic collection and scientific waste disposal in landfills. Alongside, the students advocate for awareness through slogans like "Be a recycler, be a saver" and "Recycle your trash, don't trash your earth," encouraging people to reduce waste generation and protect natural resources.

Outputs and outcomes:

Cleaner streets and public spaces in Biratnagar, improved waste disposal practices from individual and organizational levels, and reduced environmental pollution.

Scalability:

The model can be replicated in other industrial and educational areas facing similar waste management issues. By engaging households, institutions, and industries, and combining awareness campaigns with practical waste management solutions, this prototype can create cleaner and greener cities across Nepal.

Purbanchal Vidhya Sadan Boarding School
purbanchalschool@gmail.com
+977 021-474748

Theme: Solid Waste Management

School: Purbanchal Vidhya Sadan Boarding School, Veterinary Road-13, Biratnagar
Participants (Name-Grade): Piyush Mishra-9, Ojashbi Shah-7, Priyanshi Subedi-6, Prakash Yadav-9, Aaditya Shah-7 and Sujal Magar-8

Problem addressed:
Critical solid waste management issues in Biratnagar, including the mismanagement of landfills, non-biodegradable waste disposal, and diseases linked to poor waste handling. Emphasis on protecting Biratnagar as a key tourist destination through proper waste management.

Innovative solution:
A multi-faceted solution incorporating clean energy (solar panels and traffic lights), plastic reuse models, and compost manure production. It focuses on recycling and remodeling plastic waste and utilizing waste to create compost for agricultural fields, promoting a self-sufficient, environmentally sustainable Biratnagar.

Tools and procedures:
Solar panels, traffic lights for mobility monitoring, plastic reuse management systems, composting facilities, and public awareness campaigns. The process involves recycling plastic waste, creating compost, and integrating clean energy solutions to enhance waste management.

Outputs and outcomes:
Awareness around plastic waste management, increased community participation in recycling and composting, and the promotion of a cleaner, greener Biratnagar. The implementation of sustainable practices that benefit both the environment and the local economy.

Scalability:
The prototype can be replicated in other regions with similar waste management issues. Its scalability depends on local stakeholder involvement, public support, and the establishment of necessary facilities for waste processing, plastic recycling, and compost production.

Sarita Indra Bal Sanjal
madhukumarirai453@hotmail.com
+977 9804301441

Theme: Solid Waste Management

Group: Sarita Indra Bal Sanjal, Ward 11, Biratnagar Metropolitan

Participants (Name-Grade): Gaurav Sahani-6, Baishnavi Sahani-9, Ankita Chaudhary-4, Akisha Limbu-6 and Prapti Rai-4

Problem addressed:

The issue of unmanaged solid waste, specifically waste paper and its environmental impact. The prototype addresses the practical engagement of children and youths in managing and transforming household waste into reusable materials.

Innovative solution:

The children led initiatives approach to waste management transforming discarded paper in functional, eco-friendly indoor products such as cups, mugs, trays and similar objects using a handmade recycling process, promoting reuse and environmental responsibility from a young age.

Tools and procedures:

The process involved collecting waste paper, usable material, dissolving the paper, molding it into functional items using eco-friendly adhesive. The actively engagement in each step, gaining hands on experience in recycling & applying the principles of the 3Rs.

Outputs and outcomes:

The outcomes included a handmade sustainable indoor product created by children, reducing waste; building environmental awareness and practical skills among the participants helping generation to adopt eco-friendly habits.

Scalability:

This exhibited strategies to reduce, reuse the waste is highly replicable in schools, communities and local clubs with internal/minimal resources. It can be expanded across other regions to build a strong network of environmentally conscious young changemakers. Supports from local government can further enhance its impact and outreach.

Shree Adarsha Balika Secondary School
balikamavi@gmail.com
+977 021-512517

Theme: Solid Waste Management

School: Shree Adarsha Balika Secondary School, Gayeli Tole- 07, Biratnagar

Participants (Name-Grade): Ambika Ghimire-9, Ankita Sharma-9, Preeti Sharma-9, Aachal Khatoon-9, Simran Khatoon-9

Problem addressed:

Unmanaged solid waste in the streets, improper public activities, the use of tobacco products in public spaces, and deforestation in Biratnagar. These issues create a negative impact on the environment and the overall livability of the community.

