

**Present State of the Environmental Education Network
in Indonesia**

–Questionnaire Results and Related Analysis–

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Foreword

The international community has been increasingly aware of the importance of the role of NGOs in addressing environmental problems. Environmental problems have become serious in Indonesia, where destruction of nature is worsening, as typically shown in deforestation, and pollution has become obvious as the Indonesian economy develops. The nation has long recognized the existence of NGOs in the environmental sector. It already stated, nearly 20 years ago, in Chapter 19 of its Basic Provisions for Environmental Management in 1982(Act No. 4, 1982), that NGOs play a role as supporters of environmental management. In fact, they are really active – NGOs are said to total 7000 to 8000, an estimated 500 of which can be considered “environmental NGOs” that mainly address environmental problems.

It has been widely recognized in the international community that NGOs play an important role in promoting environmental education, which is indispensable for coping with environmental problems, as the Tbilisi Conference in 1977 already mentioned their important role. Like in other countries, efforts to promote environmental education by NGOs have been increasingly active in Indonesia. Among others, we should pay attention to *Jaringan Pendidikan Lingkungan* (hereinafter referred to as JPL), a nationwide environmental education network which was mainly established by NGOs in 1996. Indonesia has an extensive land area, and its people live under various conditions.^{Note 1} This situation could be an impediment to information dissemination. It is very important, in promoting environmental education, which is a human-centered activity, to create a system that incorporates relationships with as many relevant groups as possible, and that effectively shares information and human and other resources. JPL was founded based on this recognition. Its open system has contributed to a rapid increase in the members, from 27 at its establishment to 85 in 1999. Its members are active all over the country, with the largest number in Java (especially in West Java), which has a large population(please refer to Graph 12 and 13 below). JPL is indispensable for reducing information gaps and promoting environmental education in the extensive area of Indonesia.

The Institute for Global Environmental Strategies conducted a questionnaire survey of about 70 JPL members in November 1999. This report is based on the classified totals, analyses of the results(except for questions that received very few answers), and study based on the totals and analyses. It aims, based on the questionnaire, to analyze and study JPL, which provides a good example for the international community, for its unique and significant attempt to promote environmental education. Based on the analysis and study, this report also aims to contribute to promoting environmental education by, and research of, JPL and

Note 1 Indonesia is an island country consisting of more than 17,000 islands, extending over 5,200 km east and west and 1,900 km north and south. It is a large country, having a total area of about 1,900,000 km² (Japan has a total area of about 378,000 km²), where more than 200 million people live. Indonesia is a developing country whose per capita GNP was 680 dollars in 1998 (World Bank, 2000). It is a multiethnic nation, consisting of 250 to more than 300 ethnic groups (they exceed 3000 when subdivided), and more than 80% of the people speak languages other than Indonesian, the national language, in everyday life (Mizuno, 1999). There are about 580 languages in Indonesia. The nation is blessed with natural resources, with nearly 60% of its land being covered with forests. It is one of the richest nations in terms of biodiversity, as about 10% of the plant species of the world are found there.

NGOs in developing countries. This survey was conducted with support provided by YPBB's (an NGO) David Sutasurya and his staff. The author expresses sincere appreciation to them.

1: Importance of networks

Since the term network often refers vaguely to relations linking individuals, to what kind of linking relations does a network refer in this paper? Eccleston (1996) classifies linkages among environmental NGOs into four levels: Networking, Networks, Coalitions, and Alliances/Confederations, and following that order, their respective degrees of cooperation become closer. Networking refers to connecting an NGO with other ones by phone or e-mail, through which information is exchanged passively and irregularly. Networks are a type of linkage in which information is exchanged more actively, with secretariats often being set up for their management, and sometimes people get together at meetings. A coalition refers to a cooperative relationship among NGOs for a certain period of time, for a problem or an event (e.g. UNCED). It is a temporary linkage, such as a joint campaign. Alliances/confederations refers to a form of linkage involving joint action, through maintenance of close contact for a long period of time under a specific idea.^{Note 2} Based on these classifications, the author would like to use “linkage” as a term meaning these four levels comprehensively, and to use “network” to refer to a form of linkage among NGOs closer than networking but a little weaker than a coalition.

For JPL, the above-mentioned definition of networks seems most suitable. Then, what does the existence of a network mean for NGOs in Indonesia and their environmental education activities? Let’s identify problems(challenges) facing Indonesian NGOs and view them from the perspective of developing countermeasures. Problems(challenges) can be categorized into four: (1) capacity-building, (2) improvement of the information-dissemination system, (3) coping with political conditions, and (4) addressing diversified problems involved in the nation’s social and economic development stages. Studying these problems reveals the importance of network-building.

A number of research reports say important issues for Indonesian NGOs include (1) capacity-building and (2) increasing the amount of information (Japan Environment Corporation and the Japan Center for International Exchange, 1997, etc.). Regarding (1) above, several JPL leaders point out that it is indispensable for JPL members to not only enhance their capability to provide environmental education but to also improve their English required for sending and receiving information. For JPL, whose members are comparatively young, and for Indonesian NGOs, to which overseas relations are indispensable for expanding their activities, improvement of their linguistic ability is necessary. Regarding (2), as mentioned by Koesnadi (1997) in the issue of environmental regulation, regional information gaps exist. While all pieces of information are concentrated in Jakarta, inadequate social systems for information dissemination prevent it from spreading into every corner of the extensive area of Indonesia. In environmental education also, according to a staff of KEHATI(a representative grant-providing foundation in Indonesia), a great number of teaching materials published or distributed in the country have not reached NGOs for some reason, which results in little effect. Building of effective linkage will solve this problem.

^{Note 2} Many international NGOs are classified into this category. All international NGOs, however, as Eccleston says, are not necessarily classified into this category, and cooperative relations are not on the same level among NGOs even within this category.

This instance proves the need for linkages, including networks. Regarding (1) above, networks will be able to serve to strengthen members' capacity, not only in their activity but also in organization management, with increased resources and their effective distribution through an increased number of subsidy and cooperative projects. Also, Network can endorse the capacity of each NGO to the third parties. In addition, a network makes it possible for an NGO to identify its relative difference from other NGOs. This will clarify the direction of each NGO and improve its activities, and also optimize the total effects of activities of each member. This is very significant in view of diversity in Indonesia.

Eldridge points out, in his study of various NGO networks in Indonesia (1995, 10), the political necessity (3) of linkage among NGOs.^{Note 3} This is necessary, he says, to increase their influence and cooperation among them by building networks in order to avoid co-option by the Government, under the country's political conditions of the state being superior to civil society.

In view of the socioeconomic development stage in Indonesia, measures for the environment require a wide range of activities involving those for sustainable development. It is necessary for an NGO to build complementary relations with other organizations so that it can deal with various factors for solving problems. This diversity of problems, which stems from its development stage, is another reason networks are needed. This is common in developing countries, and target people will not accept activities relevant only to the environment. People expect economic and social improvement in their living from NGO activities. Surveys by Japan Environment Corporation and the Japan Center for International Exchange (1997, 24-25) express the recent tendency of NGO activities in Indonesia as follows. In addition to the introduction of participatory methods (localization), they have become aware of the close interaction between the environment and development (politicization) and integrate environmental problems with social development, as a result of failures in environment-limited strategies. This tendency seems to result from NGOs' intention to address diversified problems. Education reflects it, as a matter of course. Ueda says (1997) that more than 80% of NGOs in developing countries consider the environment not only from the viewpoint of nature but also from a holistic viewpoint, including social, economic, political, and cultural aspects, and conduct education activities as a means to realize sustainable societies from a total viewpoint (Ueda 1997, 11). In this context, even large NGOs employing dozens of staff members have only limited resources, and few can conduct comprehensive activities for sustainable development. It is therefore indispensable for them to cooperate, by playing their respective roles. In addition to above circumstances, the facts that a number of groups engage themselves in community-based, cooperative activities (Eldridge, 1995, 217), and that, unlike in industrialized countries, there are no NGOs operated by the membership system, make linkages among organizations even more important.

For many NGOs in developing countries, including Indonesia, international cooperation activities are important to sustain and expand their activities. For them, the four points

^{Note 3} Dandang Juliantara mentions four reasons that NGOs establish networks, taking the instance of the Yogyakarta NGO Forum: They need resources, legitimacy, and information, especially in relationships with subsidy institutions; they can identify and coordinate their goals by relatively viewing them; they can enhance their capacity by participating in programs, and they can acquire greater political and social influence.

mentioned above are also important, namely, (1) capacity-building, (2) improving the information-dissemination system, (3) coping with political conditions, and (4) addressing diversified problems involved in the nation's social and economic development stages. Improvements in (1) and (2) are especially important for quantitative and qualitative improvement of (domestic and international) assistance. Linkage among organizations through a network, etc., leads to increased access to subsidy institutions, and to quantitative increases in assistance. It is also important for efficient implementation of assistance and for spreading assistance effects in terms of time and space. From the standpoint of donors, cooperation through networks makes it possible to secure information prior to project implementation, and to efficiently conduct research (feasible studies, etc.); to identify proper counterparts and secure appropriate human resources; to optimize the assistance effect on the macro level, through increased conformity with other projects; and to produce diversified viewpoints in evaluation, thereby enabling efficient implementation of assistance. In addition, effects produced by resources inputted to one organization spread to others and through a linkage, such as a network (IGES, 1999).

