

**Asia-Pacific Environmental Innovation Strategies (APEIS)
Research on Innovative and Strategic Policy Options (RISPO)
Good Practices Inventory**

**Rute Pendidikan Lingkungan (REPLING)—“Environmental Education
Route Program” (Indonesia)**

Summary of the Practice

Keywords: school, facilitator, botanical garden

Strategy: Promoting environmental education by NGOs

Environmental areas: Air pollution, Ecosystem and biodiversity conservation, Forest conservation

Critical instruments: Awareness/capacity building, Partnerships

Country: Indonesia

Location: Bogor, West Java

Participants:

- Students (kindergarten, primary and secondary school)
- The public

Duration: 1993 - on going

Funding:

- Van Melle Green Grant Program: designing, formulating, and implementing the program; training facilitators (1993 – 1997)
- Hanns Seidel Foundation: training facilitators (1999 – 2002)

Background:

Indonesia is well-known as one of the six countries in the world with “mega-biodiversity.” The daily lives of almost 40 million Indonesians depend directly on living natural resources, using almost 6,000 species of plants and animals. Indonesia is facing a problem of biodiversity degradation and depletion, however, due to over-exploitation of resources. This situation threatens not only the plants and animals, but also the lives of all 200 million Indonesians.

One of the reasons for environmental damage and biodiversity depletion in Indonesia is the lack of awareness on the part of decision makers and other member of society about the importance of the environment. Environmental education is an effective way to raise environmental awareness. It also creates new behavior patterns of individuals, groups, and society as a whole towards sustainable development.

Botanical gardens, an ex-situ conservation areas, are useful places that can be used as media for increasing environmental awareness. They are unique places to teach people about the importance of the flora in our lives and in the global ecosystem. By highlighting threats to plants and habitats, these gardens can help people understand how biodiversity and the environment can be protected and conserved.

Objectives:

REPLING aims to increase the knowledge and awareness of children and the youth, as well as their teachers and parents, on environmental problems and biodiversity conservation.

Description of the activity:

Rute Pendidikan Lingkungan (REPLING) (in English, “Environmental Education Route”) is one of the environmental education programs developed by RMI (the Indonesian Institute for Forest Environment) since 1993 at the Bogor Botanic Garden. REPLING uses interpretation by guides as its primary educational method, but combines guiding with other methods such as nature game activities, observation, and group discussions. Participants follow the REPLING trails in groups (each group consists of 6 to 10 people) aided by a guide.

Guides are volunteers who are trained to create a relaxed atmosphere for learning. REPLING guides have become well known as facilitators, and members of the public have showed great interest in joining as facilitators (Figure 1). In 1999, a year with particularly high interest in the programme, there were 553 applicants for only 85 positions. Selections are made based on experience in the field of environmental education and skills of communication. About 70 percent of facilitators are university students, while the rest are school teachers, civil servants, housewives and business people.

The REPLING paths at the Bogor Botanical Garden include four alternative environmental education routes to be followed by participants. The selection of route and explanation used depends on the participants. Different methods and materials are designed for children 5 to 8 years old (kindergarten and lower classes of elementary school); 9 to 12 years old (higher classes of elementary school); 13 to 15 years old (junior high school) and 16 years old and up (senior high school) and adults. Each route has unique topics and issues to be discussed and learned during the program.

Since 1994, the REPLING program has accommodated around 25,000 participants, mainly from Java, Bali, and foreign countries. The main participants of the program are school children from Bogor and Jakarta.

More than 20 schools participate in the REPLING program every year.

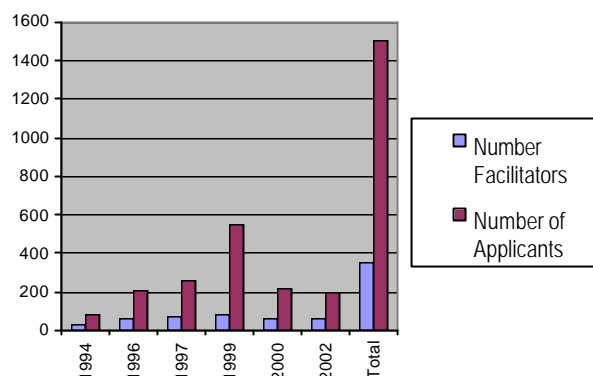


Figure 1. Number of Facilitators in REPLING Program (1994–2002)

Critical Instruments

Overview

The REPLING program has innovative aspects in increasing awareness and capacity building, as well as partnerships.

Awareness /capacity building Quality Control of Facilitators

Guided interpretation is an effective method for increasing awareness of people on environmental and biodiversity issues. An important factor in using guided interpretation is the capacity of the program facilitators. RMI has developed original materials for facilitator training, and conducts trainings regularly. This training method has also been adopted by NGOs in other areas, such as *Yayasan Ekowisata Sumatra* in North Sumatra.

Utilising Public Nature Sites in Urban Areas

The Bogor Botanical Garden is a public sites in an urban area that is accessible for many people. Such sites can be appropriate media to raise public awareness (see “Partnerships with the Botanical Garden” below).

