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Disruption in Rwanda
— A New Perspective on Assistance to Developing Countries —

Hiroyuki ISHI
JICA Counselor, Professor at Tokyo University

In 1994 and 1995, a civil war broke out which claimed an estimated 500,000 to 1 million people's lives and resulted in more than 2 million refugees. At the beginning of the conflict, it was thought that the causes were poverty and deep-rooted conflicts among tribes. However, it was the Vice President of the United States, Al Gore, who first questioned this perspective. During a speech at the International Conference on Population and Development in Cairo in September 1994, he suggested that Rwanda's tragedy might be a consequence of overpopulation, which led to the destruction of the environment, then to the disruption of agricultural production, and finally to social unrest.

The author had dealt with the issue of environmental deterioration in Rwanda from an angle different from other researchers and had come to a similar conclusion when the Vice President made the remark. That is, in short, population explosion in a small, poor, inland nation, which led to the exhaustion of limited natural resources and disruption of the ecosystem. As a result, agricultural production declined and finally an intertribal scramble broke out for food and land.

Environmental issues have been dealt with primarily in the context of the pollution and destruction of the ecosystem. Few people realize the fact that environmental destruction can lead to political and social disruption. Similar to Rwanda, nations such as Ethiopia, Somalia, Haiti, El Salvador, Bangladesh and many others scattered all over the world suffer from the political tensions caused by environmental deterioration and the list is expanding. Environmental assistance to developing nations is top on the list of JICA priorities. However, It is strongly believed to be necessary to revise assistance by considering how to maintain the politico-economic system.

I Devastation of Nature in Rwanda

Negley Farson, a writer who introduced Africa to the rest of the world, once described Rwanda as the Switzerland of the African continent in his book entitled *Behind God's Back.* But that was in 1940. Rwanda, located west of Lake Victoria and at the west end of the East African High Lands, used to be known as a place of picturesque scenery. All accounts written up to 30 years ago stressed what an earthly paradise the nation was, surrounded by thick woods and inhabited by abundant animals, including mountain gorillas.

Right before the civil war broke out, I visited Rwanda. Upon my arrival, I was shocked to see how congested the nation's capital, Kigali, was. The situation was the same in the countryside. Gentle slopes of hills were cultivated and cleared up to the top. Although the slopes didn't seem very steep, a trace of erosion was here and there as if the ground had been torn by a giant rake. Erosion was also seen in every direction on farm land. The examples show how severe erosion by rain is. Despite the fact that there was almost no forest to be seen, many pieces of firewood were piled up here and there along the road. By the piles, there were small kilns standing side by side for baking bricks and charcoal (Photo 1).

The mountainous area in the north-western part of the country, where national parks are located, is covered by dense greenery. However, as one gets closer, one sees only the top half of the mountains are covered with woods. The foot of the mountain has been cultivated, so it looks like the mountains are wearing green hats. Endangered species, which include gorillas, hide in these isolated forests.

Rwanda can be divided into three areas. The central part, hilly country, is an agricultural area. The climate is mild, with an average temperature of 20 Celsius and an average annual precipitation of between 1,000 to 2,000 millimeters. The population density is high. In the 1960s, it had already reached 250 people per square kilometer, which is equal to the current average for all of Africa.

The western part, 160 kilometers long and 20 to 50

* This article was first published in Japanese in *Kokusai Kyoryoku Kenkyu* Vol. 12, No. 2 (October 1996).

Photo 1 The central hill region is cultivated up to the mountain top. The only green is banana and fruit trees.

kilometers wide along the border with Zaire, is a mountainous area abundant in 2,000 to 4,000 meter high mountains. This area is also famous for being the home of the rare mountain gorilla. The climate is cool throughout the year, with the average annual temperature being 15 Celsius and the average annual precipitation being 1,200 millimeters. The population density is low and it was as little as 150 people per square kilometer in 1960.

The eastern part is a plateau, about 1,500 meters in height and is covered by semi-arid Savannah forests. The rainfall averages 800 to 1,000 millimeters. The population density was 100 people per square kilometer in 1960. This area is cattle land and the Tutsis were the most powerful.

Both humans and livestock are concentrated in the central region because of its fertile land and temperate climate. Other reasons are that there is virtually no risk of malaria or the presence of tsetse flies. The region suffers from chronic famine and since the 1920s, the colonial government repeatedly warned of overpopulation. Seventeen years between 1900 and 1950 registered crop failure. The population in 1950 was only 2 million. However, after that, it exploded. It was up to 6 million in the mid-1960s, passed 7 million in 1990, and is 8 million at present. In spite of rapid population growth, nourishment levels have improved and the threat of starvation has become less severe compared to in the past. What happened over this period?

