2ND WORKSHOP ON MEDIA AND THE ENVIRONMENT IN THE ASIA-PACIFIC REGION

Contents

Introduction

Osamu ABE

Project Leader, IGES Environmental Education Project

Environmental Education is one of the most effective ways of increasing public environmental awareness, developing skills to solve environmental problems and improving quality of life and the environment.

The aim of our project is to develop a comprehensive regional strategy of environmental education in the Asia-Pacific region and to assist partners in its implementation.

We do research for promoting environmental literacy, citizenship, the establishment and enhancement of approaches to Environmental Education, taking into account the variety of cultural backgrounds. Thus we contribute to gain a clear perspective of the Asia-Pacific Environmental Education.

In order to achieve this aim, we have been conducting activities in collaboration with researchers, government agencies, NGOs, journalists, universities and related institutes in this region.

The 2nd Workshop on Media and the Environment in the Asia-Pacific Region was organized by the Environmental Education Project of IGES, in cooperation with the Japanese Forum of Environmental Journalists (JFEJ).

The media significantly influence society. We consider the media very important in promoting environmental education in this region. Therefore our fields of study vary from mass media and local media to new media, such as the Internet. Based on the profound and progressive discussion in this workshop, we will develop further study and explore opportunities for building extensive networks of the Asia-Pacific region's environmental journalists.

Program

Thursday, February 17, 2000

13:00 ~	Opening Remarks *Mr. Shigeyuki Okajima*, JFEJ/IGES *Mr. Masaru Moriya*, IGES *Prof. Osamu Abe*, IGES/Saitama University
13:25 ~	1st Session: "Status on Media and the Environment in Asia" Chairperson: *Mr. Ken-ichi Mizuno*, NHK Enterprise 21
13:30 ~ 15:00	Presentation: Country Reports
15:00 ~ 15:15	Coffee Break
15:15 ~ 16:45	Presentation: Country Reports
16:45 ~ 17:15	Comment on the reports: *Mr. Satoru Matsumoto*, Mekong Watch
17:15 ~ 17:55	Discussion
17:55 ~ 18:00	Summary of Discussion: *Mr. Ken-ichi Mizuno*
18:00 ~	General Information
18:10: ~ 19:30	Reception at AZALEA

Friday, February 18, 2000

9:00 ~	2nd Session: "Environmental Education and Media in the Asia-Pacific" Chairperson: *Mr. Shigeyuki Okajima*
9:05 ~ 9:10	Presentation: "Media's Research and IGES Environmental Education Project" *Prof. Osamu Abe*
9:10 ~ 9:40	Presentation: "Regional Environmental Education Strategy and Media" *Dr. Bishnu Bhandari*, IGES
9:40 ~ 10:40	Discussion
10:40 ~ 11:00	Coffee Break
11:00 ~ 12:15	Discussion (Continuation)
12:15 ~ 12:20	Summary of Discussion: *Mr. Shigeyuki Okajima*
12:20 ~ 12:30	Closing Remarks
12:30 ~ 13:10	Lunch at Cafeteria OAK
13:30	Departure for Excursion

Status Report

In Cooperation with Mass Media is a Powerful Way of Environmental Education in China

Li Hao
The Environmental Education Television Project for China
China

Weak Environmental Awareness and Serious Situation

At very high speed of economic development in the last twenty years, China's environmental problems and damages have become obvious and serious. However, since the whole nation, from decision-makers to ordinary people, had little experience and knowledge about the consequences of pollution and ecological damage, environmental education has been for a long time ignored in China. A TV survey conducted in Beijing in 1996 showed that over than 95% people interviewed on the street couldn't correctly answer the question "What is the environmental protection for? ". Many of them mixed the environmental protection with sanitation up, they had no knowledge about air, water and soil contamination, even didn't know that car emission could be harmful for their healthy. At that time China's mass media, from Television programmes to newspaper/magazines, were highly occupied with western prosperity stories and commercial advertisements which gave Chinese people a wrong impression that modern society should be represented by mass production and high consumption. Any price paid for the environment by western countries was not to see. So "Pollution is natural for the development and will disappear afterwards" was a common opinion among the public. Many people including decision-makers agreed that "Environmental protection should come after the development". Such ignorance of the importance of environmental protection was a partial reason for the rapid deterioration of China's environment in the 1990's, the time when the environment protection & sustainable development has become a hot issue in the outside world. In 1998, 8 Chinese cities including the capital city Beijing were listed among the top ten most polluted cities in the world.

Lack of Knowledge, the Reason for the Weak Environmental Awareness

In 1995 the China Environmental Protection Foundation (CEPF) organized and conducted the Survey on the Environmental Awareness of Chinese Citizens over China, the results showed that 83.4% people regarded their environmental knowledge as "Less"

or almost "None". A large number of populations from both urban and rural areas showed unfamiliar with or even never heard of the key global environmental issues. Table 1 and Table 2 below demonstrate the results.

Table 1. China's Urban Population's Knowledge of Key Global Environmental Issues
(The figures represent the percentage of the population)

Key Global E. Issues	**Very Familiar**	**Not Familiar**	**Never Heard**
Water Shortage	10.1%	77.9%	11.3%
Bio-diversity Decrease	7.3%	78.0%	14.7%
Global Warming	6.5%	87.1%	8.7%
Ozone Depletion	5.6%	74.3%	20.0%
Acid Rain	4.7%	61.5%	33.8%

Table 2. China's Rural Population's Knowledge of Key Global Environmental Issues
(The figures represent the percentage of the population)

Key Global E. Issues	**Very Familiar**	**Not Familiar**	**Never Heard**
Bio-diversity Decrease	2.9%	56.4%	40.7%
Water Shortage	2.4%	52.9%	44.8%
Global Warming	1.8%	54.1%	44.1%
Ozone Depletion	1.1%	30.0%	68.9%
Acid Rain	0.7%	22.0%	77.3%

The investigation of this Survey on the public's environmental awareness in China is shown in Table 3.

Table 3. The Situation of the Public's Environmental Awareness in China

Environmental Awareness (self-estimated as)	Percentage of the Public
Very Strong	1.1%
Relative Strong	29.2%
Weak	45.4%
Very weak	17.6%
None	6.6%

On the other hand, most people living in the cities were not satisfied with their environmental situation and they were aware of some serious environmental problems in China (see Table 4)

Table 4. China's Urban Population's Assessment of Local and Whole Country's Environment Situation
(Percentage of Population Who Believe the Situation to be "Serious" or "Very Serious")

Environmental Problem	**Local Situation**	Whole Country's Situation
Garbage	60.0%	63.6%
Noise Pollution	58.3%	65.1%
Air Pollution	53.6%	76.9%
Water Pollution	51.0%	74.1%
Industrial Waste	48.8%	72.0%
Lack of Green Surface	43.7%	61.3%
Wildlife Decrease	36.1%	75.8%
Pesticides Pollution	27.3%	55.9%
Sandstorm	26.1%	51.0%
Deforestation	14.7%	72.3%
Desertification	6.1%	50.2%
Ocean Pollution	0.5%	49.7%

To find out the solutions to solve these environmental problems, most people seemed not to be convinced by emphasizing on individual efforts, when asked the question "What is the major method to improve the present environmental situation", only 9.0% people chose the answer "By everyone's effort". The reason for it was that most people didn't know what are the pollutants and what can cause environmental damages.

China's Mass Media, a Powerful Way of Environmental Education

Despite of the low ratio of "strong environmental awareness" in public, very high rate (96.9%) of the respondents of the Survey expressed that it's "quite necessary" to set up environmental education course in middle and primary schools in China. To adult populations in urban and rural areas, mass media, especially Television, is a common channel for them to acquire environmental knowledge and information. Table 5 shows the detail of the Survey's results.

Table 5. Channels for Chinese People to Acquire Environmental Information

Channels	Urban Population	Rural Population
TV, Films and Radio	95.7%	88.8%
Newspaper/Magazines	85.0%	3.7%
Street Education	31.9%	12.6%
School Education	30.9%	15.0%
Others	1.3%	8.2%

Wake up of China's mass media to pay close attention to environmental issues and encourage people to participate in the environmental protection started in 1996. China Children's New was one of the beginners and also the initiator of a large scale of environmental campaign in China called "Hand-in-Hand for the Earth" participated by millions of Chinese children and their parents. It is an excellent example to show that in China environmental education can be very successful in a short time if international information, knowledge and methods on environmental conservation and sustainable development are quickly introduced and publicized by mass media.

Chinese people are eager to learn good experiences from other countries so as to find out effective solutions for China's environmental problems and to improve the situation. As TV sets have become popular in families and schools, audio-visual materials for environmental education from international resources are mostly welcome in China. Introducing international environmental video films into China and letting them broadcast on Television and shown in many other places is another powerful way to help raise Chinese public's environmental awareness. I am working for the project EETPC, The Environmental Education Television Project for China, and would be very happy to share our experience with colleagues in Japan and from other countries who come to join this tour. I would like to especially mention a film from TVE Japan called "Japan's lessons on Economy and Environment – Our pollution Experience" that has been used as an excellent environmental education film by both Chinese broadcasters and teachers. The film has been ranked in our top ten titles distributed in China in the last three years. I am happy that I could have this chance to come to Japan to see the great change of the environmental situation and to learn the strategies here for the environment protection. I also wish to bring new information, knowledge and especially Japanese environmental films back to China to let millions of Chinese people see what efforts Japanese people are giving to protect the Earth.

The Lost Heaven

Iwan Usman Sosiawan
Byweekly Magazine TAJUK
Indonesia

Covering almost 100 million hectares or ten percent of the world's remaining tropical forests, Indonesia's tropical forests as the 2nd largest after Brazil's have a very important place in this global world. It makes me proud of being Indonesian. Yes, we have a lot of beautiful islands, ocean and forests. Indonesia's forests are home to one of the most astonishing ranges of biodicersity in the world. The archipelago sprawls across two distinct biological regions-the Asian and Melanesian-Australian- realms, which has more mammal species than any other country. One day when I was abroad, native people whom I talked with told me: "You live not only in beautiful country but also heaven."

I was flattered then. They might be right but I know that it is not true at all though I was trying so hard to believe. In the current time, Indonesia's tropical forests are now facing a very deep crisis. The heaven that I heard before is now disappearing. According to the result of the investigation made by EIA (Environmental Investigation Agency) and Telapak last year these forest have been disappearing at a rate of more than two million hetaeras every year. And 72% of the country's original forest has already lost. God might be angry with us. He takes away the heaven we had before. He knows that we, though not all, are not civilized society as we always claim.

This situation is not all caused by nature. We, Indonesian people are the one who has the responsibility. Especially the government or the state. The unsustainable logging which saw the government takes over control of the forests and virtually give huge tracts away to the businessmen could be seen as the main cause. The government's policy by its forestry law (UU No. 5/1967) gives the guarantee to the government as the state sole control over the forest. Since then the prevailing modus operandi has been the division of forestlands into 20-year production concessions under Hak Pengusahaan Hutan (HPH) system.