Building networks is also important from the viewpoint of environmental education, as well as the conditions of NGOs in Indonesia. First, the linking of 'places/fields' and 'subjects' in environmental education leads to expanded and continued provision of learning opportunities. Formation of NGO networks in the sector concerned is of great significance, because they can involve diversified subjects and places/fields in environmental education. It should be noted that networks make it possible to share knowledge, information, experience, teaching materials, and human resources, and to enhance efficiency and effects of activities, considering the human-oriented characteristics of environmental education, which is different from the production or construction of something. The presence of a network that connects groups and extends communication is more important for NGOs, which are in close relation with community people (emphasis on locality) but are restricted in the range of activity or targets due to limited resources. Also, it would be encouraging for a local NGO to know about the existence of other organizations active toward the same purpose.

Linkage among NGOs in the environmental sector also promotes the social learning process on the macro level. This is of great significance especially when not only individual persons but also the whole society are regarded as targets of environmental education by NGOs. Research in each of activities of domestic environmental NGOs, NGO activities in developing countries, and international cooperation and other aspects of NGOs, points out the importance of the social learning process resulting from the linkage of NGOs (Lowe/Goyder, 1983, 82-3; Korten, 1990; Eldridge, 1995; IGES, 1999).

According to Princen and Finger, who are conducting research mainly with an international approach, NGOs gain a comparative advantage over other actors because they are capable of establishing two kinds of linkages in their independent political position. One is their capability to link biophysical environmental problems to political issues, and the other is their capability in local-global linking. They argue that the significance of the presence of NGOs lies in their capability to promote social learning on the macro level, which is beyond education and awareness in the narrow sense, and realizing social reform as a result.

For example, an environmental problem (and resulting damage and remedies) is often

recognized first at the local level. Causes are identified with the cooperation of NGOs, experts, and the mass media, and relevant information is transmitted in various forms appropriate for its receivers (this is called 'translational linkage'), thereby making the matter a political issue (agenda building). These form a vertical linkage. A horizontal linkage is also established, which supports relevant movements and extends knowledge of, information on, and experience in early detection and prevention of recurrence of similar problems in other regions. These two linkages enable people in different societies and locations to learn about the problem concerned, and the whole society, in turn, learns about (social learning) and addresses it. Princen and Finger point out the importance of linkages among organizations, arguing that such linkages cannot be established by a single organization but by multi-tiered linkage among organizations. In other words, the biophysical-political linkage (vertical linkage) and the local-global linkage (horizontal linkage) promote the social learning process in environmental problems through vertical and horizontal cooperation and networks. The construction of cooperative relations/networks that make it possible for NGOs to take the initiative in working jointly with actors who can provide expertise and assist them in dispatching information, produces capability of promoting the social learning process, which is the source of NGO power.

In environmental education by NGOs, not only for individual persons but also for overall society, and with attention being paid to results of education/learning, importance should be attached to their capability to promote social learning, through linkage of NGOs, which contribute to the realization of sustainable lifestyles and socioeconomic systems. Princen and Finger made a study of not environmental education networks but a specific, issue-based network, as a matter of course. Their study, however, is applicable to the issue of environmental education. NGO networks in environmental education that involves a wide range of activities and information not only produce a social learning effect in the sector concerned, they also serve as standby networks stimulating network activities in other sectors. This is noteworthy when studying the significance of environmental education networks.

Linkage among NGOs studied thus far does not necessarily mean systematic cooperation. However, organized networks that produce benefits more efficiently are useful, as a matter of course. For NGOs addressing environmental problems and environmental education, networks are very important from the viewpoint of micro-level education, whose targets are individual persons, from the viewpoint of macro-level social learning, and in the context of developing countries (including Indonesia). From a theoretical viewpoint, JPL has proved capable of playing a very important role in promoting environmental education in Indonesia. A more detailed analysis of JPL is given below.

2: Historical background

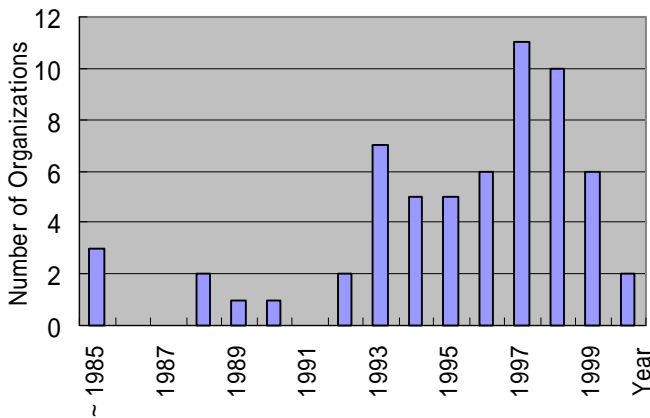
According to Suryo (1999) and others, activities of “environmental” NGOs in Indonesia began in 1962, when the WWF became active in Indonesia. Then it started education activities in 1974, to be more effective, recognizing the need for education in biota conservation. This was the earliest environmental education by NGOs in Indonesia.

In the 1960s, only external (international) NGOs worked in environmental conservation in Indonesia. In 1978, the first Indonesian environmental NGO: Yayasan Indonesia Hijau (Green Indonesia Foundation, hereinafter referred to as YIH) was established, being triggered by WWF activities in Jakarta in the latter half of the 1970s. YIH was the first NGO to come into operation with the aim of promoting ‘environmental’ education from a total perspective, while the WWF focused on biota conservation. YIH had four major activities: 1) the promotion of environmental education in formal education (information dissemination among students, giving workshop and training for teachers, etc.), 2) environmental education in non-formal education (program provision for general people, formation of KIH (Klub Indonesia Hijau: Green Club Indonesia) in various places in the country, and information provision for the provinces), 3) implementation of field programs, and 4) publication of books and a booklet: *Suara Alam* (Voice of Nature).

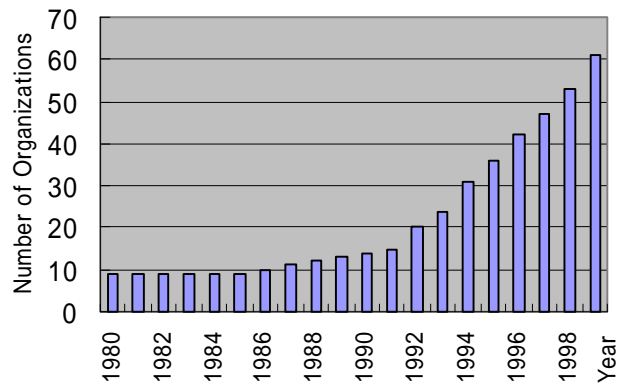
As YIH expanded its activities, more people became interested and joined it, leading to the establishment of KIH (1979), and it spread throughout the country. KIH, organized mainly by young people, was active in various places in the country, using YIH program slide packages and supported by YIH members as facilitators (Suryo 1999).

In the 1980s, the number of environmental NGOs increased. YIH activities, however, became sluggish, with 1984 as a peak. It discontinued the publication of *Suara Alam*, its booklet, and suspended activity in 1985. KIH became formally independent of YIH in the same year (1985) (activities of KIH have been continued until today). These happened because YIH activities decreased quantitatively and qualitatively, due to frequent changes of its members; coordinators were too busy and members were not very active, and leaders had to bear too heavy a burden under the circumstances.

With the beginning of the 1990s, the seeds spread by nationwide YIH activities began growing in every corner of the country. The number of NGOs working in environmental education increased. Suryo established the Environmental Education Center (PPLH) in East Java in 1990. After that, organizations were established one after another, including RMI (1992), which later became a principal member of JPL. Such movement culminated in the establishment of JPL in 1996. Graphs 1 and 2 below show that about 80% of the JPL member organizations were established in the 1990s and began promoting the environmental education movement in the early 1990s.