Naturally, at the time of explosive population growth, farmland acreage per capita kept on decreasing. Two hectares per household in 1960 plunged by nearly two thirds to 0.7 hectares in 1990. Farmers held out against the hardship by turning pasture into farmland. This is how grassland, totaling 487,000 hectares in 1970, dropped to less than 200,000 in recent years. Over the same period, farmland expanded from 528,000 to 836,000 hectares. Marshy areas were also reclaimed and there are a scarce few left today.

People from the southern, central, and elsewhere in the nation surged into the eastern part of the country seeking new land. As a result, the population of Kigali, the nation's capital, rapidly increased. The eastern region used to be the cattle land of the Tutsis. However, their population decreased due to oppression, massacres and people fleeing abroad in the pre- and post-independence era. Then, Hutus migrated to the region and cultivated the land. Moreover, Hutus made inroads by plundering the Tutsis' land. Furious fights over land began.

The land, however, wasn't necessarily suitable for farming. Productivity was low in general. Moreover, in Rwanda, unlike in other African nations, 20% of the national domain is designated as national parks, which is another reason why arable land is so limited. The condition of farmland began to deteriorate as a result of erosion. In addition, deforestation in the mountains and national parks accelerated. This is the period when wildlife suffered the most.

In the middle of the 1980s, the eastern region, which had accepted too many people from the central hill country, filled up. At the same time, the deterioration of farmland, which was forcibly produced by cultivating mountains, worsened. As of 1965, Rwanda's forest acreage totaled 13,000 square kilometers, which accounted for about half of the national territory. Even in 1983, it still amounted to 11,000 square kilometers. However, forest destruction rapidly progressed after that. According to production statistics compiled by the Food and Agriculture Organization (FAO) of the United Nations, it had plunged to 5,500 square kilometers in 1993.

Based on population pressures and forest destruction, the deterioration of farmland became very clear and food production began to fall in 1985 (Figure-1). Between 1984 and 1991, crop yield per producer, in terms of calories, were reduced by half, going from 2055 to 1059 kcal (based on research conducted by the Dept. of Agricultural Economics at Michigan State University in 1995) and starvation reoccurred. in Rwanda. In the 1970s, Rwanda had been self-sufficient. In the mid-1980s, Rwanda became a recipient country of food aid. In 1992, it received 34,000 tons of aid.

In the 1980s, the price of coffee, which Rwanda was compelled to produce by the colonial government and which later became one of Rwanda's important exports, remained low. Coffee exports plummeted by one fourth, from 144 million dollars in 1985 to 30 million dollars in 1993. In addition, the Rwandan franc was devalued by 40% in 1989. Per capita GNP fell from 290 dollars in 1985 to 198 in 1993. Many farmers left their villages and went into the big cities. the mass inflow of labor resulted in a rapid decrease in income and the unemployment rate surged, which fueled social unrest in the cities.

II Intertribal Conflict

Rwanda, before it became a colony of Germany in 1899, was a kingdom dominated by the Hutus, an agricultural tribe of Bantu origin, who had moved to the region from central Africa several centuries earlier. Back then, the region was inhabited by Tuwas, which account for only 1% of the current population. The Tuwa are a hunting tribe, generally known as pygmies.