In fact that this such system allows and gives some industrialists the right to control the forest for 20 years. And for the shake of profits they manipulate their HPH for exploiting the forests and ignoring importance of the whole forest ecosystem. The terrible forest fires of 1997 and 1998, which finally attracted world attention could be an example as

well as evidence. The fires that swept the forests through Sumatra and Borneo (Kalimantan) were largely caused by timber and plantation companies clearing land. Satellite monitoring identify that 176 firms deliberately set fires to make way for timber or oil palm plantations.

This condition has been running for years. During the Soeharto's regime the condition of Indonesia's forests faced the worst situation. Soeharto the former president of Indonesia who ruled the country more than 30 years was so dominant and powerful in controlling the country. Including the forestry control which being used as a tool to their family business imperial.

According to the report of EIA and Telapak, at least Soeharto's family and cronies have controlled around 7.14 million hectares of the Indonesia's forest through their 27 timber companies and forest estates. And base on the result of the inventory team made by the Forestry Department, Soeharto's family and cronies have controlled around 4.130 million hectares through their timber and plantation companies.

Is that so easy to have such an authority? Everything was easy in my country as long as you have money and power. And still it is. For Soeharto's family and cronies that was not a big deal. Though in reality the procedure needs at least 201 working days and a lot of money, a man like Mohamad "Bob" Hasan, a closest friend and golf sparing partner of Soeharto could do this only in a couple of days without spending much by telephone.

The illegal logging and exploitation of the forests not only done by the cronies or barons but also the people or local communities themselves. But for the local communities, although they involve in the illegal logging, they are merely reacting to the climate of corruption that has surrounded them for years. It may say that the illegal logging which done by local people is a consequence of the marginalization of local people from their right to forest resources. And the worst thing is the loggers themselves are being recruited to create chaos in the forests. So it's easy for the barons and corrupt officials to have more profit from the forests by hiding behind the massive timber theft. No wonder this such a system has brought a disaster, creating deforestation, removal of people's land right, and bad corruption.

In the current climate of political reform in Indonesia there is no other way except bringing some changes of forest reform. The government has to revise the 1967 forestry law which only gives monopoly to the state in controlling the forests. Retaining

centralized control and using the military or police apparatus to secure remaining forest is evidently failed.

The continuos crisis, which began in 1997, have spread in all areas worsen the situation and condition. The new government busied by their homework, which were produced by the old regime. As if they are washing dishes of the party. And it is not a simple job. In the case of the illegal logging for instances. The government under the Department of Forestry has announced seriously that the first thing they should do is demolish the practices of KKN (Collation, Corruption, and Nepotism) in the internal level before touching the Tarzans out side the department. Can they do that?

It is hard to answer the question though we believe. Though we yell almost every day in our daily news, still the Tarzans could hang over the trees as if they yell: "Catch me if you can, Mr. Nice Guy." Yes, bringing them to the court is not an easy job. Though we have known that they did the illegal logging and exploited the forest without paying attention to the ecosystem of the forests, they have papers and document of concession legally. And the main problem is those documents which supposed to be investigated and audited by the team made by the authority has been disappeared.

We all believe that the press has an important function. For the developing country like Indonesia, the role could be more important. Not only we act as a bridge between state and society, but also have the role to educate and raise people consciousness.

On the past, those ideas were only in discourses. There was no freedom of the press. The media faced a very difficult situation as we had a repressive and authoritarian government. We couldn't do anything as we were haunted by an evil called "banning". Though we did report the environmental issues, we felt that they were not fair as long as we only covered minor actors rather than majors. There was a believe in our world then: "You can write everything you want except the three things, Soeharto, the family, and military."

But now the situation is quite different. After the reformation brought by student movement in May 1998 which forced Soeharto to step down, the openness and transparency is now beginning to turn up. We have been through the first democratic election which delivered new legitimated government. The freedom of the press is not a dream any more. As a result we now have hundreds media spread in all over the country. As a journalist I feel like blessing has come to me. But have the media found their real

social functions?

It is hard to answer this question. It is not easy to change the character only in one day after we're lived in corrupted and repressive situation for years. I myself used to be proud of being a journalist and still I am. But I have to admit that the corruption has been infected in some journalists themselves. "The envelope culture" has been costumed for some of my colleagues.

So what is the media going to do? The media, as its function, has been trying to push the new government to make some investigations continuously into corruption of the authorities, including the police and military apparatus who responsible to these such conditions through the news.

People are now waiting for the results. But the crisis that comes over and over makes people's mind reaches an overfull condition. The environmental issues don't take the first place in people's mind. The economic and politic situation nowadays comes first in people's mind. And for the media as a businesses those issues are not selling well though we realize those issues are still very important. Under this circumstances, no wonder the media itself finds some difficulties to raise people's consciousness. No doubt we dare to say, though with a little bit hesitation, that the heaven has lost.

Journalism in Lao PDR

Anoulack Khammalavong
Vientiane Times
Lao P.D.R

May I introduce you my country, which is very small, quiet and undeveloped? It is landlocked bordering with Vietnam, China, Myanmar, Thailand and Cambodia. The total area is 236,800 square kilometers or 23.68 million hectares. The total population is about 5 million. The average per capita income of the population is below US$300, which causes Laos to be one of the least developed countries in the world. The national economy depends on agriculture and forestry. These two sectors cover 56 percent of the Gross Domestic Product.

Industry in our country is very small and most of incomes from industry are from exporting electricity to neighboring countries. All consumer goods are imported from foreign countries (more than 70 percent from Thailand).

Thailand plays the biggest role in our economy because we share a long borderline with it and people of our countries visit each other like there is no border. Many kinds of agricultural products are also imported from Thailand because Thai farming has already become industrial farming while ours still relies on seasons of nature. Farmers (about 80 percent of total population) are able produce only when the weather is perfect. People in the countryside live on cultivating rice and collecting non-timber products from forests and export to Thailand.

Laos is a mountainous country and about 80 percent of the total territory is covered with plateaus and mountains, so it is very difficult for people to find flat land to cultivate. About 30 percent of farmers rely on slash-and-burn cultivation: cutting trees in the mountainous areas and burning them to plant rice. One year they destroy one area and another year they burn another one. That's why slash-and-burn cultivation has become a big issue on agenda of the government's meetings and a big enemy of environment.

Since the living conditions of our people are directly associated with the richness of nature, the considerable concern for environment is, no doubt, associated with the damage of biodiversity. Our forests, which cover more than 47 percent of the total territory, have continuously been destroyed. For example, the forest area decreased from

11.6 million hectares in 1982 to 11.1 million hectares in 1989. It is estimated that every year about 67,000 hectares of forests are destroyed by slash-and-burn cultivation.

The smoke produced by slash-and-burn cultivation has not been measured, but it is believed, at least, to cause air pollution. If we travel to the northern Laos in the morning, we will not be able to see the sky clearly. The sky here is like the fog or smoke.

Other things, which may be concerned with environment, are the dust from unpaved roads and waste water produced by people. Most roads in our country are not very properly paved, so they produce a large volume of dust in major cities. But there has been no scientific analysis to prove how dangerous it is for people's health.

Wastewater is another environmental problem in major cities although the density of the population is low (about 300,000 people in the urban of Vientiane). The city's design is not able to accommodate the increasing number of houses and other premises. In Laos we believe people are much richer than the state. Therefore, the construction of private houses has increased faster than the construction of infrastructure, which is under the responsibility of the government. Because the infrastructure has developed slower than private homes, people compete with each other to raise ground level of their home property in order to allow easier drainage. After I raise my own land and you raise yours, the wastewater must seek its ways to flow. Sometimes it flows to the public places and causes environmental problems.

Wastewater from factories is not a big critical issue in Laos at the moment because we do not have many factories. However, some factories have already created a signal of bad reaction. For example, last year people in the capital began to complain about the bad smell of wastewater produced by a tissue factory. The villagers wanted to make a protest to force the factory owner to find better ways to drain their wastewater or to treat it before draining it out of the factory.

Another issue relating with the destruction of environment in our country is the construction of hydroelectric dams as our country has many rivers and watersheds. So far, at least three hydroelectric dams with the capacity of more than 150 MW have been completed. Other giant dams will be constructed in the near future. The floods from the dams destroy the forest and biodiversity. These are acknowledged by the government. However, our country has no other ways to raise the income of the people. We rely on foreign aid, especially Japanese. We want to come out of what we are facing and be on

our own.

Now let me tell you about the role of the media in this country. But before I come to the detail of what we are doing, I would like to tell you that all of the media agencies in Laos are state-controlled. We have full right to talk about thing but we don't know what we do is right or wrong because all of what we say must support the government policies. All staffs of media are the employees of Ministry of Information and Culture. We are hired by the state, so we have to support the government.

Like many state organizations, the media staffs work with no motivation because the salary is so low (about 15-20 a month). Most of the government employees seek extra jobs to survive. Reporters are willing to work according to invitations but have no enthusiasm to seek news; they work hard or work less, they get the same wage. Almost all of the media agencies are sponsored by the state and the latter limits the rate of advertisements and the contents of publications. Since the daily expenses of the media agencies rely on the government's budget, journalists will work only when they have everything arranged. However, the government's budget cannot cover even half of the total expenses.

Media does not really know its own roles and functions because they fear of everything they say. This may be caused by the lack of media development. We do not have media school and all journalists learn journalism from senior colleagues. The reporters themselves also do not try hard to develop their profession. They are not ambitious and courteous to liberate themselves.

Now you can imagine how is journalism in Laos. And I think you don't need to ask me about what is the role of media on environmental issues. Vientiane Times, the newspaper for which I work, is the youngest and most quickly developed newspaper in Laos because it is published for foreigners who are already familiar with high quality newspapers. But we still have many problems caused by the lack of human resources, control of the state, finance and experience.

Anyway, environment is not a big problem in our country but we need to learn from you who have experience in this sector so that we can seek appropriate trends of development of our country in the future.

Report on the Philippine Environment

Elizabeth C. Roxas
Environmental Broadcast Circle
Philippines

Thirteen years ago, 1986 to be exact, the peaceful EDSA Revolution which toppled down a long and tiring reign of the Marcos regime (others said it was dictatorship) placed the Philippines in the forefront, both in print and in the broadcast media all over the world. People from all walks of life finally realized that power, the real source of power lies on the people themselves. That if the basic sectors bind themselves together, they could create something different. A very strong force. Enough to restore democracy. Enough to generate power. The People's Power!

For a time people thought the fight was over. They were wrong. They realized it was only the beginning. Right after the very historic event, NGOs and even POs started to mushroom in all parts of the country. Each expressed the desire to do something more. The call was deeply rooted. There was a strong need for rehabilitation. While political, economic, social and cultural impacts were felt, environment and natural resources were heavily damaged.

