Globalization: Its Impacts on the Philippine Environment
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1. INTRODUCTION: THE PHILIPPINES AND THE PHILIPPINE SITUATION

The Philippines is an archipelago situated on the eastern edge of Asia. It is bounded to the west by the South China Sea and to the east by the Pacific Ocean. Its nearest neighbors are the Malaysian province of Sabah and the Indonesian territory of Kalimantan, both on Borneo to the Southwest. Across the South China Sea, about 620 miles west, lies Vietnam, and a similar distance to the east are the Palau islands. China lies about 320 miles to the north.

The Philippines, a tropical country, consists of 7,107 islands, with a land area of almost 116,000 square miles. There are six major island groups. The largest and most densely populated is Luzon, and it is the site of the capital, Manila. Mindanao is the second largest island, forming the southern landmass. Between is a cluster of islands collectively called the Visayas, the principal of which are Panay, Negros, Cebu, Bohol, Samar, Leyte, and Masbate. The fourth group is Mindoro, a mountainous island in the south of Luzon. Southwards towards Borneo is Palawan, a long, thin, pencil-like island. Finally, in the far south are the Sulu islands, from the western tip of Mindanao to within a few miles of Borneo. With such a large number of islands, the Philippines has a long coastline which totals 21,773 miles, even longer than that of the USA. The highly indented coast has created 60 natural harbors and there are about 13,128 square miles of coral reefs with around 400 species of coral which are home to hundreds of species of fish.

Filipinos today are a curious blend of the East and West, showing strong Malay, Arab, Chinese, Spanish, and American inputs. The Philippines had been under foreign domination which greatly influenced its social, cultural, religious, educational, and political systems. The colonizers also left their footprints on the country’s environment. There are over 80 languages and dialects throughout the country. The official language is Filipino, the standardized form of Tagalog which is the language in metro Manila. English is used as a medium of instruction and in business and in government.

The total population is 73 million with an average annual growth rate of 2.3%. Urban population is 46% and 94% of the people are literate. Ninety percent of the population are Christians, 5% are Muslim and the remainder, a mixture of Buddhists and animists. Of the Christians, 92% are Roman Catholic and 8% are Protestants.

Our country is basically agricultural. One-fifth of our gross domestic product is contributed by the primary agricultural sector. If we consider agribusiness, then over one-half of our economy is agricultural. Primary agriculture accounts for 40% of total employment in the Philippines. The daily cost of living for a family of six is P441 ($9) in metro Manila, P334 or $6.50 (agricultural) and P355 or $7 (non-agricultural) for those residing in other regions. The minimum wage is P198 per day or P4 in metro Manila and P131 - P188 ($2.60-3.75) for nonagricultural workers outside metro Manila.

II. THE IMPACTS OF GLOBALIZATION ON THE PHILIPPINE ENVIRONMENT

As viewed by the Philippine government, “globalization” is supposedly the key solution to the country’s underdevelopment and poverty. The global financial bureaucracies include the International Monetary Fund (IMF), the World Bank (WB), and the World Trade Organization (WTO). The major component of globalization is the removal of restrictions on the movement of capital, goods, resources, technology, and services among nations. The earlier GATT (General Agreement on Tariffs and Trade) dealt mainly with the liberalization of tariffs on industrial products. The Uruguay Round in 1995 added several “new issues” such as intellectual property rights (IPR), services and investment measures, as well as agriculture, and transformed GATT from a contract among member countries into a full-fledged organization, the WTO. This changeover from the old GATT to the WTO with expanded powers and jurisdiction marked the passage of the age of trade agreements into the globalization of policy-making.

A. Impacts on Agriculture, Biodiversity, and Land Use

The Agreement on Agriculture (AOA) was supposed to result in the reduction of agriculture subsidies in the North to improve the market access of those countries that export agricultural products. However, the agreement obliged developed countries to reduce domestic subsidies by only 20% and, in contrast, most developing countries had no or little domestic or export subsidies. This imposes global competition on the domestic farm sector. Farmers unable to compete with cheaper imports may not survive. Agricultural liberalization also raises world food prices which may benefit food exporters but about 100 Third World food importing countries face a higher food import bill.

Faithful to GATT and the WTO, the Philippine government encouraged the entry of imported agricultural products including those that can be locally produced such as rice, corn, sugar, livestock, poultry, and fish. With lower tariffs and higher levels of technology with which the imported crops are produced, they turn out to be relatively cheaper than the country’s domestic products. This results in unfair market competition.

