

# ***Sub-theme: Balancing Asia's Growth & Environmental Sustainability***



***Ms. Angelina P. Galang, Ph.D.  
Executive Director/Founder, Environmental  
Studies Institute, Miriam College,  
Republic of the Philippines  
Panel Speaker, Tuesday December 9, 2003***

Good morning, ladies and gentlemen. Educating for the environment for the past 25 years, I am constantly challenged by issues that we must address together as citizens of this Earth. At present, I feel a personal sense of urgency because I now have four grandchildren who deserve to grow up in a beautiful, healthy planet. Thus, deeply honoured, I am grateful to have been invited to address the Hitachi Young Leaders Initiative, this gathering of bright, idealistic youth who will be shaping the world of tomorrow.

## **Asia's Socio-Economic Growth**

In the last quarter-century, Asia experienced phenomenal growth. Its GDP per capita annual growth was the highest in the world - 5.9% for East Asia and the Pacific, 2.4% for South Asia, and just 1.2% for the whole world.

In terms of the Human Development Index (HDI), East Asia and the Pacific also fared relatively well. Its score in 2000 was 0.726 while the whole world's was just 0.722. The Human Development Index is based on life expectancy, education, and adult literacy. The perfect score is 1.00.

Should we be optimistic? Sadly, these gains have been paralleled by the degradation of the environment on which the future depends. In terms of diminishing natural resources and pollution of air and water, Asia should be worried.

## **Asia's Environmental Degradation**

Asia - Pacific countries have lost 70% - 90% of wildlife habitat due to agriculture, infrastructure, deforestation and lowered land quality. 75% of the region's protected marine areas are threatened by coastal development. Of the 15 cities with the highest suspended particulates, 12 are in Asia. Indoor air pollution is a menace as Asia accounts for 44% of the world's fuel wood consumption.

How can we protect our natural resource base while sustaining our socio economic gains? My answer in two words: systems and self.

## **Systems**

I start with systems, because surely, you will manage enterprises and institutions as well as national and international scenarios. Systems thinking implies holistic approaches that consider all linkages - environmental, socio-economic, political and so on.

*“How can we protect our natural resource base while sustaining our socio economic gains? My answer in two words: systems and self.”*

In dealing with environmental linkages, we should be guided by one principle: We must respect nature and nature will work for us. Allow me to discuss this principle through the ecosystems perspective. In an ecosystem we have diversity and synergy. Each organism is important, contributing to the health of the others and the whole. All the plants, animals, insects, microorganisms are important. The ecosystem functions because of the "togetherness" of the components. As an integrated system, a forest for example attracts rain clouds, creates water reservoirs, moderates climate and serves as habitat for diverse species. The balance of nature is maintained with no help from humans.

If the diverse species are replaced by a plantation of one type and/or by exotic species not native to the area, the natural balance is disturbed. Pest infestations are more likely, requiring large doses of pesticides, ultimately affecting soil and water quality. Therefore, if wood is a main feature of a country's economy, attention must be given not only to the wood but the ecosystem that nurtures the trees. If only investors' income and taxes are measured and the other functions of forests neglected, the effect on the national budget will be felt sooner or later. Ecological management should be of special concern to Malaysia and Indonesia whose rich forests now supply 60% of the world's plywood.

In agriculture too, monocropping of large tracts of land initiates the cycle of pest infestation, pesticides and fertilizers which result in soil degradation and decrease in harvest. Many farmers have been made poor by this system.

Like forests, the diversity and synergy in coral reefs and other coastal ecosystems, give us many species of fish, crabs, mollusks free, nature at our service. But with conversion of coastal ecosystems into fishponds, the maintenance of only one or two commercial species with feeds and antibiotics upsets the balance and hinders sustainable fishing.

*“In dealing with environmental linkages, we should be guided by one principle: We must respect nature and nature will work for us.”*

## **The Watershed as an Ecosystem**

The ecosystem framework applies to larger units. The watershed is an ecosystem. Forests affect the areas below - rivers, plains and coastal areas while wind currents waft up water vapour, pollen and tiny organisms. A programme for agriculture, for example, must consider the integrity of the forest. What is the use of spending millions for irrigation if the rivers will not be sustained by healthy forests? This is the reason why giant dams are a big controversy. They submerge forests, change river courses and affect many ecosystems. A study by World Bank shows that the benefits derived by by giant dams are outweighed by the adverse consequences.

## **Regional Ecosystem**

An ecosystem can span more than one country. The Mekong River Basins involve many countries as the river starts in China and ends in Vietnam. Deforestation and pollution in one country affect the rest. The Sulu-Sulawesi sea, includes Indonesia, Malaysia and the Philippines. We share an interest in keeping it productive. Therefore, countries that share resources must agree on effective regional instruments.

## **Earth as an Ecosystem**

Planet Earth is one ecosystem linked by air and water currents. Global warming and ozone depletion endanger the whole world even if the offending gases come mainly from industrialised countries. Wetlands, biodiversity and endangered species are local features but are linked by global wildlife migration. Thus the importance of international treaties - the Kyoto Protocol on global warming, the Montreal Protocol on ozone-depleting substances, the Basel convention on international movement of toxic wastes, the Convention on International Trade on Endangered Species, the RAMSAR Convention on Wetlands, etc. Many Asian countries are most vulnerable to the threats that these treaties address. Therefore, we must work to see that they are fair and are implemented. For those of you who are drawn to international service, I hope you take this as a most important arena.