International funding support poured in. Whether it was multi-lateral or bilateral or any such forms of collaboration, it was overwhelming. Different countries wanted to take part in the early recovery and restoration of the country's resources both human and natural and continue to survive despite the imbalance practices being initiated. Everybody was busy doing something else. Although there were lots of initiatives and efforts undertaken, they were all over. No way of tracking them down. All spread out in different directions. Each one wanted to show they could do something different from the rest. But definitely such principle would not work out. While people thought they were busy doing their own work in the process of recovery and restoration, thereby creating its own niche in the process of growth and development, the rate of environmental degradation and over exploitation of natural resources continued. All of a sudden there was this presence of a major problem – relating environmental protection and conservation and even rehabilitation to the so-called development.

THE PHILIPPINES

The Philippines is a tropical archipelago of about 7,100 islands located off the southern coast of the mainland Asia. It has approximately 299,404 square kilometers of land area and its territorial waters covered around 2,200,000 square kilometers. The coastal zone of the Philippines covers about 11,000 square kilometers of land and 267,000 square kilometers million square kilometers, about per cent of which are oceanic waters.

In 1995, the population of the Philippines was pegged at about 69 million. Yet growth rate was estimated to about 2.4 percent per annum. It was actually one of the fastest in Asia. If this trend continues, the Philippine population is expected to reach 78 million at the turn of the century. It may even triple in a span of four decades. It was rank as the 9th populous country in Asia and the 14th in the world. Rapid population growth and imbalances in spatial distribution may continue if policy decision-making at all levels does not recognize and consider the relationship among population, resources, environment and development.

A complex mix of ecosystem and habitat types characterized the landscape and waterscape of the Philippines. These maybe due to the following factors:

1) Varying exposures to the shifting winds and typhoons
2) Great heights of numerous mountains
3) Peculiar distribution of rainfall
4) The Kuro-Sio or Japanese current which are warm equatorial waters flowing northward along the eastern coast of the country

The Philippines is also situated in the circum-Pacific Ring of Fire, characterized by volcanoes and earthquakes. It is reported that most of the Filipinos live within a radius of less than 50 kilometers away from a volcano. Except for Palawan, the entire length of the country's islands from North to South is crises-crossed by faultlines where earthquakes can just occur. Not to mention the frequent typhoons that hit the islands. The Philippines experienced an average of 20 typhoons a year.

Most of the islands of the Philippine archipelago are believed to have a very high degree of endemism. About 67 percent of the species in major groups of animals and plants are found nowhere else in the whole world. Of the 500 known species of corals, 400 are found in our seas.

In the 1960's, Filipinos still enjoyed the richness and of the country's natural resource

base. But today, at the rate economic development, urbanization and industrialization are pursued, environment continues to suffer degradation and natural resources depletion.

THE GREEN ENVIRONMENT

Forest degradation already reached an alarming stage. From 1989 to 1995, annual average rate of deforestation has been estimated at about 130,000 hectares. The Philippines used to have about 17 million hectares of forestlands, which were about 57 percent of its total land area of 30 million hectares. As of 1994, only about 5.6 million hectares was left. Some of the pinpointed reasons of deforestation are as follows:

1) Mining operations particularly the open-pit mining
2) Cutting for timber, paving roads and trails, housing and fuel wood
3) Natural calamities such as typhoons and earthquakes

Forest loss has also been attributed to the reduced groundwater causing saltwater intrusion in Cebu, Bulacan and almost all coastal areas in the country where no forest cover is evident. The country's genetic resources and biodiversity have likewise been threatened by forest destruction causing many species endangered and some at the verge of extinction. As of 1991, 89 species of birds, 44 species of mammals, and □ species of reptiles are threatened. Among them are the Philippine eagle, tamaraw and the Philippine crocodile. Logging opened up forest areas that have now become prone to "kaingin" or shifting cultivation and upland agriculture.

Widespread deforestation induced soil erosion. Soil erosion results in the loss of precious topsoil, deterioration of prime agricultural lands, reduced water supply, increased flooding, more incidence and acceleration of salutation/sedimentation of rivers, lakes and reservoirs. Around 219 metric tons of soil per hectare is lost in terms of nutrients per year. Irrigated rice-lands are converted into urban settlements and industrial uses at the rate of 2,300 hectares per year. This is true in Central and Southern Luzon, all of the Visayas and some parts of Mindanao. Golf courses started to multiply. Developers nationwide saturated large tracts of lands causing complains from Antipolo in Luzon, Boracay in the Visayas and in several other areas.

THE BLUE ENVIRONMENT

Inland Waters - Of the 421 rivers in the country, only 207 are still classified as best in its

usage by the Department of Environment and Natural Resources. The increasing siltation and pollution of surface waters and the salinization of groundwater resources are the main problems.

Domestic wastes from residential areas, industrial wastewater effluents, pesticides and uncollected solid wastes that find their ways into bodies of water are the main causes of pollution. The decline of the groundwater level resulted to the salinization of coastal aquifers and sinking of low areas which caused flooding. Groundwater portability is threatened by salinity and bacterial contamination from domestic sewage.

Coastal and Marine Resources - Philippines is covered by 267,000 square kilometers of coastal waters. It played an important role in the country's economic development and ecological survival, as 60 of the 73 provinces, 1,525 municipalities or 70 percent of the country's municipalities are located along the coast. Hence, the coastal zone is exposed to numerous natural and man-made pressures.

Rate of mangrove destruction is also quite fast when we know for a fact that such ecosystem provides the firm foundation for the country's coastal fisheries. Mangrove conversion to fishponds posed a serious problem. In 1918, mangrove forest used to be at about 500,000 hectares. Today, only 30,000 hectares remained.

More than 400 species of coral are found in the Philippines. But the destruction of such is progressing.

Fisheries experts in the country believe that the limit of sustainability of marine fisheries has been reached. It used to be an 81 billion pesos industry in 1994 producing nearly 3 million tons of fish. Population pressure, sedimentation caused by deforestation, nutrient run-off from agricultural activities, pollution from industrial discharges, destructive fishing and uncontrolled tourism activities are some of the causes of degradation.

THE BROWN ENVIRONMENT

The major sources of air pollution in the Philippines are classified as either mobile (motor vehicles), stationary (industrial) and area sources (small sources individually emitting insignificantly but collectively may caused severe pollution). Due to limited monitoring equipment, data is not always readily available and therefore not enough information about the quality of air.

Solid wastes are another source of pollution usually in the urban areas brought about by the density in population and the intensity of human activities. Seventy percent of solid wastes come from domestic sources and 30 percent from the industries. In 1995, 6,102 tons of solid wastes are generated daily within Metro Manila 75 percent of which are collected and the rest are left on the streets or dumped into drainage, canals, creeks and rivers contributing heavily to the problem of flooding.

Imports of chemicals including toxic like cyanide, mercury, oxides of manganese, iron, zinc, etc. have grown considerably. Leaching of toxic chemicals and accumulation of heavy metals could contaminate land and underground water for indefinite period of time. On the other hand, industrial and manufacturing plants are the sources of hazardous wastes. It was a pity that today there is no inventory or estimates of the quantity of presence of hazardous and toxic wastes in the country. Despite, the passage of Republic Act 6969 otherwise known as the Toxic substances and Hazardous and Nuclear Wastes Control Act, nothing much has improved. Noise and offensive odor also caused a lot of environmental disturbances.

Rapid population growth resulted in increased pressures on the natural resource base the capacity of which is being reduced. Current population of around 18 million in the uplands may occupy all public lands that are disposable. Metro Manila's population is increasing at the rate of 3.6 percent annually. This may lead Metro Manila to become one of the megalopolis in the world with a population of 11 million.

MAJOR CROSS-CUTTING ISSUES

GLOBAL WARMING is another big issue. The rise in temperature may affect the productivity of rice, corn, wheat and other agricultural products that may cause a great impact in food supply. This may also lower the supply of marine resources. Extreme weather will be experienced. Typhoons and droughts both ways will definitely be serious disturbances.

MINING and QUARRYING loosen the life-support of the ecosystem. While they may boost the economy and may resolve unemployment, the source of livelihood of farmers, fishermen and indigenous peoples, even our forests, our soil, our water, they all would be at stake.

SUSTAINABLE DEVELOPMENT

Considering the critical situation and condition of the environment, one cannot help but dig deeper as to the causes of its destruction and degradation. Going back, there was really nothing new. The problems rooted from just one and still the same reason ... DEVELOPMENT. It was a kind of development that is unsustainable. Ruthless. Voiceless. Rootless. Futureless. Shifting to a positive paradigm would mean the kind of development that gives importance to nature. That it cares for and respects the carrying capacity of the ecological systems that make up the environment. So there is a relationship after all. Environment and sustainable development is not one and the same, but they are inter-related. Without recognizing its relationship, sustainable development could never be attained.

In 1992, barely three months after the Earth Summit, the country formed its own Philippine Council for Sustainable Development (PCSD), a multi-stakeholder body created to chart environment and sustainable development initiatives. It came out with its very own Philippine Agenda 21 (PA 21) which embodies the country's national agenda and framework for sustainable development for the 21st century. If implemented, PA 21 envisions a better quality of life for all.

PA 21 AND THE ENVIRONMENTAL BROADCAST JOURNALISM

The Philippines has been considered as one of the countries in Asia and the Pacific with a media freer to cover a wide range of issues. It could be in politics, economics, social, cultural, and now environment and sustainable development. Going back to 1986, for a while there was suppression. But just like any other beginning, an end was bound to happen. Suffocated, people just joined themselves together and created something different. A strong and forceful people's power. Independence was regained. Democracy was back. There was media hype.

Notwithstanding the presence of the print media, the broadcast media then was the driving force. It was intimate. Immediate. People from the broadcast media covered the incident with feelings. Live. Instant. Every minute, every breath was felt in the airwaves. It was radio that brought live the people in EDSA and the power that is. The years after, partnership between the radio and the people working together for change, was very apparent. The print sustained it. But the broadcast media, especially with the presence of television including the cable nowadays gave life to it. It was moving towards

something more than just independence. It was moving for change. For improving the lives of the people. The condition of the environment. And the hope for a sustainable development.