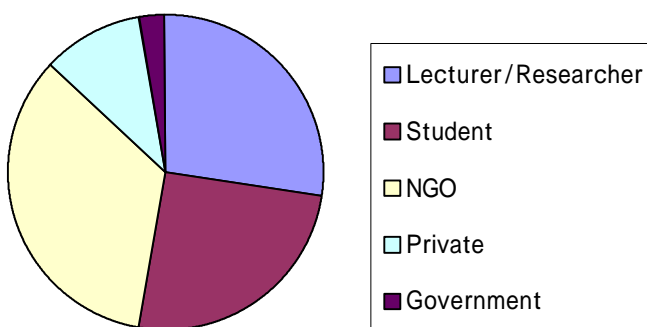


Graph 1 : Year JPL members started environmental education activities(N=61)

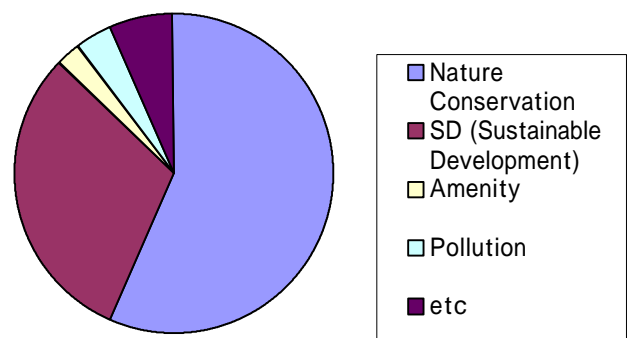


Graph 2 : Year of establishment of JPL members (number of organizations/total)(N=61)

Amid this trend in the 1990s, what parties established environmental NGOs and started environmental education, and what were their motives for doing so (see Graphs 3, 4, and 5)? Graph 3 shows that university-related people established more than half of these organizations. It can be said that specific people equipped with high-level knowledge led the trend, rather than organizations' establishment being the result of the general public's increased awareness of the importance of the environment. One reason for this would be that environmental problems in Indonesia are characterized by the destruction of nature, rather than by environmental deterioration such as pollution, which appear in forms that the general public can recognize more easily. In other words, in many cases people equipped with academic knowledge, and the financially well-to-do, are thought to have recognized environmental problems in their earlier stages and taken action. This may be one reason such people account for the majority of the founders of JPL member organizations. In fact, more than half of these organizations were established for nature conservation (Graph 4).



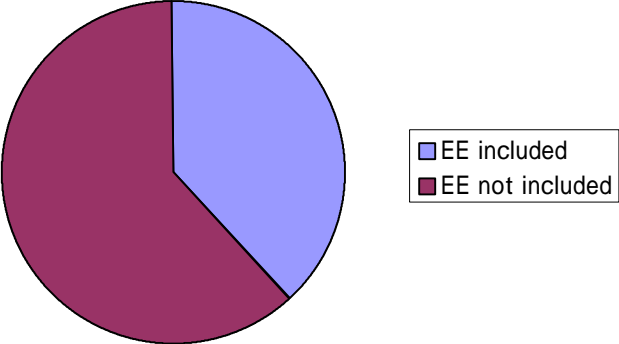
Graph 3 : Backgrounds of founders of JPL member organizations(Multiple Ans.)



Graph 4 : Initial purposes of JPL member organizations (field of activities) (Multiple Ans.)

These NGOs thus established now engage in environmental education, but its promotion was not an initial purpose of most of them (Graph 5). They began environmental education as they recognized its necessity in the process of environmental conservation activities. This

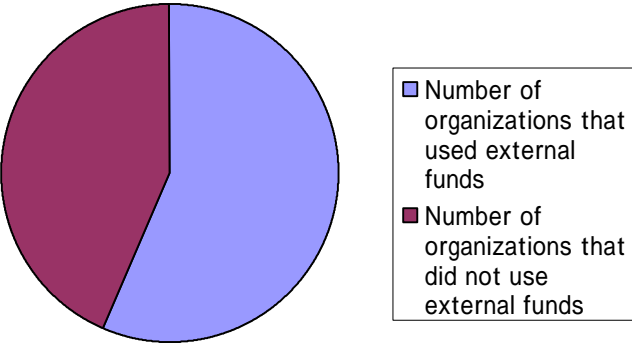
may prove the importance of environmental education in Indonesia.



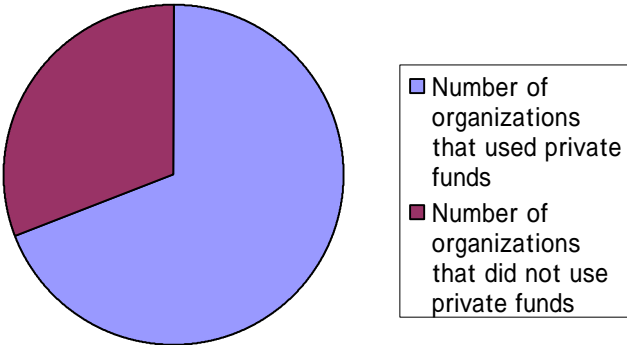
Graph 5 : Percentage of JPL member organizations whose initial purposes included environmental education (EE)

More than half of these environmental NGOs used external funds to establish themselves. This shows expanded financing from external, subsidy (grant-providing) institutions plays an important part in promoting activities of environmental NGOs and their environmental education, especially in developing countries.

At the same time, private funds were also prominent (Graph 7). They show that certain people’s increased interest was a driving force in the environmental education movement by NGOs in the 1990s in Indonesia. External and internal changes led to the expansion of NGO activities and environmental education by NGOs in Indonesia.



Graph 6 : JPL member organizations that used external funds to establish themselves



Graph 7 : JPL member organizations that used private funds to establish themselves

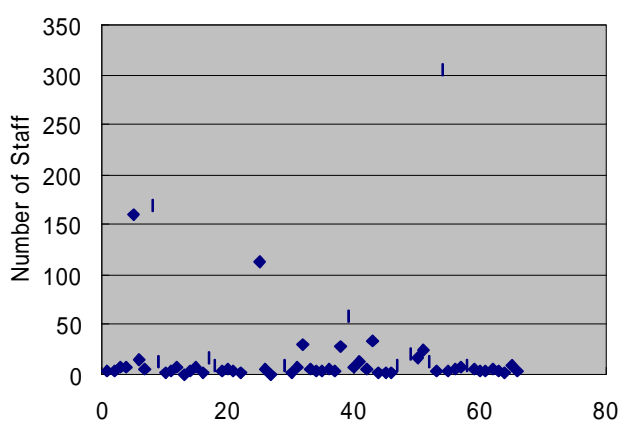
3: Present conditions of JPL—organizational aspects

This report has thus far dealt with the development process of the member organizations, the historical development of environmental NGOs, and their environmental education in Indonesia through examining JPL. Then, what are the present conditions of JPL?

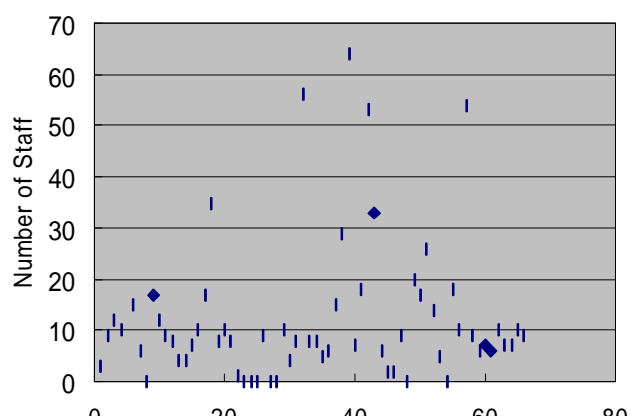
Table 1 shows the statistical scales of JPL member organizations. The median of the number of full-time staff is 5, and the mode is 3. JPL consists mainly of small- and medium-scale organizations. High mean values result from large figures for a few organizations, including such large international organizations as the WWF and CARE, and members other than NGOs (such as botanical gardens). The median and the mode reflect the actual conditions more appropriately (Graphs 8 and 9).