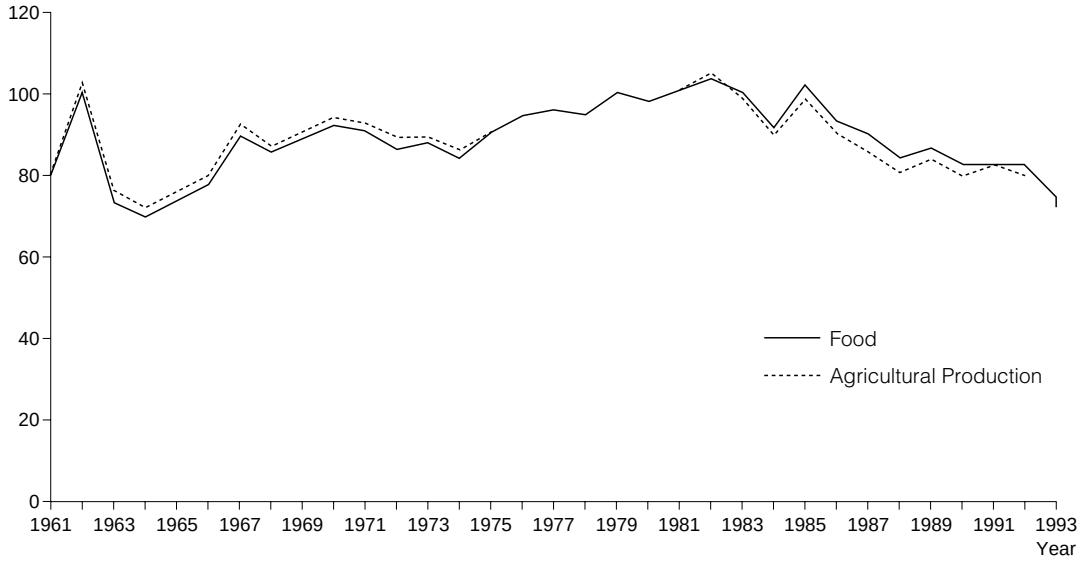

Figure 1 Change in Rwanda's Food Production per Capita (1961-1993)
1979-1981 = 100
Source: Food and Agriculture Organizion of the United Nations (FAO),1994.

In the 15th and 16th century, Tutsis, a nomadic tribe, came to the region in waves, escaping from drought and starvation. This is how Rwanda came to consist of 3 tribes, 90% Hutus, 9% Tutsis, and 1% Tuwas.

Today, Hutus and Tutsis share virtually the same language, culture and religion, and have become indistinguishable. All three used to be divided like castes in both social and economic terms. However, the differences between them have become less and less obvious through intertribal marriages and as a result of living together in the same communities. The rich who owned lots of livestock came to be called Tutsis and formed the ruling class, whereas the farmers who were under their rule came to be called Hutus. Tutsis formed an aristocracy, on the basis of which a highly centralized kingdom came into existence. This Tutsis-dominating-Hutus pattern is also the same in Rwanda's neighboring country Burundi.

About 100 years ago, Europeans began settling in Rwanda. They conquered by using their economic power and force of arms, and kept the Tutsi ruling class to govern the kingdom. Supported by European force, the kingship gained strength. Many Hutus, integrated into the system and became tenant farmers of Tutsis.

The Europeans set a new tax system and compelled people to grow commercial crops. They also introduced a notorious forced labor law, which allowed white settlers and Tutsis to freely commandeer labor from Hutus. The ruling class mastered the French language, converted to Catholicism, and acquired financial resources in the money economy. Tutsis, becoming one with the Europeans monopolized the power. At the same time, the Europeans gave Tutsis more important positions than Hutus, saying Tutsis were intelligent and reliable.

Moreover, in order to make an even clearer division between the tribes, the Europeans categorized people according to "scientifically measured" physical features, such as shape and size of nose and skull, and obliged them to carry ethnic identity cards. Opportunities for education and enrollment in the army were essentially limited to the Tutsis. The Europeans-Tutsis-Hutus-Tuwas class system became more apparent. The superordinate maintained a high standard of living and also felt superior to the subordinate. The politics became more exploitative than ever, hatred became deeply rooted among the Hutus.

To begin with, Rwanda was a German colony. Later, it became a Belgian trust territory over the two world wars. After the Second World War, the Hutus gradually gained power and played a central role in a 1959 coup which overthrew the king. The following year, the Hutu-dominated Party for the Emancipation of the Hutus won a landslide victory in an election and in 1961, based on the result of a national referendum, kingship was replaced by republicanism. In 1962, Rwanda achieved independence as a separate nation from Burundi.

In the pre- and post- independence period between 1959 and 1963, thousands of Tutsis were slaughtered by Hutus harboring grudges, and more than 100,000 Tutsis fled overseas. One reason behind the attacks was the Hutus' intention to take away increasingly scarce land from Tutsis. Whites connived in the coup. After independence, the whites and Catholic church switched support from the Tutsis to the Hutus under the pretext of supporting democracy. In 1973, Gen. Habyarimana, who is a Hutu, expelled the first president, Kaibanda, by coup d'etat and set up a military regime. In 1978, the government adopted a new constitution, and Habyarimana was inaugurated as President. The government introduced civil administration and a plural-party system.