The Environmental Broadcast Circle (EBC) was formed in 1995 by some of the people from EDSA. Some people from RIO. Some people from the PCSD. And mostly from the people who crafted the Philippine Agenda 21 (PA 21). They are media practitioners and educators responding conscientiously to the call of the present generation --- protect the environment and promote sustainable development. So that generations to come would still have their share. Through the broadcast media particular in radio most of the people are given access. Access to research, science and technologies. Access to information. Access to communication. Access to education. Those are very important. They are the answers to the call of the green, the blue and the brown environmental issues and concerns. Even the crosscutting issues of global warming, climate change, mining and quarrying, tourism. The truth behind the Mining Act of 1995, the questionable Indigenous Peoples Rights Act, the Clean Air Act, the Energy Bill, the presence of toxic and hazardous wastes at the former military bases, the essence of sustainable agriculture versus the modern agriculture, the anti-poverty commission, etc. All of these are offered to the people. Access to media is another form of providing power to the rightful owner. The people's voices are heard. Live, Interacting. Feed-backing, Reverberating, with a network all over the country which can be heard in some of the more than 500 traditional radio stations whether national or local not to mention the 16 community radio stations built by one of EBC's veteran radio personality and board of director. These community radios are located strategically in places of the country where people thought nothing was happening. In reality, sustainable development is practiced. On the ground. Models and pilot projects are existing and could even be heard on radio. The power of change.

Broadcast media again is immediate. It is intimate. It is within reach. It is right now. Today. And if change has to happen...it should start now. It may not happen tomorrow.

Journalism in Thailand

Anchalee Kongrut
Bangkok Post
Thailand

OUTLOOK OF THAILAND

It is necessary to understand the structure of Thai society as well as her politics and economic base because these elements intertwined and underlined the environmental problem in Thailand. Thailand is democratic society with elected members of parliament. We had the first constitution in 1932 given by King after revolution from some new generation aristocrat who educated overseas. Constitutions have been revised but the most quasi democratic constitution which considered as people's version was given to Thai citizens in 1997, rom protests by middle class who fed up and affected by economic constraint than the pure need to achieve democratic society. It is interesting that any changes in politics were never stirred by poor people, just educated groups like aristocrats, new generation students and middle class.

ECONOMIC

Thailand has been agricultural based society. About 75 per cent of about 60 millions of population make their living from agriculture. The country gears toward industry. The country development policy has been harnessed with the attempt to become industrialized country for over two decades. In effect, agricultural sectors are required to make sacrifice to accommodate capitalism and rapid industrialization. Farmers plant rice for satisfying rice exports. Rice and crops that once were done in mixed farming practice were transferred to mono-farming style to suit commercialization and the attempt to yield more profit.

Pesticides and more land were increasingly used as a result. More water needs to facilitate massive mono-crop farming practice. Water shortage became common problem in water resources. Wastewater from pesticides, run-offs water from farming that contaminated with fertilizers worsen water quality.

The need to become industrialized country sequence the state and government’s hospitality to investors and industrial projects. Since 1970, Thailand started to open doors

to heavy industrial plants like petrochemical industries, then following electronics devices manufacturing plants, food processing plants, chemical plants, pulp mills and many more. Thai government gives a privilege to industrial investors in exchange to more investment, cash flow and hired labors that, in effect, stir economic growth. More investors from developed countries invest in manufacturing plants in Thailand given to low labor wages. In practice, industrial investors would receive privilege for their investment like tax exempt. It worth to be mentioned that the relationship between the government and bureaucratic officials are cordial with industrial investors.

In short, the country began rapid industrialization since 70s but the first environmental protection law was implemented in 1992, or 20 years after industrial factories set foot in the country.

ENVIRONMENTAL CONDITION IN THAILAND

Industrial Pollution

Factories released wastewater into public and natural waterway. Factories' stacks belched black smoke fume or stench that make people living around develop respiratory problems, not to mention nuisances from noise pollution, waste from industrial manufacturing process and culture shock from labor migration, to name a few.

In 1997, about five petrochemical plants in Map Tha Phut Industrial Estate, have problem with their air pollution preventing equipment that result in factories release stench pollution that force communities nearby to stage protest. School which existed before the plants was slated to be relocated.

Another classic example is the Phoenix Pulps and Papers Mill in Khon Khaen province. For almost a decade, the factory reportedly discharged untreated water in Nam Phong River which resulted in water contamination and massive fish deaths found in local fish farming. Even the factory tried to use wetland system to reuse discharge from factories to water Eucalyptus trees, the project green area is still leaking and damaged farm land nearby. The problem persists until now.

Air Pollution

Air pollution is the result of two major polluters, factories and emission from vehicles.

Big cities like Bangkok, Chiang Mai are facing pollution problem from too many vehicles. The main reason of air pollution from vehicles is the lack of mass transit systems like subway train. Bangkok just has the first electric elevated train system about three months ago after the master plan had been initiated 20 years ago. For now, the subway system is under construction. Emission from motorcycles attributed the large of emission. More than 50 per cent of motorcycles in Thailand is two-stroke motorcycles which producing black smoke.

Deforestation

Forest area is sharply decreased from illegal poaching. Forestland were encroached by landlords and local villagers who lacking of their land for making a living. There were media reports in media about politicians and ministers who having ownership documents or allegedly building houses in national parks. NGOs on environment still protest against the state awarded mining concessions in environmental-sensitive forest ecology.

Forest protection becomes a dilemma between state and local villagers. In this case, forestry tried to reclaim complete forest tracts into reserve forest, national park and bar villagers access while human rights and some NGOs tried to promote the concept that local villagers could live in reserve forest and help protecting forest.

Dam projects developed by state also have been objects of controversy. In 1982, Egat (Electricity generating Authority of Thailand) tried to use the national park to house the dam project for generating electricity but the project was vehemently opposed by local villagers, NGOs and academics. The project was killed in 1989. Dam projects became controversial and received mounting oppositions. Pak Moon Dam, the hydro-dam built almost a decade was alleged as changing ecology and affect in decreasing fish population in Moon River. Local fishermen denounced the Pak Moon Dam of destroying local fishery.

Rasi Salai dam in Northeastern region of Thailand result in vast area of farmers land being inundated to accommodate the dam's reservoir. The dam was built since 1993 but until now, some local villagers still protested for compensation. For now, Rasi Salai dam protesters built their makeshift village in the middle of reservoir, when flood came, they came up with hydro-culture by making rafts, and heightening their shacks' floors to live with the inundated land.

Since mid 90s, Thailand is gearing toward civil rights. People need to air their views and need to be heard particularly on the project affecting their livelihood and environment. Government tried to respond by introducing public hearing to cool down public. For examples, there was public hearing on Yanada Gas pipeline, the joint venture project between Thai Government and Junta Government of Burma. The gas pipeline was built across the valuable complete forest. (It is said that there is alternative route for Yanada pipeline but not preferred by the Junta Government for internal security reason) Public hearing was held, public voice was heard but since the government already signed contract with Junta government, the project still went on and completed.

Another environmentally controversial is two of power plant projects to be built in Prachuap Khiri Khan province. Local villagers opposed the project because they fear warmer discharge from power plant would disrupt marine ecology while emission from power plant would pollute the air. Both projects have public hearings. But the government already implied that the hearing designed for listen to public voices not to scrap the project.

In more international level, local non-governmental organizations (NGOs) promoted awareness in the genetic modified organism (GMO) as well as resistance to free trade under World Trade Organization (WTO)'s rules. Activists pressed the government to use local law to force foreign giant pharmaceutical firm to grant permission for state to produce cheaper medicine for help curing Virus patients.

MEDIA ROLE AND ITS IMPACT

Personally, media became mouthpiece for people who affected by pollution than reporting per se. Public usually found their complaints on wastewater, air pollution or even dam project went unheeded by the state. For examples, villagers who lived around Map Tha Phut have to protest to draw media attention to pressure the state to inspect the polluting factories.

Very interesting case is iTV, the country's high rating TV news program did excellent investigative news reporting that discovering major flaws in the Power Plant project. iTV crews (with the tip off from local villagers) filmed coral that the power plant project did not mention in the environmental impact assessment. The coral if unrevealed by the iTV team would be buried under the sand drugged from offshore jetty construction. The

iTV discovery gives severe negative impact to the project.

Another example is the Manager Daily (Thai language newspaper) has done amazing news investigative report on the alleged collusion behind one of the largest waste water treatment plant in South East Asia region yet to be built in Samut Prakan, industrial hub.

The report revealed fishy details in land acquisition that linked with local politicians. It also mentioned the suspicious details about engineering design that favor large investment fund. It disclosed the business links of contractor companies with politicians. However, all allegations were not all confirmed. This wastewater treatment plant was shelved and subjected to parliamentary scrutiny. In short, the weak role of the state as law enforcer gave people no choice but media to air their grievances.

Local villagers who traveled hundreds kilometers to Bangkok wanted to draw media attention because they known it is the only way to pressure government to turn to them. Personally, it is crucial step that required carefulness, media ethics and objective reports in reporting environmental news in Thailand and I believed the situation would be likewise in some countries where law enforcement in environment and civil rights were not exercised to their fullest extent.

For protesting villagers and public who made complaints, Media is their mouthpiece but for government and project developers, media could be biased and allegedly dominated and convinced by emotional drive. I would say environmental news reporting is the playing in a gray area. Objectivity could be deemed as professional or lacking of compassion.

Condition of environment pollution and the role of Journalism in Vietnam

Vu Thu Tra
Lao Dong Newspaper
Vietnam

Vietnam is one of the developing countries and it is also one of the poorest nations which are consequence of two wars, agricultural economy. Besides that 80% of its population living in countryside and industrialization has just been carried out for few years. So the most important thing for us is to solve food issue, to implement Industrialization, to pay foreign debt. That's why Environment issue has only been paid attention to. In 1994, Law on Environment protection comes into being and it has come into effect since the day of birth. However, Environment of Vietnam is getting worse because of man's impacts, destruction of war, economic difficulties. Environmental pollution can be seen not only in cities but also in rural areas. In this speech, I'd like to mention three main problems of Environment. Namely: pollution of air, water and declining of nature forests.

Condation on Environment Pollution in Vietnam

(1) Air Pollution

At the moment, in many big cities of VN such as Hanoi, Haiphong, Hochiminh, Vungtau, air environment is seriously degrading. According to statistics made by urban environment company, everyday in Hanoi, approximately 3000 m^3 of hard waste is discharged of which 900m^3 from industrial production, 60 m^3 from hospitals. Dangerously solid wastes from Industrial production are 150m^3 and from hospitals is 15m^3 per day.

Vietnam has a low degree of industrial production. We only have about 3000 factories, 35.000 handicraft-manufacturing units, and 22.000 collective manufacturing units. So industrial and life wastes are less than other developing countries.

It is necessary to say that all the factories are old, they were not designed suitably to protect environment. Therefore, changing of technology and treating of waste can't be solved quickly while those factories are promoting their effect in our economy.

The general inspection of national - wide producing environment carried out in 1997 by ministry of Science. Technology and Environment for 5000 units Including offices, factories showed that from 50 to 70% was punished due to breaking environment law.