Innovative solution:

A community-driven prototype that integrates waste management, public education, and environmental conservation. It focuses on monitoring waste generation, promoting greenery, and raising awareness about the shared responsibility in maintaining a clean and livable environment.

Tools and procedures:

Public awareness campaigns, waste management systems, greenery promotion, and the installation of awareness boards. The process involves educating the public about waste reduction, controlling waste production, and encouraging participation in making Biratnagar a cleaner, greener place.

Outputs and outcomes:

Cleaner streets, reduced waste generation, increased public awareness, and a greener Biratnagar. Enhanced community participation in environmental conservation and sustainable waste management practices.

Scalability:

The model can be scaled to other areas with similar waste management challenges by fostering community involvement and collaboration with local stakeholders. Its success lies in the active participation of residents and the continuous monitoring of waste management efforts.

Shree Birat Bahira Secondary School
biratdeafsecondaryschool@gmail.com
+977-9852033167

Theme: Solid Waste Management

School: Shree Birat Bahira Secondary School, Kochakhal- 06, Biratnagar

Participants (Name-Grade): Rijan Pokhrel-10, Sajjad Ansari-9, Lochana Bogati-8, Pinky Sharma-8 and Rachita Sahani-8

Problem addressed:

Improper solid waste management within the school, leading to an unhealthy environment. The goal is to ensure cleanliness within the school and create awareness about the importance of proper waste management.

Innovative solution:

A school-based waste management system that involves students in segregation, collection, and transportation of waste. The prototype focuses on separating biodegradable and non-biodegradable waste and encourages the use of dustbins and proper disposal methods.

Tools and procedures:

Dustbins for waste segregation, transportation vehicles for waste disposal, and waste management kits. The process includes educating students about waste management, implementing waste segregation practices, and ensuring waste is transported to designated dumping sites in collaboration with Biratnagar Metropolitan Office.

Outputs and outcomes:

Cleaner and greener school environment, heightened student awareness of waste management, and active involvement in maintaining cleanliness. The prototype also aims to influence the wider community to adopt similar practices.

Scalability:

The model can be replicated in other schools and communities, supported by school administrations, students, and local government offices. Its success depends on consistent student engagement and cooperation with local waste management authorities.

Shree Radha Krishna Bhupalman Singh Karki Secondary School
rkbskss@gmail.com
+977 021-512968

Theme: Solid Waste Management

School: Shree Radha Krishna Bhupalman Singh Karki Secondary School, Panitanki - 01, Biratnagar

Participants (Name-Grade): Anuj Yadav-9, Aman Shah-9, Kailash Mandal-9, Sanjana Ray-9 and Puja Rajbanshi-9

Problem addressed:

Unmanaged solid waste and increasing air pollution in urban areas like Biratnagar, which negatively impact public health, environmental quality, and agricultural productivity.

Innovative solution:

A multi-functional prototype that combines waste segregation, pollutant air absorption, and renewable energy generation. It encourages the reuse of materials like plastic, paper, and glass while improving air quality and supporting agriculture through sustainable practices.

Tools and procedures:

Power house, pollutant air absorber, waste segregator, energy generation and transmission system, and agricultural field setup. The process involves collecting mixed waste, segregating reusable items, generating energy, and absorbing air pollutants-promoting environmental awareness and social responsibility.

Outputs and outcomes:

Cleaner air, reduced environmental pollution, improved waste management, increased renewable energy use, and support for sustainable agriculture. Enhanced public awareness and participation in environmental conservation.

Scalability:

The model can be implemented in community areas and scaled to city or regional levels. Its integration of key environmental concerns into one system makes it highly adaptable for replication with collaboration from local governments and stakeholders.