Although the Hutu elite came to control the government after independence, the Tutsis and whites were

still dominant in the economy. As a matter of fact, the number of whites increased over this period and they dominated important positions in the government. Tutsis also owned immense tracts of land, took the reins of the economy, and enjoyed higher education and a strikingly high standard of living.

In order to compete with Tutsis, the Hutu-dominated government introduced a quota system into areas such as higher education and the civil service, and made sure both tribes were equally balanced. In addition, the government prohibited Tutsis who fled overseas at the time of independence from coming back, citing that there was not enough land.

However, life for the Hutus didn't change. The Hutu ruling class succeeded in controlling the government and military, but failed to win support from ordinary Hutus. In many developing countries today, including Africa, controlling the government means monopolizing national wealth and foreign aid. The Hutu ruling class, like the Tutsis, appropriated the government. At the same time, whites remained dominant in the economy. The new administration stood on a very unstable foundation, caught between the powerful whites and Tutsis, and the frustrated Hutus.

III Outbreak of Civil War

In Rwanda, the period between 1959 and 1961 is called "the period of social revolution". Although Hutus came to power, fear and antipathy against Tutsis continued. The government adopted various laws and ordinances in the name of social revolution and institutionalized discrimination against Tutsis. All these stemmed from the obsession that once Tutsis returned to power, they would make Hutus slaves again.

At the beginning of the 1990s, a few incidents occurred which jolted the Hutu administration. First, there were attacks from the Rwandan Patriotic Front (RPF) which was formed in Uganda by exiled Tutsis. Although small, the RPF was highly armed and well-trained. Since 1990, the RPF has often made attacks across the border and captured northern territory.

Second, conflict within and among Hutus intensified. Important posts in the administration were dominated by Hutu elite from the north where the President is from, and Hutus from the southern and central region were kept at a distance. Foreign aid and investment concentrated in the north. At the same time, corruption within the administration prevailed. Hutus from the south and central formed opposition parties and political confrontation with the administration deepened.

Third, international pressure for democracy increased. After the end of the Cold War, the international community began demanding that Rwanda make peace with the RPF and hold a free election.

In response to these pressures, the Hutu administration mobilized the masses to stir up hatred toward the RPF and Tutsis in general, and also staged a campaign citing that a free election would be unfeasible in the midst of racial conflict. It utilized deep-rooted intertribal conflict to blame economic deterioration on Tutsis and to instigate the expulsion of Tutsis. The government justified violence against Tutsis. In particular, an extremist party the Revolutionary Defense Committee (CDR: Comite de Defence de la Revolution) advocated exterminating Tutsis, which terrified the Tutsis. A militia was formed backed by the CDR and the ruling party to begin the expulsion of Tutsis by force.

Messages calling for the liquidation of Tutsis were repeated at the ruling party's political meetings and demonstrations as well as on government-controlled TV, radio and in the vernacular newspapers. The slaughter of Tutsis by the military, militia and presidential guards became a daily occurrence. It was an old political tactic to divert interior contradiction outwards by stirring up fear in a particular ethnic group.

The general public, who were discontent with their hard lives and taken in by the propaganda, grew to hate the Tutsis more and more. Poor Hutus had long thought of themselves as victims, discriminated against and enslaved by Tutsis. The feeling was especially strong among jobless youths and those who migrated to the cities seeking employment. These people threw themselves into militias and gangs, and spearheaded the expulsion of Tutsis.

Due to mounting international pressure, Tutsis and Hutus reached a peace agreement in August, 1993 in Arusha, Tanzania. However, Habyarimana who was supposed to give an administration-to-be carte blanche declared his reinauguration as President in January, 1994. Three months later, the president was killed in an airplane crash near Kigali. The accident fueled expansion of the civil war. The genocide of Tutsis which took place in Kigali 3 months later spread to the whole nation within a couple of weeks. The government replaced governors, mayors and civil servants who weren't involved with extremists one after another. Intertribal conflict rose to an extreme.

The United Nations Security Council (UNSC) called for a cease-fire and at the same time dispatched its Peace Keeping Forces (PKF). Consequently, a cease-fire agreement was reached and the UNSC resolved to dispatch the United Nations Assistance Mission for Rwanda II (UNAMIR II). In the meantime, the RPF began to invade Kigali. After a large scale offensive and defensive battle, the RPF succeeded in bringing the nation under control. The massacre of Tutsis, however, continued.

