



Environment Education Bus

A resource centre for Gujarat to create environmental awareness among school children, youth and general community.

A Brief Report



About the Mobile Resource Centre

'Prakriti', Environment Education (EE) Bus is a mobile environment education resource centre being used by the South Asia Youth Environment Network (SAYEN) members and other associated organizations in three districts of Gujarat. The project is a joint initiative of the Centre for Environment Education (CEE), British Gas (BG) India and Gujarat Gas Company Limited (GGCL).

Goal

Create an educated and aware task force of youth and school children in Gujarat on key environmental challenges and some possible means to overcome them.

Objective

- To create environmental awareness among school children, teachers and parents.
- Capacity building of youth on using the resource centre effectively.
- Provide resource material support to youth and other organizations to enable them conduct environmental awareness activities and projects.

The mobile resource centre is expected to reach out to broad sections of the communities both in urban and rural areas. It uses a multimedia approach including panel displays, activities, interactive models, films, slide shows, puppet shows, role-plays and take away communication material like pamphlets, brochures, school labels and postcards.

For whom?

The primary target groups for the project are school children and teachers. The project would also reach out to college students and professors and the general community in urban/semi urban and rural areas.

Resource Centre Themes

Themes are broadly categorized so as to cover all relevant environmental issues in the State with an emphasis on three districts - Surat, Bharuch and Ahmedabad. These include:

1. Heritage
2. Biodiversity
3. Land
4. Energy
5. Water
6. Air Pollution
7. Industries and Natural Gas



Prakriti:Environment Education Bus



Students, teachers visiting the resource centre

Design Structure

The bus uses a 'Swaraj Mazda' chasis. It runs on **Compressed Natural Gas**, which will help to create awareness and motivation to use CNG, a clean fuel. The two sides of the bus are converted into the six sections with three panels in each. While the bus is moving, these sections are closed and covered by glass shutters. A visual collage featuring people and places (cultural heritage) of Gujarat appears on one side of the bus and natural heritage highlighting the richness in terms of biodiversity is placed on the other side. The back side of the bus is used for viewing 3-dimensional models and screening of short films and documentaries.

Resource Centre Content

The mobile resource centre uses a multimedia approach. Key media included are:

1. Exhibition: The exhibition includes eighteen panels including three panels dedicated to each of the major themes - biodiversity, land, energy and water; two introductory panels on the State and one panel each on general information about the District, air pollution, industries and natural gas.

The exhibition panels are designed to include:

a. General information

The first panel under each major theme is dedicated to the basic information related to the theme. The biodiversity panel provides information on the type of ecosystems in Gujarat, key species, national parks and sanctuaries. It also discusses concepts such as the food chain and food pyramid. The land panel provides information on soil types, crops grown, land use, agriculture, dairy and Gujarat's economy. Panel on water discusses concepts such as water cycle, provides information on rivers and various other sources of water, and water consumption patterns. The energy panel provides information on sources of energy in Gujarat and energy consumption patterns in different sectors. The natural gas panel provides a comparison between the natural gas and other sources of energy to emphasize natural gas as "Clean Fuel".

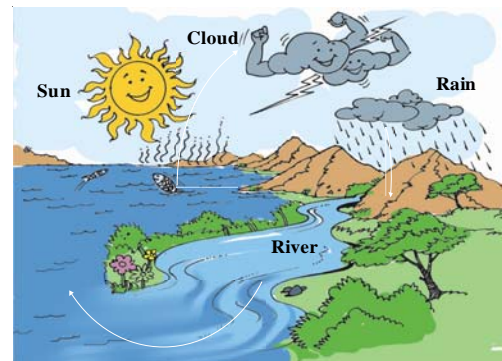
Thus, the first panel sets the tone for each theme.