At Bat trang pottery village - a famous traditional professional one where there are about 17.000 pottery ovens, the number of people dying of lung problem is 70 times higher than average. Some inspection result about the air in Hanoi has also shown that the content of CO_2 is twice higher than allowed hygiene standard. Another cause leading to air pollution is the crowded density of vehicles. Nearly 80% of vehicles taking part in operation in Vietnam has been used for over 10 years. 6% of that has been used for 20 years. Technical condition of them has been degraded. As a result, they often discharge thick black smoke in to air while they are running that makes Environment badly polluted.

In estimation, by the year 2000, the volume of poisonous air discharging from cars, moto-bikes will increase 10 times. In addition to that, urbanization process is developing fast, discharging a great deal of garbage but treatment measures mainly base on burying as a result, most of waste masses are out of capacity. And in Vietnam modern waste processing and reusing methods has not been applied yet.

(2) Water pollution

Discharged water from industrial factories, hospitals, hotel services and family lives of most cities hasn't been treated before discharging on fields, rivers and seas. This is also an important cause to make surface water of currents polluted, causing pollution in rivers and streams. Especially in Hanoi, There are 29 hospitals and 285 infirmaries of which 26 hospitals have not been applied garbage and water processing system. Only 3 hospitals (Vietnam – Germany, Swedish infant and Central tuberculosis) have been assembled this system but they are old and have not been fully made. Everyday, this volume of discharged water runs naturally in sewerage in to back front of hospitals and lastly run in to city sewerage system. Even two large rivers in the South deltas (Tien giang and Hau Giang) are in bad pollution because of 800.000 tons of manure, rubbish from slaughterhouses markets and stations discharging in to them. In Hochiminh City, a bout 16.000 people living long rivers, channels and irrigation ditches relieve them selves in to water.

In Quang Nam -Da Nang (a middle province of Vietnam), up to now, 35% of families has not got their own toilets so they relieve themselves uncontrollably making Environment and water contaminated, meanwhile 80% of population is living in countryside but only 30% can have access to fresh water.

Destruction of forest natural resources is taking place seriously

No longer than 40 years, Vietnam has lost 30% its forest area. Today Vietnam only has 2 million hectares of primitive forest which is the cause making creatures' living environment lost, Biological variety reduced, at the same time that is the cause leading to floods and the necessary thing to mention is the exploitation of forest land without control and concrete schemes.

In 1991, 80 hectares of forest disappeared through legal exploitation. In mountainous districts of Quang Nam, Every year, 13.000 hectares of forest is burnt for land farming by ethnic minorities. Only from 1992 to 1993, 386 fire disasters of forest happened in 13 coastal provinces from Bac Bo (Northern provinces) to Binh Thuan (a middle province), completely burning 2.867 hectares of nature and grown forest.

Yearly, Vietnam tries to re - grow from 50.000 to 100.000 hectares of forest but with this forest destruction speed it is very difficult to compensate lost area. More over the danger of losing forest is not far in the future.

According to Environment department, During April 1994 to April 1994 to April 1993, 34 among 61 provinces met trouble with environment pollution such as river oil spread damaged marine benefit, oil spread also destroyed Rice fields discharged water killed fish, garbage affected people's health and the total compensation of money reached 76,9 billion VN dong(about 5,5 million USD). However, now in Vietnam, the number of environment standards is out of date which makes punishment embarrassed.

Ministry of Science, Technology and Environment said it would promulgate about 30 environment standards regulating the quality of water, air, solid substance, noise and vehicles.

The role of Journalism

Journalists in VN are volunteers and play an important role in propagating environment

protection, finding and praising good individuals, educating public to protect environment as well as denouncing wrong doings, breaking law on environment. With its role, Journalism has drawn people's attention to protect environment. In many cases it is the ground for authoritative levels to consider, punish violated organization and individuals.

In October 1998, the Vietnamese Forum for Environmental Journalists (VFEJ) was established, chairing by Mr. Pham Huy Hoan, editor-in-chief of Labor Newspaper. The forum is operating on the principles and regulations of Environment and natural Protection association. VFEJ is responsible for holding formal talks between Journalists and environment protector, state management officials. At the same time, it holds studying courses practical excursion for Journalists who take care of environment protection. In addition that, VFEJ has planed to build a data center in environment for press activity and hold press competition writing about environment.

Discussion Paper

Regional Environmental Education Strategy and the Media[1]

Bishnu B. Bhandari[2]

The primary purpose of the paper is to give a brief overview of the "*Regional Strategy on Environmental Education in the Asia-Pacific*" prepared by the Environmental Education Project of the Institute for Global Environmental Strategies (IGES) in partnership with national collaborators from the Asia-Pacific. Then the paper attempts to highlight the role, media can play in promoting environmental education as well as the Strategy in the Region. In order to present these themes in a systematic way, the author has organized the paper into four parts, namely; (1) introduction and importance, (2) agenda for action, (3) the role of media, and (4) conclusion.

I. Introduction and importance

The Environmental Education Project of the IGES has prepared a comprehensive document entitled *Regional Strategy on Environmental Education in the Asia-Pacific,* in partnership with national collaborators and environmental educators, facilitators and experts from the Asia-Pacific Region. Collaborators from 36 countries were consulted and involved in its preparation. Necessary data and information for their respective countries were provided to the Environmental Education Project by the native collaborators. Their reports, along with studies conducted by regional organizations and a series of workshops, conferences and symposia provided the basis for the formulation of the Strategy.

The Strategy begins with general environmental problems afflicting the Asia-Pacific Region, followed by the significance of environmental education in achieving a sustainable society. It summarizes efforts carried out at regional level, especially by regional organizations. Issues and problems related to environmental education are also briefly presented. In this context, the Strategy suggests a framework for action for

[1] A paper presented at the 2nd Regional Workshop on Media and the Environment in the Asia-Pacific Region held at Hayama, Kanagawa 17-18 February 2000.

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fostering and enhancing environmental education in the Region. The Strategy also provides practical actions for each agenda at regional, sub-regional and national levels and is intended to be used by environmental educators and facilitators in the Region.

As far as its importance is concerned, the Strategy has multiple uses such as guiding the smooth implementation of environmental education in the Region, serving as a tool to mobilize international assistance and promoting regional cooperation for environmental education. The Strategy can also be used as a framework for south-south cooperation. It is hoped that the Strategy will provide a stimulus to environmental educators and facilitators to strengthen regional partnership toward enhancing environmental education.

The Strategy will be used as an Asian contribution to international forums such as "Rio Plus 10", ECO ASIA (Environmental Congress for Asia and the Pacific), APEC (Asia-Pacific Economic Cooperation), ESCAP (Economic and Social Commission for Asia and the Pacific) Conference, etc. It also provides a basis for establishing forums for environmental educators and facilitators in Asia and the Pacific Region.

II. What are regional agenda for action?

The Strategy suggests a framework of five actions, of which the first three are "*what to do*" and the remaining two are "*how to do*". These agenda also suggest actions for regional, sub-regional and national levels. The details of these actions can be found in the Strategy[3]. The framework suggested in the Strategy comprises the following five actions, as displayed in Box A, a short description of which follows in the following paragraphs.

[3] Regional Strategy on Environmental Education in the Asia-Pacific (under preparation) by the Institute for Global Environmental Strategies, Hayam, Kanagawa, Japan, 2000.

Box A. Agenda for Action

1. **Encourage/support effective environmental education, training and empowerment activities**
2. **Develop partnership for collaborative works**
3. **Review/improve the curriculum and program development in formal, non-formal and informal education**
4. **Facilitate the improved governance for environmental education**
5. **Mobilize external assistance for educational activities**

Source: Regional Strategy on Environmental Education in the Asia-Pacific Region, 2000

1. Encourage/support effective environmental education, training and empowerment activities: The problem of environmental degradation is the outcome of human action. In order to mitigate this problem, desirable changes are to be brought out in human action. In other words, knowledge, attitude and practices need to be modified for which environmental education is a driving force. In addition, local communities need to be enabled and empowered so that they can control their education in their own communities.

2. Develop partnership for collaborative works: The Asia-Pacific region is full of indigenous wisdom and genius in the environmental conservation and management. There are multitudes of successful and innovative examples of socially and ecologically sound management practices. These practices can be of mutual benefit to the countries of the Region and cost effective, if shared within the Region. For this purpose, smart partnership and networking are vitally essential.

3. Review/improve the curriculum and program development in formal, non-formal and informal education: About 40-45% of the population in the developing countries falls in the category of school age group. This population can be made environmentally conscious and aware of, if the existing curriculum and environmental programs are reviewed and appropriate environmental concerns are integrated at all

levels of education.

4. Facilitate the improved governance for environmental education: Environmental education programs will not be successful unless we bring some kind of changes in the existing mechanism of structures as well as processes of the education system. Relevant stakeholders need to be involved. And their active, informed and responsible participation should be ensured to make the programs a success. Stakeholders are concerned not only with the outcome but also with the process, in which they are involved; they are concerned with power sharing arrangement and decision making mechanism. For these reasons, the governance for environmental education should be improved in the Region.

5. Mobilize external assistance for educational activities: The data and information indicate that despite resource constraints in the Region, many countries have shown an enthusiastic leadership and a high level of awareness and interests in environmental education. Many of them have initiated pioneering activities for its promotion. To order to trigger their efforts, some kinds of incentives are required, for which mobilizing external resources are considered to be of utmost importance.

Ⅲ. Role of Media

This part deals with the role of media in promoting environmental education in the Region. Media is the most powerful, effective and influential tool to change people's knowledge, attitudes and practices and to disseminate ideas and information widely in the Region. Over and above of being an environmental watchdog, they lobby the government and organizations for more actions on resource conservation and environmental protection. They also carry out advocacy for protection and environmental rights. Media can also use their networking in linking local problems with global ones. In order to promote environmental education in the Region, the media can undertake the following.

1. Raise awareness/interests about environmental education (what, why, how, when, etc.)
2. Disseminate/promote successful and innovative practices on environmental education
3. Assist in identifying critical mass
4. Identify and promote relevant local media for environmental education

5. Be a watch-dog for both providers as well as receivers
6. Assist in creating a congenial setting for the whole-of-community commitment
7. Lobby the governments for environmental education

In addition, media can assist us in publicizing this strategy in the Region on environmental education through their networking and disseminating and/or promoting innovative activities for each agenda at each level.

IV. Conclusion

Media play an important role in all societies, regardless of their types whether, modern, or traditional, or developed, or undeveloped societies. However, the role of media is quite limited in some countries, where the civil society is not functioning well. In many instances, good articles are published in the media but these articles go unnoticed or unread by the readers. Even if readers read them, they do not show any concerns about it. These are the up-front issues faced by the media in the Region. The other point that should be mentioned here, is the role of environmental journalism. Many people think that the environmental journalism is a separate branch of journalism that deals with the issues of environment in general. Concerning this there is a slight different viewpoint. According to this viewpoint, environmental journalism is a new holistic perspective to journalism, which is objective and neutral and promotes advocacy for environmental protection. It is guided by the agenda for practical actions but always keeping in view of sustainability or a sustainable future. In this regard, the words of Mr. Maurice Strong as told by Mr. Takeshi Hara of the Mainichi Newspapers in the first *Workshop on Media and the Environment in the Asia-Pacific Region* held in 1999 are pertinent to explain the meaning of environmental journalism.