Partnerships Partnership with Schools

Partnership with schools is a key to the success of this program. More than 20 schools follow the REPLING program routinely every year and have integrated it into their extra curricular activities. The RMI has also established networks with teachers and schools, especially in Bogor area. RMI has conducted meetings for teachers annually to discussing methodology and activities of environmental education programs at school. These efforts in turn enhance their participation in and the effectiveness of the program.

Partnership with NGOs

RMI has tried to enhance partnerships with NGOs since the beginning of the program. RMI discussed the development of materials and methodologies with many major NGOs in Bogor and Jakarta, including *Yayasan Indonesia Hijau*, and *Pusat Pendidikan Lingkungan–Seloliman*, as well as international NGOs who have representative offices in Indonesia such as WWF’s Wetland Indonesia Program, Birdlife’s Indonesia Program, etc. These partnerships have contributed to improving the program in terms of methodologies and expertise as well as to promoting the REPLING program in society.

Partnership with the Botanical Garden

Enhanced partnership with the Bogor Botanical Garden has of course been important to make the program successful. It is important to reach a common understanding between implementing NGOs and the staff of such a site, on the significance of the site as educational media, as well as on constraints regarding program implementation.

Impacts

REPLING has several impacts, which can be categorised as shown below.

- **Impact on Facilitators:**

REPLING has made a significant impact on facilitators. According to data and observation, former facilitators tend to hold posts in the environmental sector; 35 percent of them became staff of environmental NGOs as a result of inspiration in REPLING. Many former facilitators who later became teachers now use REPLING as a part of their extra-curricula at school.

- **Impact on Participants:**

According to evaluation sheets distributed to participants, 97 percent of participants stated that REPLING increased their knowledge and information about environmental issues and problems such as biodiversity conservation. Participants thought that REPLING made it easier for them to understand environmental issues and subjects such as biology at school.

- **Impact on Schools:**

REPLING has become an alternative for extra-curricular activities for more than 20 schools in Bogor and Jakarta to enhance their students’ understanding of subjects such as biology, an indication that the quality of REPLING has been widely acknowledged by local schools.

- **Impact on the Botanic al Garden:**

Based on observation and interviews with the staff at the Bogor Botanic al Garden, there has been an decrease in the use of disposable containers and disposal of litter in the garden, which can be attributed to REPLING

- **Impacts on Parents:**

Based on observation, REPLING has also affected parents of the participants. After accompanying their children on REPLING routes, more than 20 percent of parents informed their neighbors of the program and suggested that other schools try the program.

- **Impact on the Implementing Organisation:**

Since 1996, REPLING participants have made financial contributions to the program, increasing the sustainability of the program itself. The contributions from the participants at least cover the costs of transportation for facilitators, communications, and program materials, etc.

Lessons Learned

Based on RMI's nearly 10 years of experience with the REPLING program, there are some lessons to be learned from this case.

- *Guided interpretation is an effective method for environmental education:* With this method the participants can enjoy learning about their environment without the stresses of the normal classroom. Guided interpretation can be combined with other educational methods and approaches, such as nature games, observation, and group discussion, etc. In addition, this method can be applied to a variety of age groups.
- *Contents of the program should be related to each other as well as to school curriculums:* There are four different subjects (or routes/trails) in the REPLING program: biodiversity, forests, wetlands, and pollution. These subjects should be related to each other in a complementary manner. They should also be designed in consideration of the school curriculum and the daily life of the participants.
- *Facilitators play an important role for the success of the program:* Increasing the capacity of facilitators is important, considering the role they play in the program. RMI has conducted periodical training for facilitators, which has enhanced their capacity. It also resulted in an increase in the number of volunteers who want to become facilitators of the program.
- *Using educational media such as the Bogor Botanic Garden can be a powerful tool to enhance environmental awareness:* The Bogor Botanical Garden is located within easy access from cities such as Jakarta. Beside the richness of the biodiversity there, the location has contributed to the number of visitors, which amounts to 100,000 people per month. Utilising such media is a good chance to involve visitors in environmental education programs.
- *Collaboration and networking with schools are important:* Collaboration and networking with schools have played an important role in the continuation of REPLING for almost 10 years. RMI has tried to make networks with other NGOs and other institutions who are engaged in environmental education. RMI has maintained contact with schools by conducting meetings with teachers, disseminating information related to environmental issues, and having seminars and workshops for children. Such efforts also help to maintain the awareness of the participants. As RMI recognises that the two- or three-hour REPLING program is not enough to permanently change the attitudes and thinking patterns of the participants, networking can support follow-up activities by the participants.

Potential for Application

Since 1997, the REPLING program has been developed at other conservation areas in Indonesia, such as in the Yan Lappa Natural Reserve in Bogor, West Java, the Eka Karya Botanic Garden, Tabanan, Bali Province and the Cibodas Botanic Garden, as well as at the Halimun Conservation Area, West Java. The successes show the need for and applicability of programs of this kind in other areas.

In applying this type of program to other areas, the following points should be noted.

- 1) Facilitators of the program can be the staff of botanical garden itself (for example, all facilitators at Cibodas and Eka Karya Botanic Garden Bali are actually the staff there).
- 2) The site should be easily accessible for many participants, especially in the case of children (kindergarten students).

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