The main targets of the government’s development plan were the rural areas, and this transformed the agricultur-
cultural landscape as a showcase for commercial and export-oriented production. Subsistence and staple crops were replaced with high value crops (HVCs). Staple crops such as rice and corn gave way to “more saleable” products such as mangoes, pili and cashew nuts, cassava, cotton, castor beans, asparagus, and cut flowers.

For the period 1990-1995, the HVCs contributed about $693M or 38% of the country’s agricultural export. The serious implications of the shift to HVCs, secondary to land ownership and livelihood, are food insecurity and environmental degradation. HVC growing is promoted through the practice of contract growing in which farmers are contracted by transnational corporations (TNCs) to grow a specified crop at specified quality standards. HVCs intensify TNC control in agriculture. TNCs become involved from planting to trade without really owning the land. In the practice of contract growing HVCs, farmers are ordered to follow the recommended doses of fertilizers and pesticides in order to achieve the standard quantity and quality.

The use of chemical fertilizers and pesticides poses a threat to the environment as well as to the health of the workers. For example, in Mindanao ambulances are on standby whenever farm workers spray the deadly pesticide “Mocap” in banana growership farms in Davao del Norte. Soil erosion and desertification are already evident in some places in Mindanao where contract growing of HVCs is prevalent. In Cotabato, farmers complain of siltation in their irrigation system because of the pineapple plantations.

Heeding the call for globalization, the government permits the conversion of prime agricultural lands into industrial centers, export processing zones, and real estate. The irreversible conversion of farmland contributes to the growing loss of agricultural resources and the country’s best soils. The loss of rich agricultural lands to settlements and industrial uses displaced peasants who then encroach upon marginally-productive hilly forest areas. This results in misappropriation of land resources whereby fertile lands are used by business while marginal lands are cultivated and further decrease forest areas.

The land allotted for rice and corn decreased from 5 million hectares to 1.9 million hectares, thereby decreasing the supply of these staple crops. The average daily rice requirement in the Philippines is 22,000 metric tons. The actual yield per hectare of rice land is only about 2.82 metric tons annually. Even if the yield is doubled in the remaining hectares for rice (1.2 million), the production would still be short by 282,000 metric tons. This results to a lower supply of the dietary needs of the population.

The introduction of the high yielding varieties (HYVs) of rice supposedly to increase agricultural productivity actually promoted TNC agribusiness in the Philippines. The HYVs are more aptly called “high response varieties” because they can only increase yields with high fertilizer and chemical inputs. The farmers, under the World Bank-sponsored Green Revolution, were told to shift to rice and corn HYV hybrids.

Heavy reliance on farm chemicals has resulted in (1) increased soil acidity; (2) increased nutrient load of surrounding water bodies due to fertilizer runoff; (3) increased pest resistance; and (4) genetic erosion accompanied by increased crop vulnerability to pests and diseases. Fertilizer use has spawned other problems, particularly water pollution. The growth of algae blooms in some waters has been attributed to inorganic fertilizers with nitrates. Increased pesticide use also increases pest resistance. Resistance was noted to be pronounced in fruit and vegetable insects. Pesticide use poses health risks to consumers as high accumulation of pesticide residues in food has been discovered. From 1980 to 1987, there were 4,031 cases of pesticide poisoning monitored by government hospitals, 15% of which were fatal.

The bulk of seed trading is given to private seed companies and traders which include foreign and foreign-affiliated seed companies such as East-West Seed Corporation (Dutch), Pilipinas-Kaneko Seeds Corporation (Filipino-Japanese) and Pioneer Hi-Bred (American). Other than the seed trade, the supply of fertilizers, pesticides and herbicides is controlled by transnational companies (TNCs) such as Bayer, Rhone-Poulenc, Ciba Geigy, and Sandoz. It is estimated that 30% of the global seed market of $15 million to $17 million is controlled by 20 companies. TNCs, through the traders, dictate the prices of the seeds and other farm commodities as well as the prices at which the vegetables and other produce are bought, placing the farmers, who are the primary producers, at the losing end.

The shift from a “food first” to an “export first” policy is justified on the grounds of food security, because export earnings are supposed to pay for food imports. However, export-oriented agriculture has reduced food security by encouraging a shift from small-scale sustainable production to large-scale non-sustainable industrial production. It also brings changes in ownership of our natural resources and means of production from small autonomous producers/owners to large corporate and commercial interests. Peasants are displaced from farming while commercial interests take over land for industrial-scale production of export commodities such as shrimp, vegetables and meat.