Table 1 (N=64)

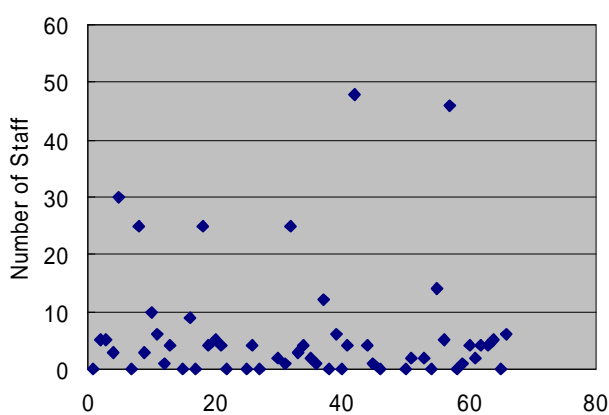
	Full-time	Part-time	Volunteer (paid) ^{Note 4}	Volunteer (unpaid)
Mean	20.04839	6.381818	7.692308	7.384615
Median	5	4	2	1.5
Mode	3	0	0	0



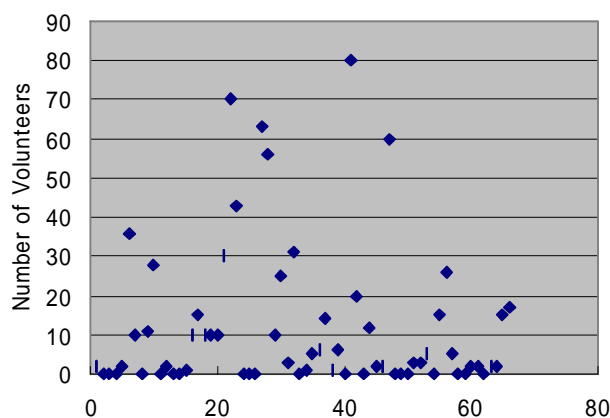
Graph 8 : Number of full-time staff in JPL member organizations (N=64)



Graph 9 : Number of full-time and part-time staff in JPL member organizations (except for WWF, CARE, and botanical gardens)



Graph 10 : Number of part-time staff in JPL member organizations (N=64)



Graph 11 : Number of volunteers in JPL member organizations (N=64)

Note 4 “Volunteers (paid)” shall have almost the same meaning as part-time workers in general.

The fact that JPL consists of a number of medium-scale organizations shows it plays an important role in promoting environmental education in each region at grass-roots level through the capacity building of such organizations. This is a significant approach to enhance the general level of environmental education by NGOs in Indonesia. These prove the importance of JPL in promoting environmental education in the country. As shown in Table 2, few organizations have branches all over the country. In other words, most members are locally based: an organization has one office in a certain region for its activity, and does not have its own nationwide network. Those organizations would be increasingly benefited by information they receive through JPL.

Table 2(N=39)

Mean number of branches	1.861111
Median	0
Mode	0

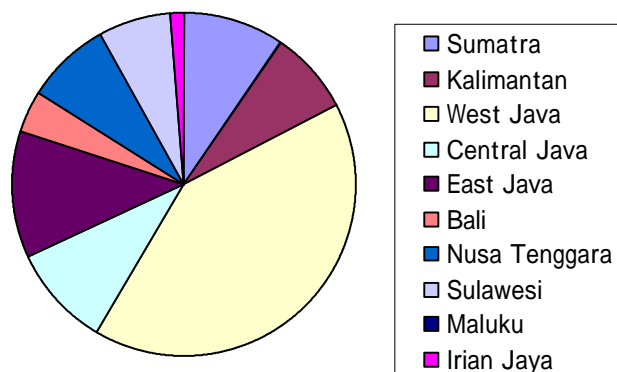
Next, where are JPL members active?

JPL member organizations exist all over the country, as shown in Tables 3 and 4 and Graphs 12 and 13, although they are concentrated in Java. In Indonesia, Java has a very high population density, and the survey results reflected this fact. The survey also shows that the efforts of environmental NGOs that aim at working on ‘nature’, environmental education in particular, are ‘human’ activities in fact.

Nationwide activities of JPL show that, as a network, it plays a very important role in nationwide dissemination of information for the purpose of promoting environmental education by NGOs in Indonesia.

Table 3 Number of organizations by region (Activity sites/N=55/Multiple Answers)

Sumatra	7
Kalimantan	6
West Java	31
Central Java	7
East Java	9
Bali	3
Nusa Tenggara	6
Sulawesi	5
Maluku	0
Irian Jaya	1
Total	75
Java	47
Percentage of Java	63%

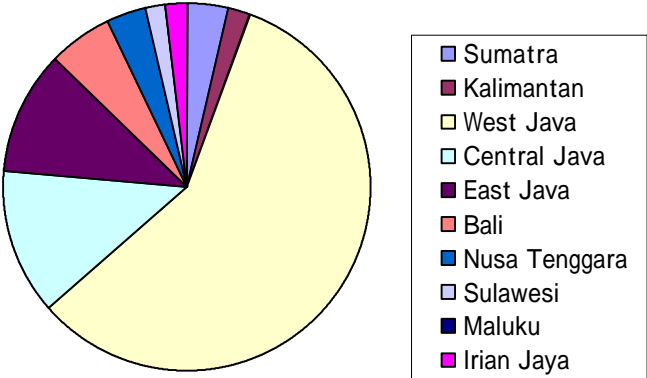


Graph 12 : Number of JPL member organizations by region (Activity sites N=55/Multiple Answers)

The fact that these organizations extend their activities to places outside their locations shows they conduct environmental education by visiting regions outside their locations, for protection of the important natural environment (Table4/ Graph 13).

Table 4 Number of organizations by region (Headquarters)

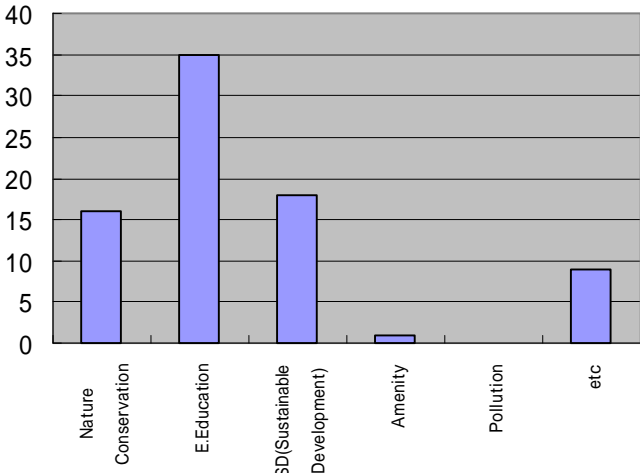
Sumatra	2
Kalimantan	1
West Java	32
Central Java	7
East Java	6
Bali	3
Nusa Tenggara	2
Sulawesi	1
Maluku	0
Irian Jaya	1
Total	55
Java	45
Percentage of Java	82%



Graph 13 : Headquarters of JPL member organizations by region (Headquarters)

4: Present conditions of JPL — activity aspects

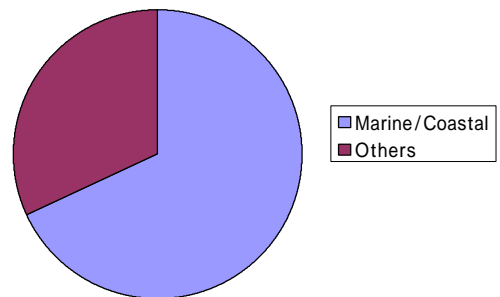
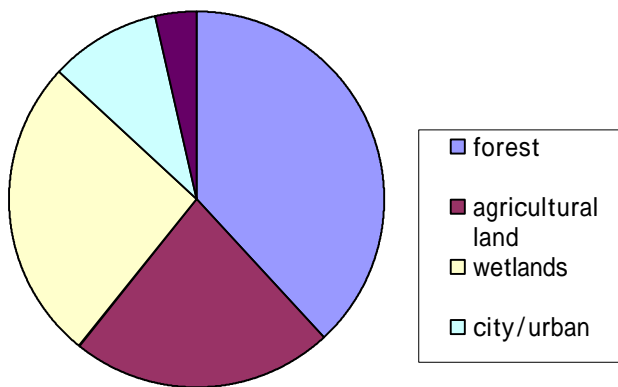
Graph 14 shows the major activities conducted by JPL members as an organization. From this graph, it is evident that few organizations deal with amenities and pollution control as their major purposes, while many organizations are active toward natural conservation and sustainable development^{Note 5} (refer to Graph 4 showing initial purposes of JPL members). In other words, organizations mainly dealing with “green issues” play central roles in JPL, as opposed to organizations dealing with “brown issues.” This fact reflects the state of environmental issues in Indonesia. Graph 4 shows that not many organizations cited environmental education as their initial purpose, but present activities show that many organizations are focusing on environmental education.



Graph 14 : Major activities of JPL member organizations (N=62/Multiple Answers)

However, it does not mean that many organizations do not deal with amenity- and pollution-related issues as subjects of environmental education. Evidence of this is that a growing number of organizations are dealing with urban issues, as shown in the classified total of responses to the question on what type of ecosystem they are dealing with (Graph 15-1, 15-2). In other words, the collected data show that they are providing education for sustainability and a broader range of environmental problems, including the natural environment.