## **Nature Wastes Nothing**

Respecting nature means working along its cyclical lines. Matter leaves and enters life forms and the non-living environment in never-ending cycles. But many of our technologies are linear and end in pollution. For example, incineration of municipal waste not only results in toxic gases and ash. They in turn destroy organic materials which should go back to the soil and recyclable materials which go back to factories.

## **Nature's Carrying Capacity**

Working with nature means respecting its carrying capacity. Asia's increasing population, economic activities and consumerism have increased pollution and consumption of energy, water and materials.

## **Genetically Modified Organisms (GMOs): Extreme Intrusion into Nature**

The more fundamentally we interfere with nature, the greater the risks. A most controversial technology is that of genetically modified organisms (GMOs). It alters nature in a most basic way, through the gene. While the focus is health, there are also ecological, political, and trade questions. GMOs can affect food webs and thus, entire ecosystems. Asia's farmers are vulnerable as they might be totally dependent on the multinational seed suppliers. They might lose huge markets because of the growing preference for organic produce in Europe and the United States and may I add Japan. Therefore, countries must critically study technologies in their multi-dimensions.

Unfortunately, the paradigm of "Nature knows best" is hard to accept, since we have been accustomed to seeking total control of the environment. But does the ecological paradigm mean that we should discard our scientific breakthroughs and accept whatever naturally comes? No, in a way, I advocate quite the opposite. We need more science, but science that tries to understand the wholeness of natural processes, science sensitive to nature's signals.

Thus, nations must support research and investments that will yield food and businesses but will not destroy ecological balance. Are there budding scientists and entrepreneurs among our youth who will tackle these challenges? Our educational systems must produce citizens with this paradigm.

## **Nature Knows Best**

Many examples abound to show that following nature is still best. The most extremely natural agricultural method has been showcased by Masanobu Fukuoka, a Japanese farmer. He uses companion crops and the right timing of mulching, seeding, and harvesting, letting nature do the rest. The Philippine Masipag experience shows that the net gain is higher with organic farming than with the chemical - dependent method. The Nasipit Lumber Company showed that natural regeneration can bring both economic and ecological benefits.

Alternatives to giant dams are mini- and micro-dams which provide irrigation and power with less environmental impacts. Ecological solid waste management follows the cyclical bias of nature. Toyota in the Philippines has adopted a local technology which converts almost all its waste into useful products.

Addressing the environment's carrying capacity is possible without sacrificing growth. In Singapore, since the 1970s, new industries were licensed only if they met the country's tough emission standards. In Bangkok, groundwater fees have lowered groundpumping rates. Also, the tuk-tuk motorcycles now use four-stroke engines to reduce air pollution. Eco-governance is possible with strong political will.

## **Development must be Equitable**

Systems must spread gains to all. Systems that simply make the rich richer and the poor poorer worsen environmental problems. For example, when development projects displace human settlements, the poor are forced to move to the uplands where they slash and burn forest to plant crops or to cities where they occupy riverbanks, affecting the flow and quality of water. Therefore, nations must devise developmental strategies that benefit and empower citizens more equitably.

In the Philippines, such a framework is the community-based resource management which has been institutionalised. Its logic is that people will protect resources if they are stakeholders in the resource. I

am particularly proud of the role of my school in the management of a national park, Biak na - Bato National Park. Environmental education and community organising have prepared the people to manage the park. The men are trained as tourist guides and the women in catering and souvenir-making. Thus, they feel that protecting the forest means protecting their own livelihood.



## Self

Central to systems is the self. No matter how big or small our own public spheres of influence are or will be, we are all private persons with choices to make every minute of the day. I am sure this is not the first time you hear of the need to keep ecological balance. When you did hear of it, did it make a difference in your own behavior? Did you then conserve energy, water, materials? Did you then segregate your waste, recycle and compost? Did you then take care that your purchases were environment-friendly? Did you turn off the lights when you left your rooms this morning?

We must weave the principles of sustainable development into our own lives. As we pursue convenience and comfort, let us "tread lightly on the Earth." Each of us affects the planet's destiny because we are all interconnected in the web of life. Each of us can make a difference in our choice of lifestyles, careers, values. Asia has wonderful people but the times call for those who will go the extra mile for the ecological integrity of our countries and Mother Earth. As we work on systems, we must also work on ourselves. We must all make sustainable development a personal issue.

As leaders who will shape the world for my grandchildren, I wish you the best of all possible futures. Thank you.

## References:

1. UNDP Development Report 2002
2. ADB: Asian Development Outlook 2001
3. Padilla Hill J. Ecological Farming, 1999. Corpus Press
4. "Empowering Farmers for Rural Development: the Masipag Experience" Biotechnology and Development Mentor, Amsterdam: The Network University, pp. 15 - 18
5. Thrupp, Lori Ann, ed. New Partnerships for Sustainable Agriculture, 1996. World Resources Institute.
6. State of the World 2000. The Worldwatch Institute 6th Hitachi Young Leaders Initiative

*"Each of us affects the planet's destiny because we are all interconnected in the web of life."*