> "I believe there are two things which a journalism must accomplish. First of all, when something happens, journalism must report both sides of the story, which are objective and analytical. The other is the defensive style, as I call it, which is the style of journalists who report incidents with great vision based on the belief. The fact that all of you define yourselves as an environmental journalist in a way says that you are the journalist who defends environment and its profits. I feel that

these two types of journalism can't be separated."[4]

Last but the least, it should be re-emphasized that the media should make a full utilization of local (traditional) media in promoting environmental education in the Asia-Pacific Region, together with an appropriate training for media people to cope up with the emerging issues of environment and to shoulder environmental duties and responsibilities.

[4] Japanese Forum of Environmental Journalists/Global Environmental Forum (1999). *Report of the Fourth Environmental Study Tour for Asia-Pacific Journalists*. Japanese Forum of Environmental Journalists/Global Environmental Forum, P. 61.

A Study of the Forecasting Possession of Radio and Television Receiver

Masahiro Takahashi[1]

1. Approach

This research attempt mid-term forecasting how the situation about possession of the receivers of the radio and television among the countries in Asia-Pacific region. Since mid-term forecasting have bee already among 7 Asian countries by using learning curve (Kaneko and others: 1996), therefore in this paper, it will be attempted to clarify the development tendency of the media by taken the same analysis measure as above paper and by drawing the learning curve in each 17 Asia-Pacific region countries. Concretely, the recurrence analysis will be conducted between the factor about the growth of the GDP/c and the factor of the mass media. And, based this analysis, mid-term forecasting about the possession of the receivers of the radio and television will also be calculated.

2. Growth of GDP/c and Development of Mass Media

The target area of this study is the Asia-Pacific region, however, 17 countries, who participate in Eco-Asia conference, are mainly selected from this region. UNESCO provides the data concerning the possession of the radio and the television receiver in each country. Using GDP/c as an explanatory variable, the changing of the number of possession of the radio and television receiver since 1990 are plotted every country. Neatly, about three developed countries from the Asia-Pacific region, Japan, Australia and New Zealand, the average data of the number of possession of radio and television receiver and GDP/c in 1997 are calculated (Table 1). These data were assumed to be a target point of development for developing countries, and both of them are plotted on every country's data.

Table 1. Average of Developed 3 countries

	GDP/c	Radio	Television
Japan	43412	956	686
Australia	21063	1391	554
New Zealand	16690	997	512
Average	27055	1115	584

Source：UNESCO (1999)

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About the each country's plotted data, recurrence analysis between the number of possession of the radio and television, and GDP/c are attempted by following three kinds of methods, logarithm curve, involution curve, and index curve. The curve that coefficient of determination (R^2) becomes the maximum among them is selected as a learning curve in this paper. The data of the learning curves, which are obtained by this measure, is shown in Table 2.

3. Forecasting the future

Table 2. Equation of Learning Curve in each country

Country	Radio	Television
	Equation of Learning Curve	
Bangladesh	$Y=0.8463*(GDP/c)^{0.7038}$	$Y=0.0152*(GDP/c)^{1.0349}$
Cambodia	$Y=215.99*Ln(GDP/c)-1090$	$Y=0.0493*(GDP/c)^{0.919}$
China	$Y=324.26*exp^{5E-05(GDP/c)}$	$Y=72.07*Ln(GDP/c)-150.49$
Fiji	$Y=208.83*Ln(GDP/c)-1015.5$	$Y=235.48*Ln(GDP/c)-688.42$
India	$Y=234.55*Ln(GDP/c)-1280.5$	$Y=124.65*Ln(GDP/c)-688.42$
Indonesia	$Y=138.07*exp^{8E-05(GDP/c)}$	$Y=0.6705*(GDP/c)^{0.6625}$
Korea, Rep.	$Y=466.39*(GDP/c)^{0.0852}$	$Y=287.11*Ln(GDP/c)-2342.1$
Lao PDR	$Y=7.1.84*(GDP/c)^{0.495}$	$Y=133.01*Ln(GDP/c)-775.14$
Malaysia	$Y=368.56*exp^{4E-05(GDP/c)}$	$Y=126.17*exp^{6E-05(GDP/c)}$
Mongolia	$Y=129.26*exp^{8E-05(GDP/c)}$	$Y=128.3*Ln(GDP/c)-727.76$
Nepal	$Y=0.8977*(GDP/c)^{0.698}$	$Y=118*Ln(GDP/c)-620.76$
Pakistan	$Y=1.9295*(GDP/c)^{0.623}$	$Y=140.26*Ln(GDP/c)-847.83$
Papua New Guinea	$Y=318.82*Ln(GDP/c)-2146.9$	$Y=178.29*Ln(GDP/c)-1240.2$
Philippines	$Y=297.78*Ln(GDP/c)-1924.4$	$Y=165.1*Ln(GDP/c)-1101.3$
Sri Lanka	$Y=195.74*exp^{6E-05(GDP/c)}$	$Y=141.19*LN(GDP/c)-856.46$
Thailand	$Y=0.5644*(GDP/c)^{0.7425}$	$Y=175.54*Ln(GDP/c)-1202.1$
Vietnam	$Y=102.66*exp^{9E-05(GDP/c)}$	$Y=1.975*(GDP/c)^{0.5569}$

Note: Y are the number of possession per 1000 inhabitants

(1) Presupposition of forecasting

By adopted the obtained learning curves to the each country's GDP/c predicted value in 2008, the possession of the radio and television receiver will be forecasted. As for the economic growth rate, existing material will be used to this forecast analysis. The predicted value of GDP/c in each country in 2008 is shown in Table 3.

Table 3. The Rate of Economic Growth (1999-2008)

Developing Countries in	Forecasts			
	1999	2000	2001	2002-2008
East Asia and Pacific	5.5	6.2	6.2	6.3
South Asia	5.4	5.5	5.3	5.1
East Asian crisis-5	4.4	5.3	5.1	5.3

Source :The World Bank Global Economic Respects 2000
South Asia: Bangladesh, India, Nepal, Pakistan, and Sri Lanka
East Asian crisis-5: Indonesia, Malaysia, Philippines, Republic of Korea, and Thailand

(2) The Possession of Radio and Television Receiver

The predicted value of GDP/c in 2008 is substituted for the learning curve, which is obtained in Table.2, and the number of possession of the radio and television for every 1000 inhabitants in each country and the expansion growth rates in the ratio in 1997 are calculated (Table 4). This result is the forecasting data and increasing rate when assuming that the tendency will progress similarly as from 1990 (BaU scenario).

Table 4. GDP per capita (con. 1995US$)

Year	1998	1999	2000	2001	2008
Bangladesh	348	367	387	407	577
Cambodia	279	294	313	332	509
China	727	767	814	865	1326
Fiji	2416	2549	2707	2874	4408
India	444	468	493	520	736
Indonesia	972	1015	1069	1124	1613
Korea, Rep.	11123	11612	12228	12851	18448
Lao PDR	421	444	472	501	769
Malaysia	4251	4438	4674	4912	7051
Mongolia	408	431	457	486	745
Nepal	217	229	242	255	361
Pakistan	511	538	568	598	847
Papua New Guinea	1085	1145	1216	1291	1981
Philippines	1092	1140	1201	1262	1812
Sri Lanka	802	846	892	939	1331
Thailand	2593	2707	2850	2996	4300
Vietnam	331	349	371	394	604

Source: World Development Indicators, Global Economic Prospects

4. Conclusion

About 17 countries of the Asia-Pacific region, IGES estimated the numerical values about the possession of the radio and the television in forthcoming 2008 by using GDP/c as an explanatory variable. (Table 5.) These results can be arranged to the following five points.

Table 5. Increase Rate of Radio and Television Receivers

Countries	Radio		Estimated Rate of Increase %	TV		Estimated Rate of Increase %
	1997	2008		1997	2008	
Bangladesh	50	74	149	6	11	174
Cambodia	128	256	200	9	15	168
China	335	346	103	321	368	115
Fiji	636	737	116	27	156	578
India	120	268	223	65	134	207
Indonesia	155	157	101	68	89	131
Korea, Rep.	348	1077	309	348	478	137
Lao PDR	145	189	130	10	109	1087
Malaysia	434	489	113	172	193	112
Mongolia	142	137	97	47	121	257
Nepal	38	55	148	6	74	1233
Pakistan	94	129	137	22	98	444
Papua New Guinea	91	266	293	9	113	1218
Philippines	161	310	192	52	137	264
Sri Lanka	211	212	100	84	159	190
Thailand	234	281	120	254	267	105
Vietnam	107	108	101	47	70	149

1. The correlation coefficient is not seen in the development of the radio and the television (r=0.232269).
2. The countries, who are estimated having high increasing rate of the radio (200% or more), are Cambodia, India, South Korea, and Papua New Guinea.
3. The countries that 1/3 people or more will possess radio in 2008 are China, Fiji, South Korea, and Malaysia.
4. The countries, who are estimated having high increasing rate of the television (200% or more), are Fiji, India, Laos, Mongolia, Nepal, Pakistan, Papua New Guinea, and the Philippines.
5. The countries that 1/4 people or more will possess television in 2008 are China, South Korea, and Thailand.

The following two points can be led from above five points.

1. As for the countries of 2 and 4, whose possession rate of radio or television is going to increase rapidly, it is forecasted that the receipt ability of information concerning the

environment will also increase rapidly in these countries through the radio and the television. Therefore, the policy at which media are applied to improve public environmental consciousness should be maintained is requested.

2. As for the countries of 3 and 5, it is forecasted that these media will become as effective tools of the environmental campaigns. Therefore in these countries, it is important to maintain the policies by which promoting making appropriate programmes (software) like environmental information.

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Presentation

Influential Factors on Environment Reports
Synthesis and Key Points for Discussion

Satoru Matsumoto
Mekong Watch Japan

The expected role of this comment here is to synthesize the presentations from the environmental journalists in six countries. It also should indicate some key points for the plenary discussion with some inputs from my own research about the representations on development and environment in the press targeting four lower Mekong River Basin countries such as Thailand, Laos, Cambodia and Vietnam.