While small-scale indigenous shrimp farming has been sustainable over the centuries, shrimp exports require the establishment of factory farms for shrimp production. Each acre of shrimp farm needs 200 “shadow acres” to supply resources and absorb the wastes. Large scale shrimp farming is so damaging because it requires enormous quantities of fish for shrimp feed, most of which is converted to waste that is poured into the sea, polluting the water and damaging mangroves. Shrimp farming also destroys the coastal agriculture because the factories require the pumping of seawater into the shrimp ponds. This causes salinization—reducing drinking water supply and destroying trees and crops near the shrimp factories.

The original purpose of Intellectual Property Rights (IPR) is rewarding innovation while ensuring disclosure and sharing of knowledge for enabling further innovation. The Trade Related Intellectual Property Rights (TRIP) agreement, however, opens the door to the patenting of life forms such
as microorganisms and modified genetic materials, thus providing the boost in incentives desired by the biotechnology industry. This will be detrimental to the global environment because of the present lack of controls and accountability in biotechnology research, and application will likely accelerate biodiversity loss and could threaten the natural ecosystems.

Some 11 patents have already been filed in the US and Japan covering the extraction and use of nata de coco from coconut, a major cottage industry in the Philippines, and patents by foreign entities and individuals were filed on lagundi and banaba, two Philippine plants with medicinal qualities. The French fashion house, Yves St. Laurent, has already secured a patent for its perfume formula which is based on the Philippines' native "Ilang-Ilang" flower.

TRIP is a concern because of the threat it poses to the very existence of agrarian communities. As it stands now, an individual or company can collect a plant from a developing country, modify it or isolate a useful gene, patent a new plant variety or product that contains it, and appropriate all financial benefits without having to make any payment to the communities whose traditional knowledge enabled the plant to be identified in the first place.

B. The Effects on Philippine Industries

The Philippines has long committed itself to the structural adjustment programs (SAPs) of the IMF and the WB. Under the country's SAP in 1980, it devised the first trade liberalization program that included import liberalization and tariff reforms. There was no need to import chicken meat since the domestic chicken production was adequate to meet local requirements. However, the country's adherence to the IMF-WB SAPs and the GATT paved the way for the sudden influx of imported chicken from developed countries, threatening the local poultry industry. Under the new IMF program, it was made clear that the government's recovery hinges on its adherence to further liberalization, deregulation, and privatization.

The liberalization of the telecommunications industry actually opened up the sector to foreign domination. A number of foreign investors took advantage of the "free" atmosphere by forging partnerships with local companies. British, Swedish, Canadian, and Singaporean firms are among the owners of the top telecommunications companies in the country today. Two new modes of communication are the Internet and mobile cellular phones. However, private ownership means putting profit ahead of service, thus only the rich and the middle class, comprising only 20% of the population, can avail themselves of these.

Beverages are a perfect example of an industry turned global. It is also a perfect example of an insignificant product turned into a virtual need through relentless marketing and advertising. The top beverage transnational companies, Coca Cola and Pepsi Cola, have taken over the drink preference of Filipinos as well as the business of local beverage manufacturers. Local liquors and spirits, such as tuba, fermented drink from the sap of coconut trees, basi from fermented sugar cane, tapuy brewed from rice, as well as local fruit wines are no match to the TNC foreign wines whether imported or manufactured locally.

The Philippine sugar industry was also caught in GATT. In order to fulfill the government's commitment to GATT as well as to correct the sugar shortage in the country, sugar is imported through the private sector. The El Niño phenomenon and land use conversions have resulted not only in smaller cultivated areas but also delayed harvests and low sugar yield. Beyond the issue of speculative price surges and government intervention, the Philippine sugar industry is threatened by the entry of cheaper imported sugar and the eventual removal of US quotas.

The mining industry, instead of being treated as a basic resource industry, is being counted as a dollar-earner. Its contribution to the economy has always been measured in terms of its ability to generate export earnings, taxes, and employment. The Philippines has earned a slot in the world's major producers of gold, copper, silver, chromium, and nickel. The mining process has always been equated with environmental destruction such as deforestation, slope destabilization, soil erosion, desertification, water resource degradation, defertilization, crop damage, siltation, alteration of terrain and sea bottom topography, increased water turbidity, and air pollution.