Shree Satyanarayan Secondary School
satyanarayanschool2009@gmail.com
+977 021-512814

Theme: Solid Waste Management

School: Shree Satyanarayan Secondary School, Dharan Road- 07, Biratnagar

Participants (Name-Grade): Ghanshyam Shah-9, Laxman Yadav-9, Akash Mandal-8, Gunjan Mehta-9 and Preeti Chaudhary-9

Problem addressed:

Unmanaged solid waste and lack of community-based waste management practices, contributing to environmental degradation and future risks.

Innovative solution:

A grassroots solution promoting the 3R (Reduce, Reuse, Recycle) principle, advocating for social responsibility in waste management, and using solar energy to support waste processing. The prototype encourages the use of dustbins, segregation of waste, and local government involvement.

Tools and procedures:

Solid waste management facilities, dustbins, waste segregation stations, solar energy systems, and waste-to-energy plants. The process involves waste collection, transportation to the processing plant, and generation of usable energy, with active community participation in waste management practices.

Outputs and outcomes:

Cleaner and greener environment, improved waste segregation, social responsibility, and better waste handling. The local government plays an active role in implementing waste management facilities, ensuring a continuous cycle of waste processing and recycling, alongside the use of renewable solar energy.

Scalability:

The prototype is scalable through community engagement and collaboration with local governments. Its adaptability to different regions depends on establishing local waste management plants and integrating solar energy solutions, ensuring broader replication and sustainability across communities.

CLIMATE CHANGE PROTOTYPE

Shree Jana Bikash Secondary School
Janbikashschool@gmail.com
+977-9842027899

Theme: Climate Change

School: Shree Jana Bikash Secondary School, Rani Biratnagar- 15, Biratnagar

Participants (Name-Grade): Andip Kumar Yadav-10, Deepak Kumar Kamat-9, Aman Alam-8 and Akaram Alam-9

Problem addressed:

The critical issue of global warming, its consequences, and the potential solutions to mitigate climate change. The prototype emphasizes the root causes of global warming, including air pollution and deforestation, as well as exploring sustainable pathways to address these issues.

Innovative solution:

The prototype presents two scenarios: one showing the negative outcomes of global warming, the harmful effects of pollution and deforestation, and another with sustainable solutions for a habitable world, such as afforestation, clean air emissions, water processing, and the 3R principle.

Tools and procedures:

A prototype uses visuals and elements to portray the causes and solutions of global warming. It involves illustrating pollution, deforestation, and sustainability practices such as afforestation, recycling, and water management, centered around raising awareness & fostering global action.

Outputs and outcomes:

The prototype raises public awareness about the causes and consequences of global warming while proposing realistic solutions to counteract these challenges. It fosters self-realization and encourages collective action.

Scalability:

The prototype emphasizes worldwide collaboration for large-scale action on climate change. It can be adapted and replicated in various regions by involving governments, organizations, and individuals in taking steps toward a sustainable future, ensuring its impact on a global level.

AIR POLLUTION PROTOTYPES

Shree Adarsha Secondary School
adarshavidyalaya1986@gmail.com
+977 021-522647

Theme: Air Pollution

School: Shree Adarsha Secondary School, Adarsha Road- 07, Biratnagar

Participants (Name-Grade): Shivam Mandal-9, Anmol Sah-8, Prashiddhi Bhattarai-9, Sadiksha Shrestha-8 and Aniket Sah-8

Problem addressed:

The growing problem of air pollution, its harmful effects, and its significant contribution to climate change. It focuses on reducing pollution from industries, with aim for zero pollution reducing air pollution levels.

Innovative solution:

It presents solutions to combat air pollution, such as the use of the Scrubber System to remove harmful particulates and gases from industrial emissions and the Moss Building System, which helps absorb pollutants from the air. It also promotes the use of greenery in residential areas, hospitals, electric vehicles, and solar energy for a cleaner, healthier environment.

Tools and procedures:

Key components like Scrubber & Moss Building System, electric vehicles, solar energy, and green spaces. The process involves utilizing the systems to reduce air pollution from industrial sources, promoting clean energy, and encouraging eco-friendly practices within the community

Outputs and outcomes:

The prototype aims to reduce air pollution by filtering industrial emissions, promoting clean energy use, and fostering a healthy environment. It encourages the use of e-vehicles and solar energy, aiming to reduce the carbon footprint and enhance air quality.