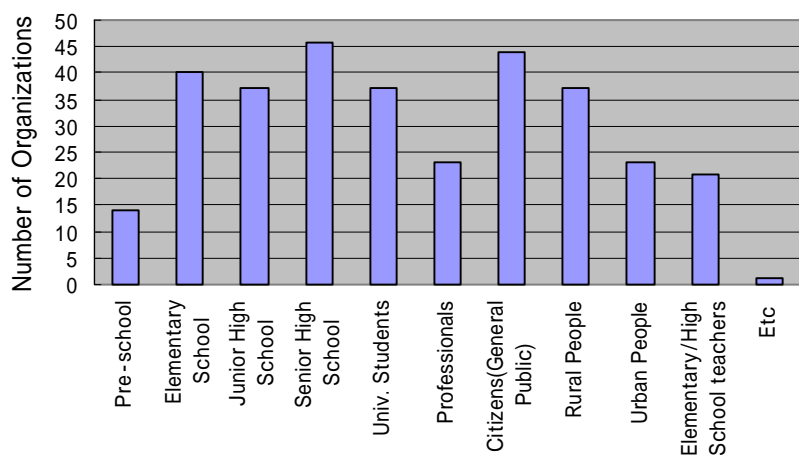
^{Note 5} As environmental education has developed as a general concept of education for sustainability, sustainability is considered a wide concept that includes conservation of the natural environment. However, the author pays attention to “development” here, focusing on whether or not it is strongly development-oriented.



Graph 15 – 1 : Ecosystem JPL members are dealing with as a subject of environmental education

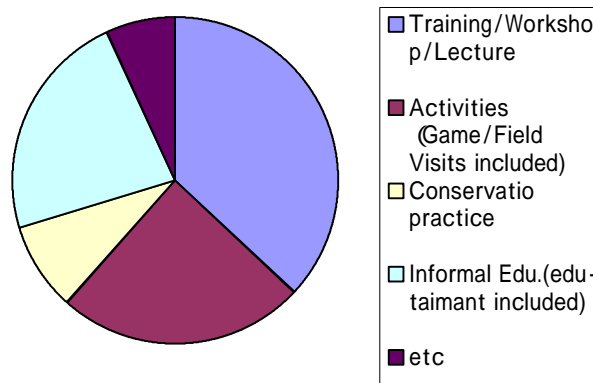
Graph 15 – 2 : Breakdown of wetlands

Then, what type of people do JPL member organizations provide environmental education? Graph 16 shows that they provide environmental education for a wide range of people.



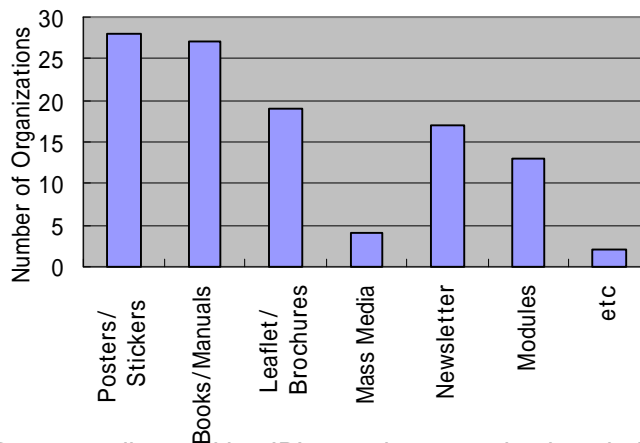
Graph 16 : Target of EE activities by JPL member organizations (N=64)

Naturally, JPL members use various education methods depending on the target (Graph 17). It should be noted that informal education and activities, such as games, account for a large percentage compared with lectures. It is noteworthy that many environmental education activities are conducted through actual experiences and field activities, as well as various media, such as dramas and videos, in an attempt to appeal to participants' sensitivities. This characteristic of education may be a reflection of the nationality, as well as the social and economic background, of Indonesia. In studying assistance programs (training programs, teaching material development, etc.) for JPL members, it is essential to take into consideration the characteristic of environmental education conducted by Indonesian NGOs, which involves a wide range of non-lecture activities.



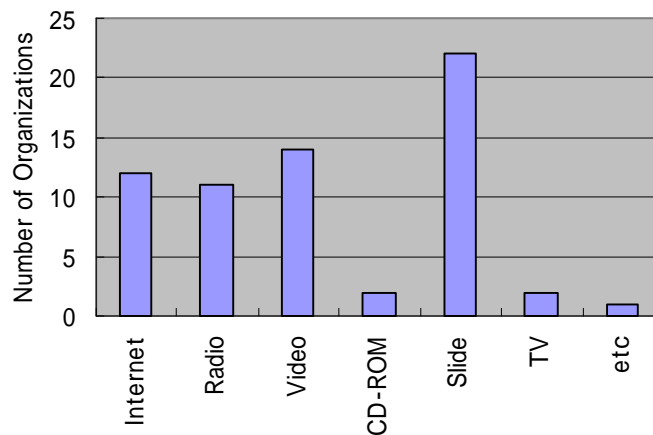
Graph 17 : Methods in EE activities of JPL member organizations

Let us take a look at education media used by JPL members. As Graph 18 shows, paper media is commonly used, with posters and stickers predominant, followed by books and brochures.



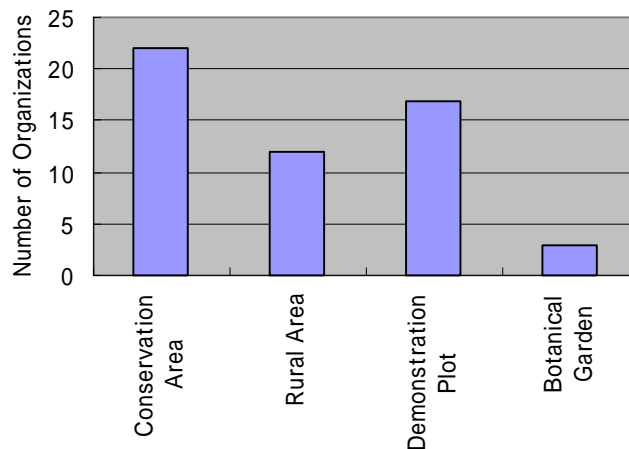
Graph 18 : Paper media used by JPL-member organizations in EE activities (N=53/ Multiple Answers)

Apparently, some JPL members also use electronic media, although fewer in number compared with those using paper media. In particular, slides are used by more than 20 organizations. Furthermore, it is noteworthy that more than 10 organizations use radio as a medium for environmental education. Regardless of the literacy rate and the habit of reading, radio is a popular medium in Indonesia; the general public can use radios while working, and the radio diffusion rate is high. If attractive radio programs can be provided, the medium would become very effective for environmental education under the present conditions of Indonesia.



Graph 19 : Electronic media used by JPL member organizations in EE activities (N=32/ Multiple Answers)

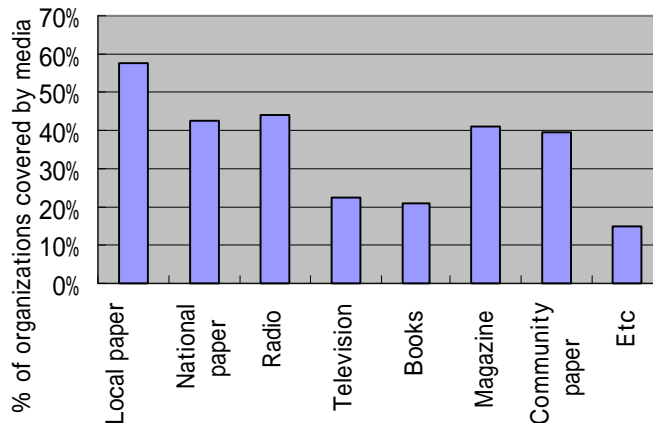
Speaking of “places/fields” of environmental education, a number of demonstration plots are used, following conservation areas^{Note 6}. This indicates that, in order to promote sustainable development, practical approaches, such as to teach an environment-friendly farming method, are becoming increasingly important.



Graph 20 : “Places/fields” used by JPL member organizations in EE activities (N=52/Multiple Answers)

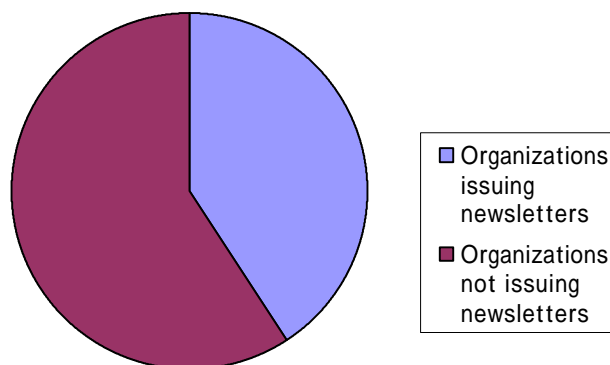
Also, what is the relationship between JPL member organizations and media that transmit information, which is environmental education activity in a broad sense? As shown in Graph 21, JPL member organizations have been covered by various media, such as local papers and radio. It seems that JPL-member organizations maintain comparatively good relations with various media, including the mass media.

^{Note 6} A demonstration plot refers to a “place/fields” for environmental education, where a certain thing is demonstrated so that participants can experience firsthand by watching. For instance, in the case of environmental education on agriculture, it refers to a farmland where a combination of environment-friendly crops or an organic farming method is demonstrated in front of the local residents.