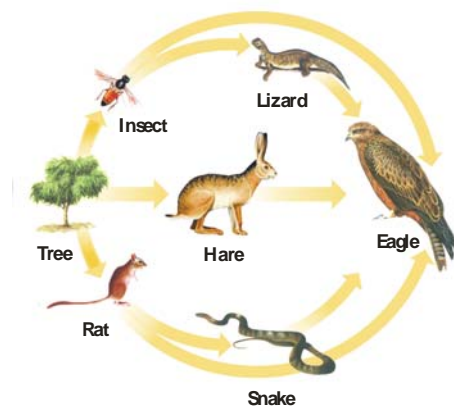
Exhibition Panels



Asiatic Lion : Pride of Gujarat



Water Cycle



Food Chain

b. Concerns and Best Practices

The second panel under each major theme highlights concerns and best practices related to the theme. For example, a panel on Biodiversity highlights concerns such as setting up of the salt pans in areas which provide vegetation for the survival of Black buck, roads and highways through sanctuaries, unplanned development along coastal areas and shrinkage of wetlands due to urbanization. Some of the efforts discussed in the panel for the minimization of threats to biodiversity are joint forest management related programmes, eco development, education and awareness about nature. The land panel mentions disasters, land degradation, congestion and high population density as key concerns. Some of the efforts are integrated land management, development of parks and gardens in urban areas for greenery and recreation facilities. Under the theme water, key concerns highlighted include continuous depletion of water table, improper water quality, insufficient quantity, improper water storage and handling methods and water related diseases. Some of the efforts are use of efficient irrigation practices including drip and sprinkler methods, awareness about WASH (water, sanitation and hygiene) and rain water harvesting at various levels. Some of the concerns related to energy are inefficient public transport in terms of fuel and coverage, inefficient energy use for irrigation, use of inefficient cooking fuel mainly fire wood. The efforts to conserve energy include improved Chulha for cooking, promoting use of bicycle as an eco friendly means of transport, use of solar energy, wind energy and biogas. Thus, these panels provide information about key concerns which need immediate attention and some efforts by institutions, NGO's and Government organizations towards finding appropriate solutions.

c. Interactive Elements

The last panel in each theme is an interactive one focusing on 'learning-by-doing' and also helps to recapitulate information provided in the first two panels. For example, in the biodiversity panel, one can press buttons to hear bird calls and identify animals through their foot tracks. The land panel helps to distinguish between organic and inorganic waste and time required for different wastes to decompose, rainfall and water requirement of some of the major crops in the State. The panel on theme water helps to understand water conservation practices and help to calculate water wastage in a day from a dripping tap.



Salt Pan



Highway through National Park

Concerns related to Biodiversity



Joint Forest Management



Eco-development

Efforts related to Biodiversity

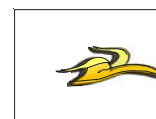
Interactive Elements



Broken Ceramic Ware



Polythene Bag



Banana Peel

Find Out which waste is organic or inorganic?



Press the button to hear bird call



BG INDIA

CEE

Centre for Environment Education



GUJARAT GAS COMPANY LIMITED

The panel on energy helps to understand renewable sources of energy, their use and the method of energy audit.

2. Interactive Models: Interactive three-dimensional models emphasized the concepts focused through the exhibition panels. These include models on rain water harvesting, efficient use of energy in our day to day life, solid waste management and management of grey water discharged from our kitchens. These are very popular particularly among school children.

3. Puppet shows, street plays, role plays and performances: These media are used depending upon the availability of time, target group and place of performance. The focus of these media are to reemphasize actions expected from an individual.

4. Film shows: Screening of short films and documentaries on various environmental issues are used very effectively to create audience interest in environmental topics. In schools, these are screened at the school auditoriums or big halls and in villages or public places at open spaces.

5. Games : CEE has been using games as an effective approach for environmental education. Some of CEE's most popular games such as the Web of Life help students understand interlinkages within various factors in an eco-system. The game Who am I?, helps to understand classification of plants and animals. A number of similar games are part of the mobile resource centre.

6. Other Resources: A variety of other resources such as wall papers, posters, pamphlets, brochures, bookmarks, school labels on popular birds, animals and plants, manual, games and activity kits are also part of the mobile resource centre. These are very widely referred to by the volunteers, school and college teachers and are in great demand. We are looking for ways to help them keep copies of such material at school and college libraries.

Popular Games



Web of Life



Snakes and Ladders

Stakeholders

Though the project is a joint initiative of three organizations- CEE, BG India and GGCL, various other stakeholders are involved in the project. These include:

a. Local Coordinating agencies: These are NGOs, institutions and other organizations in Surat, Bharuch and Ahmedabad taking full ownership of the Environment Education Bus and facilitates the activities of the bus. The coordinating agencies are:

- § *Surat*- Nature Club Surat
- § *Bharuch*- Bharuch Jaycees and GPEC Power Plant
- § *Ahmedabad*- Club of Youth Working for Environment (CYWEN),CEE

b. Youth Volunteers

The coordinating agencies work with youth volunteers in their respective districts who facilitate activities of the Environment Education Bus. The volunteers are oriented to use the resource centre.

c. Schools, Colleges and NGO's

Schools, colleges and NGOs other than the local coordinating agencies in the districts of Surat, Ahmedabad and Bharuch are being contacted and information about the project is disseminated.

The key aspect of the project is that the bus is to be seen as an intricate part of the on-going projects and activities so that the discussions and expected actions taken through the resource centre do not get over after the bus leaves the area. Thus, each of these stakeholders is encouraged to use the resource centre in the most appropriate manner so that it adds value to their on-going programme.

Methodology

The project is inaugurated in a big way in the district. Key people from the local government are invited and involved to take full ownership of the project. During the Surat launch, the Municipal Corporation Commissioner was the chief guest. Similar launches are also being planned for the other two districts.

Representatives from the local coordinating agencies and youth volunteers are being trained to use the resource centre and conduct activities in and around the themes focused through the resource centre.