A. Conceived environmental problems

As you may find, all the six presentations comprised of three different dimensions to respond to the suggested topic. They include "what are environmental problems", "what cause these environmental problems" and "how have environmental journalists worked for them". The first component, the environmental problems raised by the country report, covered quite similar topics in six countries, such as deforestation, air pollution and wastes on the land, and water pollution, which are interestingly called by Ms. Elizabeth from the Philippines as "Green", "Brown" and "Blue" environment. Apart from them, the issue relevant to global warming is touched by a few speakers. This is quite reasonable when I recall the comprehensive research conducted by the English geographer, Graham Chapman, whose outcomes were published on the title of "environmentalism and mass media" in 1997 by Routledge. It analyzed the different context of environmentalism between the UK and India. The research explicitly showed that while the lay people in the UK are quite strongly concerned about global environmental issues like greenhouse effects or acid rain, the Indian people pay more attention to environmental problems related to their life. The six presentations imply the stronger concerns of environmental journalists on life-relevant issues in these countries.

B. Causal relationship between development and environment

The second common component of each presentation is the cause of the environmental degradation. I have just captured key words articulating the presented causes of stressed environmental problems or pollution from each of the presentation. (See Figure 1)

Figure 1. Causes of environmental degradation

[Laos]
Slash-and-burn agriculture, Un-paved road, No sewage system, Factories, House construction by rich people, Hydroelectric power dams

[Vietnam]
Old factories, Traditional pottery, Old vehicles, No garbage control system, No toilets, Upland farming (slash-and-burn agriculture)

[Thailand]
Governmental policy for Industrialization and modern agriculture (including Genetic Modified Organism), Free trade, Lack of environment-related laws、Light Green vs Dark Green conflicts、Conflicts over public participation

[Philippines]
Urbanization, Industrialization, Logging (leading to slash-and-burn), Modern agriculture, Destructive fishery, unsound tourism, waste water from families, No function of environment-related laws

[Indonesia]
Soeharto regime (logging and plantation, communities are involved in corruption)

[China]
Lack of understanding among both lay people and experts including governmental officials

I do not intend to say that these are all causes of the environmental problems in six countries, but rather those conceived by the participating journalists here as major factors destroying or deteriorating environment. I think that these diverse causes can be categorized into four different perspectives: backwardness, development, political economy and unconsciousness. (See Chart 1) It is no doubt for us to be careful since such categorization is often too simplified by ignoring more complicated factors or other ways of analysis. On the other hand, these four main causes can be perceived as understandable factors affecting environment in each country.

Chart 1. Categorizing raised factors

	Backwardness	Development	Political economy	Unconsciousness
Laos	Slash-and-burn Un-paved road No drainage	Factories Housing Hydro-dams		Garbage
Vietnam	Old factories Pottery Old vehicles No garbage control system No toilets Upland farming			
Thailand		Industrialization Modern agri. Free trade Development aid	Gov.policy Lack of laws Light vs dark Participation	
Philippines		Urbanization Industrialization Logging Modern agri. Fishery Tourism Waste water	Function of laws Voicelessness	
Indonesia			Soehart regime	
China	Environmental protection comes after development?			Lay people and experts including officials

When we look at this chart, we can find an interesting feature characterized by four countries: Laos, Vietnam, Thailand and the Philippines, and also China in some sense. The presentations from Laos and Vietnam indicated that backwardness or in other words under-development of the country causes environmental degradation or even makes it more serious or uncontrollable while those of Thailand and the Philippines emphasize the negative impacts of development or modernization process on their environment. It should be noted that in the case of Vietnam, if Ms. Vu Thu Tra notified just factories as a cause, it would have been possible to categorize it into development. However, she spelled out the "old" factories which mean renovation must improve pollution, so it is put in the line of backwardness. Therefore, not only the term itself but also the context of

using the term is crucial for this categorization. The presentation from China also describes critically the idea, "environmental protection should come after development" even though Dr. Li Hao does not specify the causes whether backwardness or development but rather focuses on lack of knowledge and consciousness.

My previous research on the representations on development and environment in the press in the Mekong region also supports this differentiation in which there are two opposite understanding about the causal relationship between development and environment among the journalists. In that, the journalists who think that backwardness has caused environmental problems would symphonize modernization and development while those who think that unsound development has deteriorated environment would be encouraged to cover critical articles on development from environmental perspectives.

C. Roles of environmental journalists

The third common component of the presentations, which is the attitude of environmental journalists to these problems, is discussed. Mainly there found two different emphases among the presentations, one of which is the role of the environmental journalists while the other is the constraint to cover environmental issues. (See Figure 2) The roles of the environmental journalists presented by each country report appear to be quite relevant to their perceptions on causes of environmental deterioration respectively. The difference of their background as media people whether from mainstream mass media or from so called alternative media which can be defined as non-governmental and non-commercial based.

D. Constraints of environmental news coverage

On the other hand, we should not ignore what Mr. Anoulack from Laos presented about the constraints to cover environmental issues. Especially in order to constitute the strategies for environmental education and media, it is necessary to consider the different conditions that might exert influences on environmental news coverage in each country. In conclusion of this comment, seven influential factors are introduced based on my own research on the representations on development and environment in the press in the Mekong region conducted in 1998.

1) Factors belonging to individual journalists
The inability to communicate in English restricts information sources. Environmental

journalists in Thailand often have an experience working for environmental NGOs.

2) Press cultures which impact on the thinking ways of journalists
This factor is closely related to 'news value', a sort of ambiguous standard to sort out news from numerous phenomena though it is not only press cultures but also organizational factors or political economy of mass media that influence on news value.

3) Organizational factors
Temporal or capital constraints influence on the press in Vietnam and Laos, and 'beats' system impedes Japanese journalists from covering development and environment issues in Third World comprehensively.

4) Legal/institutional factors
The presses in Cambodia and Thailand have struggled for freedom of the press and it is quite recently that they are emancipated from even pseudo-control by legislation or authoritarian governments. However, those in Vietnam and Laos are still controlled by ambiguous regulations or abstract guidelines of the Communist Party.

5) Influences by political economy of mass media
All journalists are government officials in Laos and Vietnam, and editor-in-chiefs in Vietnam are members of the Communist Party. In both countries, an indirect political control through editors is manifest. On the other hand, for the presses in Thailand, a financial basis relying on advertisement is heavily influenced by political and economic conditions.

6) Information sources or issues entrepreneurs
Some journalists in Laos despair of the quality of environmental specialists in the country, while some neglect more efforts to extend their news sources. A Japanese editorial writer responded to my question that the stronger the movement organized by advocacy groups in Japan, the more journalists follow up the issues.

7) Dominant culture in specific society
Lao journalists indicate that it is Laotian culture to avoid a conflict and respect compromise. Therefore, it is very few that the newspapers in Laos describe environmental issues as conflicts among different actors.

Figure 2. Role of journalists on environmental coverage

[Vietnam]
Propagating environmental protection, encouraging the model persons or groups, public education, denouncing the wrong conducts

[Thailand]
Mouthpiece for the affected people by pollution, investigative reporting on environmental issues, exposing injustice, through main stream mass media

[Philippines]
Access to research, science, technology, information, communication and education = empowerment and sustainable development, through alternative media

[Indonesia]
Bridge between the state and society, education and awareness building, basic condition is freedom of press

[China]
Introduction to international environmental films both for the public and the government

When the journalists cover environmental problems, it must be very significant for them to ponder or even investigate the causes of the problems in order for mass media to play significant role to solve specific environmental problem in each country. At the same time, the conditions differ by country whether if they can pursue them or not. For that, it should be necessary to analyze or consider the constraints that influence the potential role of mass media in environmental education.

Notes: The research cited in the presentation about the representations on development and environment in the press in the Mekong region was funded by the Toyota Foundation and the Sumitomo Foundation in 1998.

TV Viewing and Cultivation of the Environmental Concern in Japan

Miki Kawabata
Fukushima College for Women

The title of my presentation is "TV viewing and the cultivation of the environmental concern in Japan", and I'm going to show you about some of the research results from the survey data. My research background is social psychology and mass communication studies. My major research interest is the media influence on the people's perception of their social reality. And the main purpose of my presentation today is to show you some empirical evidences of the positive and negative role of the mass media for the public's environmental concern in Japan.

During the past decade, Japanese public's concern on the environmental issues has been growing. In 1998, the result of the public opinion survey conducted by the Prime Minister's office in Japan shows that 82% of Japanese people concern or relatively concern about the global environmental issues. The increase in number of mass media coverage on the environmental issues is one possible explanation for this growing public awareness for the environmental issues in Japan. Most of the global environmental problems, such as global warming or ozone layer depletion, are invisible. So we have to be informed to know these problems exist. The survey result by the Prime Minister's office also indicated that over 90% of the respondents chose television as the source for getting knowledge or information about the global environmental issues. Also Japanese people tend to acquire environmental information from TV, films and radio, according to the survey data of our study.

If many of the people in Japan get their knowledge about the environmental issues through television, does TV viewing or TV news viewing contribute to the formation or change of public attitudes toward the environmental issues in Japan? In this study, we examined the role of TV viewing and TV news viewing for the public awareness toward the environmental issues in Japan. Much research has been conducted on the effect or influence of the mass media coverage about the environmental issues. Among them, I'm going to show you about our research results applying Cultivation analysis, which was originated by George Gerbner and his associates in 1960's in the United States. This study covers how repetitive and cumulative exposure to television influence the viewer's perception about their social reality. Applying Cultivation analysis for environmental issues, James Shanahan, one of the researchers of Cultivation research in the United

States, found a negative relationship between overall television viewing and people's environmental concern. He argued that the values of progress, technology, production, materialism, and constant portrayals of the environment as clean and sound on commercialized television in the United States could contribute to public apathy toward the environment.

In Japan, more than 40% of what the commercial television networks air is entertainment or advertising programs. And during the prime time, the rate of entertaining programs seems to be higher. Like in the United States, commercialized entertainment programs in Japan tend to show clean and beautiful environment on television, as well as distract people from thinking about important public issues such as environmental problems. Therefore, in Japan, we can hypothesize that long-term heavy television viewing of mainly entertainment programs may strengthen apathy for environmental problems. But, for the people who watch more news programs on television, they are more informed about the environmental issues. So, they might be more concerned or more engaged in pro-environmental behaviors than who watch less news programs.

Applying Cultivation Hypothesis and these assumptions, we made two hypotheses.

Hypothesis 1: Heavy television viewers are less concerned or less tended to be engaged in pro-environmental attitudes and behaviors.

Hypothesis 2: Heavy television news viewers are more concerned or more tended to be engaged in pro-environmental attitudes and behaviors.

For exploring these hypotheses, we did a questionnaire survey, which was conducted in Tokyo metropolitan area in July 1998. The sample of the survey was 750 male and female adults using the random sampling method. And we got 502 completed questionnaires.

In analyzing the data, we used three independent variables as the TV exposure measures. First variable was the amount of overall television viewing. Second was the amount of television news viewing. Third one was the amount of TV viewing excluded the amount of television news viewing, which is "television viewing especially of entertainment programs rather than news programs". As for the dependent variables about environmental concern, we used pro-environmental attitude scale, pro-environmental behavior scale and the variable of having discussions with family or friends about

environmental issues.