Graph 21 : Coverage of JPL organizations by media (N=66)

Also, Graph 22 shows that a small number of JPL member organizations issue newsletters. This is because there are almost no organizations that employ a Western-type membership system, in which operations are financed by membership fees from the general public. Those engaged in operations and implementation of group activities are considered members, and they are treated as constituents of the organization, rather than as a financial source. Therefore, even if a membership system is introduced, there is less accountability to the members. This may be why only a small number of organizations issue newsletters. [As Table 5 shows, the number of organizations that use a membership system is small. As can be seen from a comparison between Table 6 (which shows the results of the question for JPL members on “What environmental NGOs are seeking from their members”) and Table 7 (which shows the results of the same question for environmental NGOs in the U.K. and Japan), it is evident that, in Indonesia, members of NGOs are regarded as manpower that positively participates in the activities, unlike in Western countries.] In the surveys conducted on Japanese NGOs (Nomura and Abe, 2000), which are positioned between Western NGOs and Indonesian NGOs in terms of membership systems, it was found that 62% of the organizations issued newsletters. From this fact, we can imagine the characteristics of Indonesian NGOs.



Graph 22 : JPL member organizations issuing newsletters

Table 5

Percentage of organizations that use a membership system	29%
Total number of organizations that use a membership system	19
Number of valid responses	66

Table 6 : The benefits JPL members derive from their members

(N ^{Note 7} =19)	1	2	3
Source of income	3	3	4
Providing voluntary assistance in the practical work of the group.	11	4	2
A network of local environmental watchdogs to alert the group to any problems that call for action.	6	3	2
A source of authority in dealing with governments and other organizations.	1	1	1
A team of proselytizers, disseminating the group's message at the grassroots level.	4	4	5
A source of ideas and initiatives for new policies and issues for the group to pursue.	2	8	4
A source of active help in campaigns (e.g. lobbying MPs or writing to the press).	1	0	0

Table 7 : The benefits environmental NGOs derive from their members (Japan/UK)

		1	2	3
Source of income	Japan	37	13	4
	U.K.	31	4	2
Providing voluntary assistance in the practical work of the group.	Japan	25	20	5
	U.K.	8	11	8
A network of local environmental watchdogs to alert the group to any problems that call for action.	Japan	5	11	10
	U.K.	3	8	7
A source of authority in dealing with governments and other organizations.	Japan	6	5	9
	U.K.	2	7	8
A team of proselytizers, disseminating the group's message at the grassroots level	Japan	13	10	14
	U.K.	1	5	8
A source of ideas and initiatives for new policies and issues for the group to pursue.	Japan	1	10	8
	U.K.	0	5	4
A source of active help in campaigns (e.g. lobbying MPs or writing to the press).	Japan	2	5	4
	U.K.	0	3	1

(Prepared from Nomura and Abe, 2000)

Note 7 (1) Source of income. (2) Providing voluntary assistance in the practical work of the group. (3) A network of local environmental watchdogs to alert the group to any problems that call for action. (4) A source of authority in dealing with governments and other organizations. (5) A team of proselytizers, disseminating the group's message at the grassroots level. (6) A source of ideas and initiatives for new policies and issues for the group to pursue. (7) A source of active help in campaigns (e.g. lobbying MPs or writing to the press). The above seven items were listed in the questionnaire. Respondents pick up items they emphasize from the seven. The classified total compiled on Indonesia is shown in Table 6. Table 7 shows examples summarized in Japan (Nomura and Abe 2000) and the U.K., which is ahead of Japan in terms of research in this field (Lowe/Goyer, 1983). The "1" indicates the total number of organizations that said the benefit received from among the seven items mentioned above is the greatest. The "2" on the right shows the total number of organizations that said the benefit in question ranks second. (Number of groups/NGOs ranking)

5: Achievements of JPL and outlook for the future

Is JPL, under the conditions mentioned above, effective as a network? Although it is difficult to measure the effect of a project to create a network (it would take 5 to 10 years), JPL members recognize that their network is useful for them. In response to the questionnaires aimed at JPL member organizations, 47 of 66 organizations said they benefited from JPL. Given that this figure includes a number of new members, JPL members seem to recognize that it has produced good results. Table 8 shows the breakdown of benefit pigeonholed based on the responses (written freely) received from JPL member organizations. As you can see from the itemized list, many items overlap the points described earlier regarding the significance of creating NGO networks to promote environmental education by NGOs in developing countries. Judging from this, it is safe to say that JPL is producing good results.

Table 8 (N = 47)

Sharing of information (knowledge) in general		14
Improvement of programs (A + B)		(30)
(A) Improvement of the quality of each program		22
(B) Synergy (a + b + c)		(8)
(a) To maximize efficiency by combining programs with those of other organizations		6
(b) To participate in other programs		1
(c) To implement joint programs		1
Improvement of organization management		2
Improvement of access to funds		1
Personal relations (A' + B')		(14)
(A') Personal network (To secure access to an information route)		6
(B') To secure partners (Common awareness by knowing about the existence of other organizations active in the same field)		8

Therefore, the effort JPL is making is very significant, and it is producing some results; but, roughly speaking, there are three problems to be solved. First, as mentioned earlier, JPL has many young organizations, which does not have adequate staff members who have basic knowledge about environmental education, management, etc. Therefore, many members need capacity-building. JPL leaders have stressed the need for improving organization management and English ability.

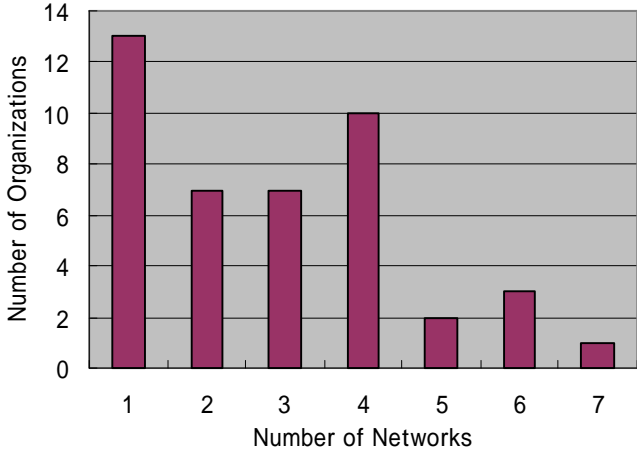
Furthermore, a lack of understanding about the network itself, and a lack of mutual understanding among member organizations, are also problems to be solved. For example, a JPL workshop in 1998 and the JPL general meeting in 1999 were held with the assistance of the Japan-U.S. Common Agenda Round Table. In connection with these events, there was a lack of harmony among the members resulting from misunderstandings that only a limited number of organizations enjoyed the benefit of information and funds. Presently, the core members are working to create a network structure that does not allow benefit to be

centralized, and that does not allow a limited number of groups to control the entire organization. It seems to be very important whether such efforts can promote mutual understanding among the members, and whether the purpose of the network can infiltrate into the minds of members, thereby creating a full-fledged network. Also, in the discussion of the JPL general meeting, it was observed that some groups sought stronger linkage with other groups involving implementation of a joint project, rather than gaining benefit from the network itself. However, since such higher-level linkages as coalitions and alliances/confederations require consideration of how to distribute resources, they involve many problems. Recognizing such circumstances, it will be necessary to judge if JPL should seek some forms of linkage other than networks.

In terms of improving the internal system, JPL member organizations said they spent about 27% of the organization resources, on average (Table 9), in response to the question on what amount of resources was used for network activities, including JPL. They also allocated an average of 33.5% of their resources to shared activities with other organizations, according to their replies (Table 10). These two classified totals are respondents' subjective figures, because they were not calculated based on numerical values, such as amounts of money. However, from these figures, it can be readily understood that a large amount of precious resources of NGOs has been used for purposes other than their own primary activities. As indicated in Graph 23, JPL members have joined an average of 2.86 networks. Needless to say, such networks are advantageous to NGO activities, but it will become necessary to design such networks to reduce the burden of member organizations and enhance effectiveness.