The mining industry is not only pollutive but extractive as well. The mining process in the Philippines entails bulldozing large quantities of rock and land underground or flattening mountains to extract minerals from chunks of ore. For example, one ton of gold ore produces a minuscule 2 grams of gold, about the size of a headache tablet. To extract a metric ton of copper, 2.2 metric tons of earth and rocks must be removed in the process. Aside from mine wastes and tailings which affect the physical environment, the major issue is the socioeconomic dislocation and displacement of both upland and lowland peasant families in the mining area, the subsistence miners, indigenous peoples in ancestral domains and the people's rightful claim over the country's mineral and other natural resources.

Energy development is one of the sectors opened up to foreign investors who bring in huge capital through various arrangements with the government's privatization program. More energy is needed to meet the needs of the industries. Geothermal energy development occurs in mountainous areas with secondary forest growth and river systems. Its environmental impacts include de-vegetation, soil erosion, land alteration (especially during construction, exploration and drilling), destruction of the natural habitat and water pollution. Water pollution during well testing and power generation and toxic components of geothermal effluents and drilling fluids could contaminate surface and groundwater in the area. For example, the Visitang Naga River near the Tiwi Geothermal Plant had concentrations of heavy metals. Sulfur oxide emissions adversely affected the trees in the Southern Negros geothermal area. Coal-fired power plants have a major impact on air quality. SO2, NO, CO, CO2, particulate matter, fly ash, and dust emissions cause respiratory tract infec-
tions in surrounding communities. Oil exploration also cause
the destruction of coral reefs. Hydroelectric plants use large
impounding areas displacing the inhabitants in inundated
places. Changes in the hydraulic regime of the rivers also
affect the local aquatic environment.

As an offshoot of globalization, the transportation
industry has expanded. However, the increase in the number
of vehicles, especially in urban areas, has given rise to traffic
problems and worse, a higher incidence of respiratory dis-

C. Globalization and the Philippine Forests and Coral Reefs

The irresistible forces of population growth and rural
poverty are consuming the lush tropics. The loss of for-
est has major worldwide consequences, including global
climate change and the massive extinction of plant and ani-
mal species. In tropical areas, floods and droughts have cata-
strophic effects when trees no longer protect the soil.

The Philippine forests are among the most diverse
in the world and are also the most endangered. Latest esti-
mates place the country’s remaining forest areas at 5.6 million
hectares from 20 million hectares a century ago. This forest cover is
roughly 18.6% of the country’s total land area. For the Philip-
ines to be ecologically sound and able to sustain its eco-
systems, its ideal forest cover, or what is fit for its narrow,
mountainous terrain, should be 54% of its land area. Forests
are lost due to the insatiable demand for land, timber, cash
crops, and valuable commodities such as gold and oil.

As a consequence of industrialization, coral reefs
are also destroyed. Rampant coral reef destruction is attrib-
uted primarily to silting due to logging-induced erosion and
mining wastes. Destructive fishing practices like dynamite
fishing and muro-ami fishing to provide “instant catch”
for fishermen have also been responsible for the current state
of our coral. Cyanide is usually used by tropical fish collec-
tors to meet the demands of the world market. Hard and soft
coral die within three months after the application of sodium
cyanide.

III. CONCLUSIONS AND RECOMMENDATIONS

The Philippines, in its desire for development, em-
braced the World Trade Organization and its magic call for
open markets and trade liberalization. However, we have fallen
prey to the system’s more “deleterious effects” the widening
of income gaps among countries and the displacement of
developing countries in the global market.

Globalization has created winners and losers/losers
mostly in the developing countries, like the Philippines. The
importation of foreign goods has changed the consumption
pattern of the Filipinos creating the massive problem of solid
wastes. The shift from traditional agriculture to export prod-
ucts and the fast-tracking of industrial and energy develop-
ment have affected our social, economic, and physical envi-
nvironments. From a food sufficient country in the early sixties,
the Philippines has been transformed into a grains-deficit
country, particularly in the last two decades as transnational
corporations and big agribusinesses for export products have
taken over the agricultural sector. Lack of employment in the
country has also forced quite a number of our people, both
men and women, to leave their families and work abroad.

Our new president, Gloria Macapagal Arroyo, warns
against indiscriminate globalization. She says that “... glo-
balization is dangerous if it is not accompanied by appropri-
ate reforms and strengthening of institutions.” May 1, there-
fore, conclude that what the world needs is fair trade not free
trade. If there must be globalization, it should be humanized
in order to create a healthy and sustainable life for all.

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