Table 1 **Relationships between television exposures and dependent variables about environmental attitude and behavior**

Dependent Variables	TV Exposure					
	Overall TV Exposure		TV News Exposure		TV Exposure Excluded News Viewing	
	Simple r	Partial r	Simple r	Partial r	Simple r	Partial r
Environmental Concern	-.055	-.013	.115*	.086#	-.104*	-.047
Value for ecological way of living	.026	-.031	.088*	.059	-.018	-.058
Agree to Environmental Tax	-.042	-.038	.066	.019	-.069	-.051
Perception of harmful chemical materials	.045	.083#	.074	.111*	.045	.051
Pro-Environmental Attitude Scale	.033	-.012	.126**	.193***	-.065	-.087#
Pro-Environmental Behavior Scale	-.010	-.057	.134**	.148**	-.100*	-.120*
Discuss environmental issues with family or friends	-.025	-.023	.148**	.144**	-.113*	-.081#

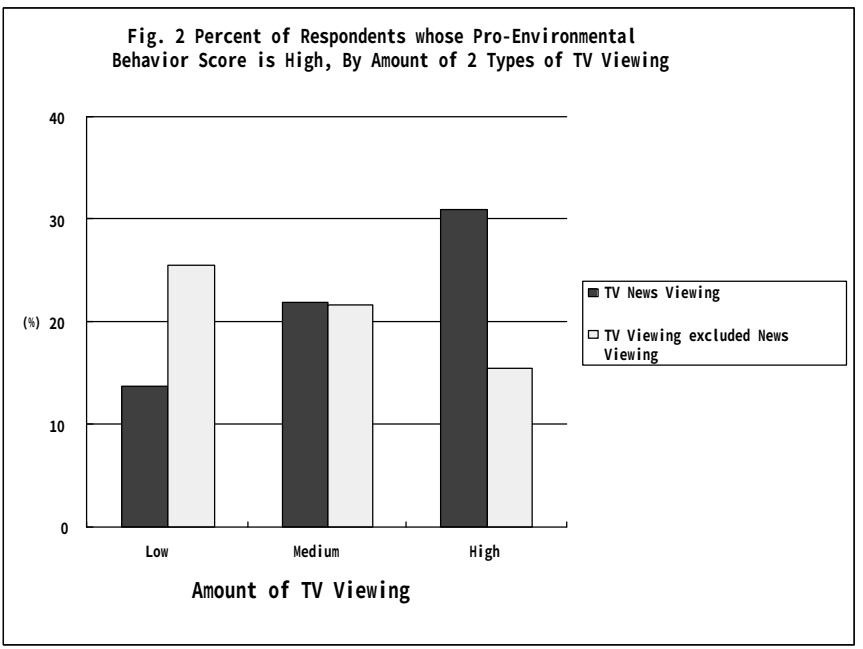
# p<.09, *p<.05, **p<.01, ***p<.001

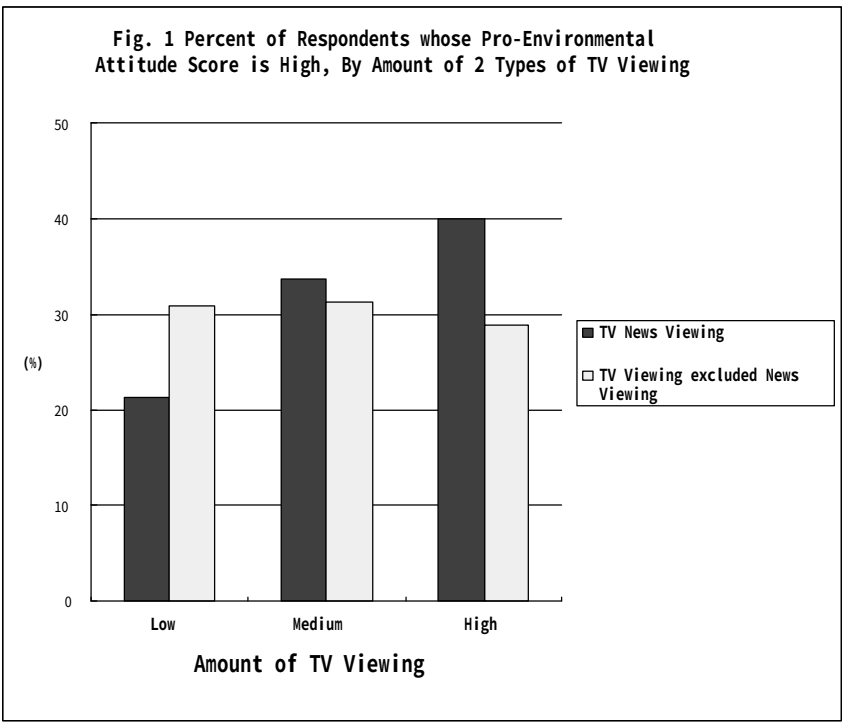
Notes: All correlations are Pearson r.
Partial correlations are controlled for demographic variables (sex, age, education and amount of newspaper reading).

Table 1 shows the result of the analyses of three dependent television exposure variables and environmental attitudes and behaviors. As this table indicates, overall television viewing does not have any significant relationships with these dependent variables. But for the amount of TV news exposure, we found many significant positive relations between TV news exposure and these dependent variables. That is, the more they watch TV news, the more they concern about the environmental issues and the more they tend to conduct the environment-friendly behaviors.

On the contrary, the amount of television viewing excluded news program viewing, which is assumed to be mainly viewing of entertainment programs on TV, was negatively related to the following dependent variables: such as the pro-environmental attitude scale, the pro-environmental behavior scale, and the variable of if they have discussion on the environmental issues with family or friends. So, this result suggests that the more people watch television programs except news programs, which are mainly the entertainment programs, the less they are actually engaged in pro-environmental behaviors and the less they discuss on the environmental issues with other family members or friends.

Next, I'm going to show you Figure 2 ("**Percent of Respondents whose Pro-Environmental Behavior Score is High, By Amount of 2 Types of TV viewing"**) then, Figure 1, (**"Percent of Respondents whose Pro-Environmental Attitude Score is High, By Amount of 2 Types of TV viewing"**). Both by analyzing data with the television news viewing and television viewing excluded news viewing. I omit the result of the analysis with the overall television viewing because we did not have much significant relations about this variable. Dark colored bar of the graph indicates the result of the analysis of TV news viewing, and light colored one is TV viewing excluded news





viewing, which means the TV exposure to mainly entertainment programs. The data also shows that heavy TV news viewers tend to get higher pro-environmental attitude score. It means that the more they watch TV news, the more they tend to be engaged in pro-environmental attitude or pro-environmental behavior. So far these are the behavior's scores. Figure 1 is about the result of their attitudes. This also shows that heavy TV viewing except TV news viewing related to be less engaged in pro-environmental behavior. From these figures, we can clearly see the difference between two types of relations; For TV news viewing, it was positively related with their environmental attitudes and behaviors. For TV viewing except TV news viewing, it was negatively related with their environmental attitudes and behaviors. As these results indicate, we got the results that hypothesis 1 is supported with the variable of the amount of TV entertainment programs viewing, but not with the amount of overall television viewing, as the independent variables. Hypothesis 2 was also supported.

In conclusion, this study's major result is that TV exposure excluded news program viewing, which is TV entertainment program exposure, could influence negatively on the public awareness in Japan. Therefore TV news viewing could promote environmental awareness. So, with these results, we can suppose the positive role of TV

news viewing for promotion of the concern and awareness for the public environmental issues in Japan. This result also indicates us the important role of the environmental journalists, especially for the television news reporting.

Before I finish my presentation, I must add that, to complete this kind of research, we have to do the content analysis of news programs about environmental problems. I think that we are going to continue this kind of studies, and get more evidence from empirical data to promote environmental awareness and concern in Japan. Thank you.

Comment for "TV Viewing and Cultivation of the Environmental Concern in Japan"

Shunji Mikami
Toyo University

I want to make some comments on Kawabata's research report. Her presentation was on how the TV news and other programs influence the public environmental awareness and protective behaviors. She found there is positive effect on environmental awareness promotion. On the other hand, some TV programs other than news programs might have negative influence on environmental awareness. So, TV contents have both effects. This is very important especially in commercialized TV programs They have very conflicting interests among industries.

I'd like to show you one more example that was placed in the last year in constructing both positive and negative effects. This is a TV news shows presented in February 1999 on the popular TV news show called "News Station" which is very popular, and enjoying the highest rate among the TV news programs in Japan. The anchorman of the TV program is very famous person whose name is Mr. Hiroshi Kume. On a special program, a private research institute showed some research results about the amount of the dioxine in vegetables produced in Tokorozawa, Saitama prefecture. He showed some data which was showed that the containment of dioxine in vegetables made in Tokorozawa was over average; 0.64 to 3.80 micro-grams. According to his comment, this value was much higher than the average quantity of the national survey. The amount is 0 to 0.43 in average. He showed the amount of dioxin in vegetables made in Tokorozawa is much higher than the average all over the world. This TV news made very strong and enormous effect on Tokorozawa consumers as well as the producers. On the next day, the price of the vegetables produced in Tokorozawa dropped down drastically as 100 yen down to 20 yen. As consumers in general avoided to buy Tokorozawa produced vegetables. So there was very enormous damage to vegetable producers in Tokorozawa as well as Saitama prefecture in general. This is very negative side of the TV news. But on the other hand, the public awareness on the dioxin risk raised much after the TV news show. Also the government and JA which is the organization of the farmers in Japan, decided to disclose the information on the survey data about the amount of dioxin in vegetables in which once they had hidden because they didn't want to disclose it on the TV news shows. The government decided to make a new law against dioxin. The new law was activated in the last year. So this was the very

positive effect of the TV news. But, JA sued TV Asahi and News Station for their damage because TV Asahi news presented inaccurate information of the survey data as well as the expression of the report on the TV show which was quite distorted and made audience inaccurate understanding of dioxin risk. So, when considering the effect of TV news and other programs, we should consider both positive and negative effects. This is one of my comments.

Also, TV news or TV programs often disseminate audience very superficial image of risks. For example, in dioxin case, we conducted some surveys on general citizens in metropolitan area last autumn. We asked about anxiety on dioxin risk as well as global warming risk. We found much higher concerns about dioxin risk than global warming. Also we found that anxiety on dioxin risk was more familiar for the citizens' own life or health. On the other hand, anxiety on global warming was more remote and most of the citizens were concerned about future global risks. The nature of concerns between the global warming and the dioxin risk are much different. I think this is the reason the TV news program could make such a great impact on the consumer and the audience in such a short term. In transmitting the environmental risk, this kind of risk should be in consideration when talking about the impact of the news.

Thank you very much.

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2nd Workshop on Media and the Environment in the Asia-Pacific Region

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