Table 9 Manpower provided for networks	
Average (%)	27.03667
Median	30

Table 10 Cost for shared activities	
Average (%)	33.5
Median	22.5



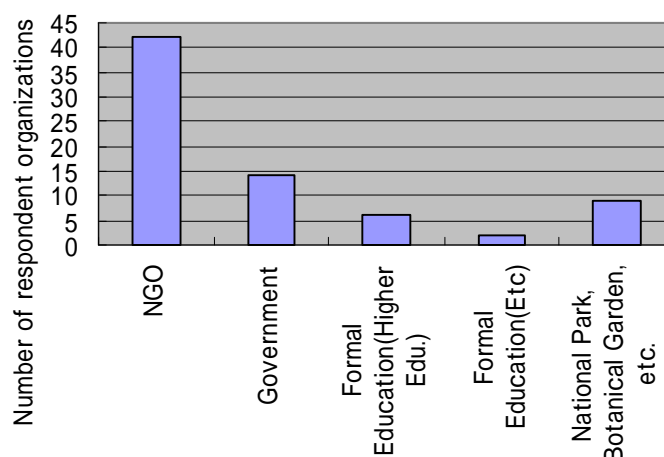
Graph 23 : Number of networks joined by JPL members (N=43)

Dadang Juliantara (chairperson of the Yogyakarta NGO Forum) pointed out the reasons for difficulty in building a network by Indonesian NGOs, as follows, using the examples of the Forum: (1) members must deal with the internal problems of their network, and (2) members must use their manpower to enhance the capability of other members (Dadang Juliantara, 1996). Therefore, allocating their own resources to the above makes it difficult to achieve the goal of the network itself. Consequently, there are some cases where networks fail. This situation coincides with the current JPL conditions mentioned previously.

In reference to designing a network, it is important to build a relationship with external organizations; in other words, to build a system in which exchange of information with external organizations is possible without placing excessive burdens on them. In order to attain the goal of environmental education by making the best use of the possibilities of networks in developing countries as described previously, it is essential to collaborate properly with NGOs that promote a wide range of “social learning processes” including activities for sustainability, and awareness, in addition to the organizations that conduct “environment” and “education” activities in the narrow sense. To this end, it will be necessary for JPL to positively provide information to the outside on the content of environmental education activities and its importance. In fact, when environmental education is mentioned, WALHI, The Indonesian Center for Environmental Law (ICEL), and many other NGOs interpret it as activities for children. Therefore, their use of media, such as press releases, advocacy, seminars aimed at policy-makers, and training for judges and NGOs, are not considered part of environmental education. It is important for JPL to strengthen relations with other organizations having expertise active in neighboring areas on a network basis. Their activities often overlap the environment and education. Therefore, the information obtained from them is important for JPL. Conversely, the information supplied by JPL is sometimes useful for them. At the hearings of large-scale NGOs (LP3ES / Bina Swadaya / YLKI, etc.), the participants said that they were interested in environmental education and JPL itself, but the organizations that place more emphasis on other purposes said that, because of “the excessive burden,” they were not willing to work as JPL members. Therefore, it is a challenge to involve NGOs active in neighboring areas without placing an excessive burden on them, considering their limited resources.

In order to attain the goal, it is desirable, from the viewpoint of expertise, to expand the target of collaboration from solely NGOs to other organizations. As an example, higher educational institutions, such as universities, can be considered. NGO resources are limited compared with other actors. As mentioned earlier, it is often pointed out that the comparative superiority of NGOs is the ability to collect information at the grassroots level and build agendas based on the information collected. But it is indispensable to carry them out based on scientific knowledge. In order to maximize the effect with limited resources, linkage with other actors is required. To complement expertise, shared activities with universities would be essential. In this case, universities do not have to become members. Instead, JPL members should establish relationships with them so that the members can collaborate with them at any time.

In reality, there are not many linkages between higher educational institutions and JPL members.



Graph 24 : Counterpart organizations in implementing joint projects (N=55)
 55 of 69 organizations replied that they had joint projects with other organizations.

However, in many cases NGOs other than JPL members have cooperative relations with universities. One NGO staff member said that, if a proper approach and proposal were made with an appropriate network, an NGO would be able to have cooperative relations with academic societies under the present conditions of Indonesia. Hereafter, it will be necessary to study how to increase effective shared activities and provide training.

Furthermore, relations with the Government should be established. As Corrothers (1998) and others said, it is undeniable that NGOs lose opportunities to implement more development programs in which they have succeeded on a local level, or large-scale programs that may have an effect on the government policy they desire to modify. This is because NGOs keep a distance from the Government and lose precious relations with it, and opportunities. Keeping independent of the Government and establishing some channels with it would lead to the creation of a vertical link that would help promote the social learning process mentioned earlier, and NGOs would have stronger influence.

In sum, the following three points are challenges JPL faces:

1. Capacity-building of members (environmental education, language, organization management, etc)
2. Improvement of internal conditions (mutual understanding among members, promotion of understanding of the JPL network – uniformity of thinking / creation of systems that reduce members' burden)
3. Improvement of external relations (transmission of information on environmental education and JPL / Induction of neighboring actors by improving means of receiving external information)

What are the means to cope with the above three challenges? The author would like to cite two points, from the viewpoint of JPL members which should address the problems.

First of all, a computer-based information accumulation and distribution system should be created, aimed at creating a stock of information and a flow method (in/out information flow designed for an inside/outside network). Specifically, creation of e-mail lists and web sites can be cited. Since there are many JPL organizations that have e-mail addresses (Graph 25-1), a computer network will function well. Since August 1998, a JPL mailing list has

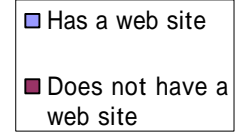
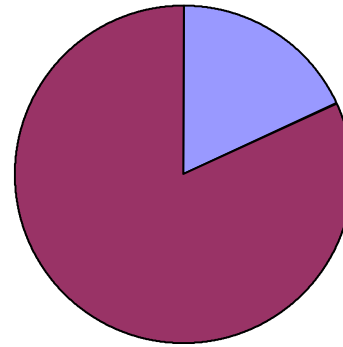
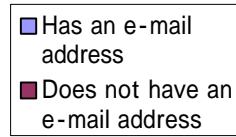
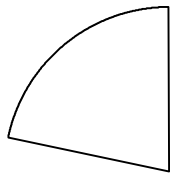
been used, following a decision by the Steering Committee. JPL is also considering use of e-mail in distributing its newsletter: Kulit Pisang. Developing and improving such a system will help promote information-sharing and will help JPL cope with its internal problems.

On the other hand, comparatively few organizations have their own web sites(Graph 25-2). In order to increase the amount of information transmission, JPL needs a common web site that includes information on each member organization, in English and Indonesian. Such an effort is very significant toward improving the information transmission ability in English of each organization, and toward promoting the establishment of relations with external organizations in neighboring fields, including overseas aid organizations. Furthermore, possession of information in the form of data will make it possible to update information properly whenever there is a change in membership or information on respective members. In this way, possession of information permits supplying of the latest information inside and outside the network. Having directories of this kind would be very effective for the network. For one reason, if supporters outside the network want to support environmental education in Indonesia, it would be possible for them to obtain information toward giving support, effectively and efficiently. For example, it would be helpful for funding agencies to decide on which NGO, or what type of environmental education activity, to give financial assistance to, through obtaining information on how the NGO is conducting environmental education activities throughout Indonesia. Naturally, this directory will also serve as an effective tool in supporting the entire network. In addition, for supporters that are actually engaged in aid activities, such as NGOs and aid organizations, it would become possible to select a proper organization as a counterpart or a partner, and conduct activities effectively. Furthermore, creation of computer systems, such as e-mailing and web sites, will lead to the formation of a loose system in which external organizations active in a field near environmental education can participate, and the system enables such organizations to exchange information at a lower cost than the members' cost.

Within the network, establishment of web sites will strengthen horizontal linkages among member organizations. Sharing information on each organization's activities in written form will help promote information exchange among members, and will lead to mutual capacity-building. Sharing information on organizations in written form will make it possible to shift linkages from an individual basis to an organizational basis. Therefore, even if the person in charge (an NGO staff member) leaves the organization, linkage on an organizational basis will continue, and the network will be maintained. In addition, improved internal linkage will bring about a ripple effect when financial or technical assistance is provided from outside. This is a very important point also for external supporters.

Table 11

Has an e-mail address	51	Has a web site	12
Does not have an e-mail address	14	Does not have a web site	54
Number of valid responses	66	Number of valid responses	66



Graph 25-1 : Percentage of JPL member organizations that have an e-mail address(N=66)

Graph 25-2 : Percentage of JPL member organizations that have a web site(N=66)

In terms of improving capacity-building, sharing information using communication tools is very important. However, no matter how successfully a computer-based information network is established in Indonesia, it would not be enough to improve capacity building; some kinds of practical training is also indispensable. But, it is next to impossible for people to gather frequently in a specific area from all over Indonesia to undergo practical training. If, for example, an environmental education center, like PPLH in East Java, is located in various places, it can serve as a sub-regional station, where workshops or training (shared activities projects) to address common problems facing that area could be provided at low cost by a capable organization there. In particular, such a station is in great demand in densely populated West Java. Such demand is recognized by some highly capable NGOs, and they are planning to build centers that can serve as sub-regional stations. If such stations are effectively positioned and sub-regional activities are properly incorporated into JPL, the nationwide network will become more valuable.