Resource Centre : An intricate part of on-going projects

The local coordinating agency along with CEE is being involved in developing the route map for the Environment Education (EE) Bus in each of the three districts in different phases so as to cover all the schools, colleges, public places and community areas. The talukas in the districts of Surat, Bharuch and Ahmedabad are the base station for the EE Bus to travel into interior areas of these districts.

Journey of the Mobile Resource Centre

The journey of the Environment Education Bus started after its launch on 17th February 2005, at V. D. Desai School, Bhulka Bhawan, Surat. The bus visits different schools in Surat. The schools involved in the National Green Corps programme were approached for the bus visit. In a short period of 13 days, the bus visited about 11 schools and one community place in Surat wherein about 4,300 students benefited. Also, the bus participated in one of the educational fairs organized by the Comet Media Foundation at Unai, Surat, wherein about 12,000 visitors comprising students, teachers and parents from both rural and urban areas visited the bus.

Feedback

The students and parents responded positively to the bus as it is being identified as an innovative approach to learning. Teachers have been active participants as they see these as innovative and interesting ways to teach and learn about the environment. They are also very encouraging about initiatives taken through this project. The school principals are willing to set up such a resource centre in their respective schools. One common question asked by everybody is when is the bus visiting us again???



Bus Launch at Surat



Participation of EE Bus in Educational Fair at Unai, Surat

Project Partners

Centre for Environment Education (CEE) was established in August 1984 as a Centre of Excellence supported by the Ministry of Environment and Forests, Government of India, and affiliated to the Nehru Foundation for Development (NFD). CEE's primary objective is to improve public awareness and understanding of environmental issues with a view to promote the conservation and wise use of nature and natural resources. To this end, CEE not only creates expertise in the field of environmental education, but also develops innovative programmes and educational materials, testing them for validity and effectiveness.

Centre for Environment Education (CEE)

Nehru Foundation for Development
Thaltej Tekra, Ahmedabad – 380 054
Gujarat, India
Tel: +91 79 26858002
Fax: +91 79 26858010
E-mail: ceewest@ceeindia.org
Website: www.ceeindia.org

British Gas (BG) India is part of the BG Group of UK, a leading international energy company that has expertise across the spectrum of the natural gas chain. Its activities span the range of gas operations from exploration to delivery to the consumer. British Gas has global presence spanning 20 countries across five continents. BG India manages and develops the upstream and downstream interests of the Group in India and has been active in the country for over a decade. BG India and its assets are actively involved in several social development and environment initiatives benefiting local communities across the country.

British Gas India

British Gas India Pvt. Ltd
3rd Floor, Tower B, First India Place
Sushant Lok – 1, Mehrauli – Gurgaon Road
Gurgaon – 122 002, India
Tel: +91 124 235 6991-95
Fax: +91 124 256 0241/236 4029
E-mail: bgindiainfo@bg-group.com
Website: www.bg-group.com

Gujarat Gas Company Limited (GGCL) supplies natural gas to the cities of Ankleshwar, Bharuch and Surat in south Gujarat. Gujarat Gas Company Limited (GGCL) is India's largest private Natural Gas distribution company; GGCL distributes gas to more than 140,000 domestic, commercial and industrial customers in Gujarat State.

Gujarat Gas Company Limited (GGCL)

Ahmedabad Corporate Office
2, Shanti Sadan Society,
Near Parimal Garden, Ellis bridge,
Ahmedabad – 380 006
Gujarat, India
Tel: +91 79 26462980, 26426111
Fax: +91 79 26466249
Email: contactggcl@gujaratgas.com
Website: www.gujaratgas.com



Coordinating Agencies

For Ahmedabad

Club of Youth Working for Environment (CYWEN)

Centre for Environment Education (CEE)

Nehru Foundation for Development

Thaltej Tekra, Ahmedabad – 380 054

Gujarat, India

Tel: +91 79 26858002

Fax: + 91 79 26858010

E-mail: ceewest@ceeindia.org

Web: www.ceeindia.org

For Bharuch

1. Bharuch Jaycees

I. D. Centre Narmada Shopping Centre

Panchbatti

Station Road,

Bharuch

Gujarat, India

Tel: +91 2646 220811

Fax: +91 2646 220193

Email: anishparikh4@satyam.net.in

2. CLP Power India Pvt. Ltd.

GPEC Power Plant

Paguthan, Bharuch – 392015

Gujarat, India

Tel: +91 2642 288501

Fax: +91 2642 288515

Email: sudhakar.rao@gpecindia.com

For Surat

Nature Club Surat

81, Sarjan Society

Athwalines, Parle Point

Surat – 395 007

Gujarat, India

Tel: +91 261 2654170

Fax: +91 261 2271199

Email: secretary@natureclubsurat.org

Web: www.natureclubsurat.org



BG INDIA

CEE

Centre for Environment Education



GUJARAT GAS COMPANY LIMITED