Scalability:

While the model requires substantial funding for its implementation, it has the potential to be scaled in industrial zones and urban areas. It can be expanded through government incentives and public awareness campaigns, encouraging adoption of clean energy and eco-friendly transportation.

Shree Gayatri Sanskrit Secondary School
gayatrisanskritmabi@gmail.com
+977-9842045245

Theme: Air Pollution

School: Shree Gayatri Sanskrit Secondary School, Saraswati Mandir- 07, Biratnagar
Participants (Name-Grade): Suraj Kamati-9, Puja Marik-9, Samyog Bhattarai-9, Kumkum Marik-9 and Sulekha Ray-8, Krishna Ray-8

Problem addressed:
The environmental issue of air pollution, particularly its impacts on health and environmental degradation. The prototype highlights the consequences of air pollution from various sources, including industrial emissions, household activities, and vehicles.

Innovative solution:
The prototype contrasts two scenarios: one depicting the harmful effects of air pollution from factories and vehicle emissions, and the other presenting a clean air environment supported by solar panels, wind energy, green plants, eco-friendly structures, and e-vehicles for mobility. It promotes clean energy and a cleaner atmosphere, focusing on reducing air pollution.

Tools and procedure:
The tools applied include solar panels, wind energy systems, green plants, e-vehicles, and eco-friendly household designs. The process involves promoting the use of clean energy solutions and environmentally conscious living, along with raising awareness about reducing pollution at the household level and enforcing government laws to regulate air quality.

Outputs and outcomes:
The prototype aims to reduce air pollution by shifting to clean energy, promoting green practices, and encouraging the use of e-vehicles and eco-friendly household structures. It seeks to enhance public awareness of air pollution's consequences and encourage actions to maintain cleaner air.

Scalability:
The model can be replicated in both urban and rural areas through the adoption of clean energy technologies. Its scalability relies on governmental support to enforce regulations and encourage public participation.

GALLERY

Figure: Venue "Himalayan Road, Biratnagar"

Figure: Judges for "Actionable Ideas Prototypes on Green, Clean and Livable Biratnagar For All

Figure: Token of love on participation to Shree Birat Bahira Secondary School Biratnagar

Figure: Judges and Team Behind the Event "Exhibition on Actionable Ideas for Green, Clean and Livable Biratnagar for All"

Figure: Certificate for Best Prototype Exhibition on Green and Public Space to Shree Goghraha Secondary School, Biratnagar

Figure: Certificate for Best Prototype Exhibition on Solid Waste Management to Shree Satyanarayan School, Biratnagar

Figure: Certificate for Best Prototype Exhibition on Climate Change to Shree JanaBikas Secondary School, Biratnagar

Figure: Certificate for Best Prototype Exhibition on Air Pollution to Shree Adarsha School, Biratnagar

DIGO BIKAS INSTITUTE

Digo Bikas Institute (DBI) is a research and advocacy organization focused on grassroot intervention and movement building approach to address the crisis generated from profit-driven, unequal and exploitative economic and social structures. DBI promotes real solutions and alternatives based on the ideas and experience from communities at the forefront. DBI works on climate justice, energy democracy, agroecology, rethinking development, urban justice through innovation in land use redesign.

GREEN CITY VOLUNTEER BIRATNAGAR-2023

Green City Volunteer (GCV) is a joint initiative of Biratnagar Metropolitan City (BMC) and Digo Bikas Institute (DBI) implementing and localizing Nepal's Climate Change Policy and Nepal's Nationally Determined Contribution at grassroot level aiming for a Green, Clean, and Livable Biratnagar for all. 38 enthusiastic and active youths (ages 15–22)-one male female from each ward of Biratnagar Metropolitan, ensuring ethnic diversity join this vibrant cohort and receive training, research engagement, an exposure visit, and a community project on 5 different themes; 1. Climate Justice 2. Solid Waste Management 3. Green and Public Spaces 4. Air Pollution 5. Disaster Risk Reduction.