According to Mr. Suryo, the founder of PPLH, the then Environment Minister asked him several years ago to create centers like PPLH all over Indonesia. At that time, he declined to comply with his request, as a policy of PPLH, on the grounds that it was difficult to create such centers without initiative from the local residents concerned. But, this shows the recognition of the importance of such centers even at the policy-making level in Indonesia. In other areas of Indonesia, competent NGOs recognize the need for establishing environmental education centers like PPLH, and they are making plans for that, as mentioned above. Such situations should be taken into account in considering the environmental education policy of Indonesia.

Under these circumstances, an environmental education center in local areas should be operated on a local basis, and it must be self-reliant from the viewpoint of the problems developing countries face, and for the benefit of local development. For instance, currently 45 of 60 PPLH staff members (working on a full-time basis, besides this figure there are four overseas volunteers engaged in information transmission services) are locally employed. Annually, 12,000 people visit PPLH-Seloliman and participate in environmental education programs. This center is equipped with accommodations (for over 70 persons) and learning facilities, on a 3.7ha plot. It offers various programs, ranging from one-day programs to long-term programs. The facilities are also suitable as workshop venues, and about 40 workshops are held annually (in 1999, a JPL workshop was held here). PPLH-Seloliman has a farm in its plot, and about 70% of its operating expenses are covered by income earned by the farm, accommodations, and other facilities. This is very rare for NGOs in Indonesia, but

it is desirable to establish a locally based, organizationally self-reliant center. At any rate, it seems necessary to construct this type of centers in West Java, where many NGOs are located, including JPL members.

Up to now, three problems faced by JPL, and two improvement measures JPL members can take, have been presented: improvement of information accumulation and distribution system; establishment of sub-regional stations. Next, what kind of support can be provided from outside for the development of JPL? The following are possible measures that could be taken toward this end: (A) direct support for the network activity itself (support for creating an information system, such as e-mailing and regular annual general meetings); (B) support for capacity-building of each member organization; (C) material support for creating local stations etc.

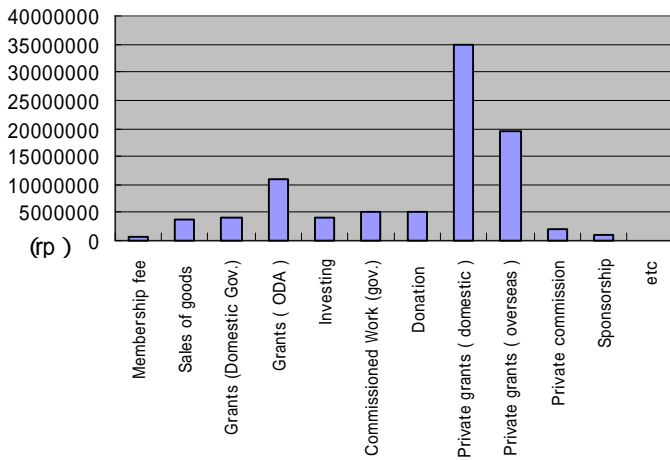
For instance, ‘support for general meetings and training programs’ that have been implemented so far, are considered significant as support for human-aspects described in (A) and (B). Such current efforts should be improved and expanded. As mentioned earlier, there are three challenges faced by JPL: (1) capacity-building of members, (2) improvement of internal conditions, and (3) improvement of external relations. These three points can be addressed by providing training in environmental education and organization management (including computer skills), as well as the opportunities to have meetings.

As for (C) material support, ODA projects may be conceivable; however, in such a case, small-scale “assistance from subsidy organizations,” with large discretion at the local level, is noteworthy. Actually, a large part of funds of JPL member organizations is provided by subsidy (grant-providing) organizations for the activities of each organization. Apparently, JPL organizations are already familiar with the use of funds provided by subsidy organizations (Graph 26–1, 26–2). This trend is the same when taking up only environmental education activities (Graph 26–3). If both JPL and subsidy (grant-providing) organizations consider the assistance, taking account of optimizing the total amount of assistance and its effect, and establish local stations in various areas, NGOs’ environmental education activities in Indonesia will be strongly supported.

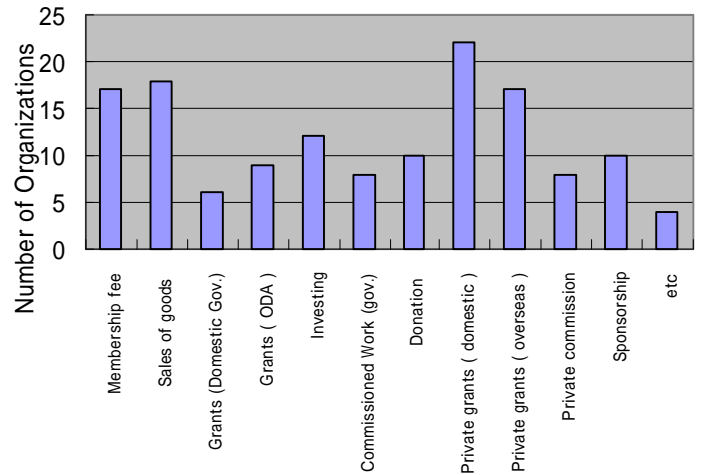
As can be seen from the support of subsidy organizations, domestic aid accounts for a large percentage^{Note 8}, and overseas aid does not account for much. This is because organizations in Indonesia greatly recognize the need for environmental education, whereas overseas organizations lack such awareness. Furthermore, since international cooperation programs tend to seek tangible results, the percentage of aid for environmental education does not increase much. One reason hindering expansion of assistance for environmental education is that the effect of environmental education cannot be easily recognized, because an evaluation method has been neither established nor disseminated in the field of environmental education. Actually, at an IGES workshop, one staff member of a subsidy (grant-providing) organization was quoted as saying, “Although many proposals on environmental education are submitted, it is very difficult to evaluate them. However, it is indispensable to evaluate them, because the result and importance of a proposed project must be clearly indicated to the fund supplier. Therefore, the adoption rate is low compared with

^{Note 8} NGOs providing environmental education in Indonesia are eligible for grants, such as GEF, DML, and Kehati. (Example: Annually, Kehati provides about 150 cases with small-amount grants for public awareness, community empowerment, conservation and utilization, fundraising and institutional building, etc.)

other fields.” From this viewpoint, the evaluation capability must be improved as part of capacity-building by, for example, providing training and workshops, to increase the support from overseas organizations for ‘intangible’ environmental education activities by NGOs. (IGES, 1999).



Graph 26-1 : Annual funds of each JPL member organization (by source of funds / amount = median/ N=36)



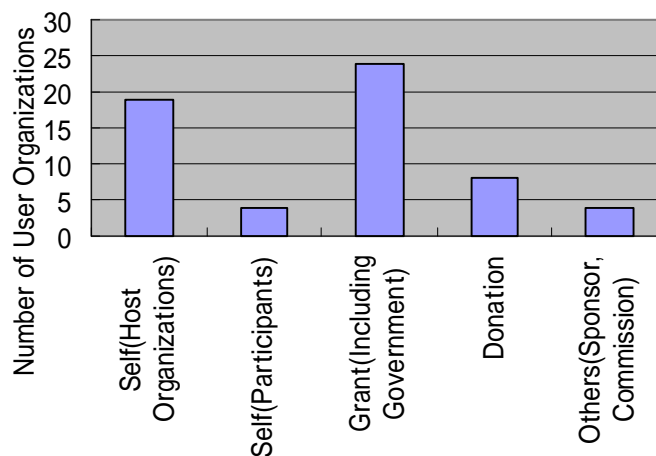
Graph 26-2 : Source of funds JPL members are using (N=45/Multiple Answers)

Table 11 (N=47)

Annual budget of JPL member organizations	(rp)
Average	268319085
Median	47007620
Total	9659487074

Table 12 (N=37)

Budget for environmental education	(rp)	% of Total
Total	1626058600	
Average	45168294.4	53.85974
Median	16700000	50
Mode		



Graph 26-3 : Source of EE activity funds of JPL member organizations (N=49/ Multiple Answers)

6: Conclusion

As described above, the author has analyzed and studied the present conditions of JPL and the challenges JPL and its supporters should address for its further development, centered on the questionnaire results. The development of JPL will influence the future of environmental education by NGOs in Indonesia. In the future, each NGO and assisting organization will be required to collaborate in promoting JPL efficiently and effectively, not from the limited viewpoint of each organization or project but with a wider view toward developing environmental education by Indonesian NGOs. The author sincerely hopes that the discussion in this report will be of some use in addressing such problems.

In addition, research should be continued for the further development of environmental education by NGOs, including JPL. From that viewpoint, the study discussed in this report is not the final one, and further improvement and progress will be required. Comments and constructive criticism on this report from various perspectives, with such imperfections taken into account, will be most welcomed.

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