It is estimated that 500,000 to 1 million people died in the civil war and about 2 million Hutu refugees fled to Tanzania and Zaire out of fear of revenge. Later, the French army intervened to extend humanitarian aid and gained control over most of the nation in July, 1994. In November of the same year, the Transitional National Assembly was formed consisting of 70 members from 8 parties, including the RPF. A Hutu moderate was inaugurated as Prime Minister.

In April 1995, an incident occurred in the Kibeho refugee camp in Gikongoro, in south-western Rwanda.

Government troops fired arms and slaughtered some 5,000 Hutu refugees. In addition, dysentery prevailed in the camp and claimed many lives. The United Nations requested emergency assistance from member nations, on the basis of which Japan dispatched its Self-Defense Forces. The United Nations set up the International Criminal Tribunal for Rwanda in November 1994 to try those responsible for genocide in Rwanda and indicted 8 in December 1995.

IV Environmental Failure and Starvation

Destruction of the environment, exhaustion of natural resources and mass starvation played a vital role in fueling the massacre in Rwanda. First, when about half of the Tutsis were slaughtered or expelled from the country between 1959 and 1963, Hutus took over Tutsis land and turned it into farmland. This stemmed from the Hutus, having suffered from a chronic shortage of land because of explosive population growth, growing to be actively involved in the expulsion of Tutsis in order to acquire land. When the RPF began invading Rwanda, Hutus feared that the land they had cultivated would be taken back by the Tutsis. The Hutu government used this fear to stir up hatred against the Tutsis.

After 1984, food production per capita dropped by 25%. The price of coffee stayed low and the unemployment rate surged. This serious economic recession went on for over 10 years, and young people lost their enthusiasm to improve their lives. A report on Rwanda published by an international NGO, "African Rights", whose headquarters are in London, claims that this despair drove young people to slaughter and expel Tutsis.

The civil war aggravated environmental degradation which was already at a dangerous level because of population pressures. Food production stopped because farmers in the north-eastern region, which used to produce plentiful food, escaped. Forty percent of the national budget was spent on war expenditures, while agricultural and social development programs were discontinued one after another. Because many domestic refugees rushed to camps located in Kigali and surrounding areas, these places became unsafe and hotbeds of genocide and expulsion of Tutsis.

Deterioration of the environment and the failure of agriculture led to political instability. Oppressing a certain ethnic group could cause food shortages and destroy livelihoods. Food shortages led to political conflicts and violence, and then to the destruction of the environment.

Up until last year, more than 700,000 Tutsis had returned home. Many of them fled during the turmoil between 1959 and 1963. They returned with livestock to the eastern region where they used to dwell. However, the numbers of pastures were far fewer when compared to the past. This instantly caused over-grazing. As a result, erosion of soil is progressing more rapidly than ever. Again, conflict between farmers and herders over the land is worsening.

Genocide and refugees fundamentally upset Rwanda's agriculture and livestock farming. The shortage of basic items, such as farm appliances, livestock and coffee trees is serious. Soil erosion continues to deteriorate the mountainous areas including the terracing which is done in an attempt to prevent erosion. Trees are cut down indiscriminately. Rwanda is no longer "the Switzerland of Africa".

To restore the environment is urgently necessary in order to reconstruct the country. However, nothing can be done until the conflict on the human side ends. Rwanda's environmental problems are also political problems. Today, in many developing nations, a chain of events is happening in which a population explosion leads to a shortage of land, then to deterioration of the natural environment, food crises, political conflicts, and finally to a disruption of the nation. It should be remembered that environmental issues and political issues are indivisible.

Bibliography

1) African Rights, *Rwanda – Death, Despair, and Defense* (London, 1994).
2) Clay, D., et al., *Promoting Security in Rwanda through Sustainable Agricultural Productivity* (Michigan State Univ., 1995).
3) Food and Agriculture Organization, *The State of Food and Agriculture* (Rome, 1994).
4) Ubin, P., "Tragedy in Rwanda – The Political Ecology of Conflict", *Environment* 38 (3).
5) World Resources Institute, *World Resources 1996-97* (Oxford Univ. Press, 1996).

ARTICLE

Health Problems in Developing Countries and Basic Concepts for Solving Them

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Developing countries share similar health issues. These are: many patients and many types of diseases, relatively few health personnel or health facilities, a concentration of available resources in urban areas, weak health service administration, poor economies but expensive medical equipment, and not advanced in medical technology. Health problems in developing countries are caused partly by their low-economic status and partly by the introduction of too sophisticated, expensive medical systems from high income countries. In order to solve these problems, it is neither appropriate to abolish modern health care nor to use most of the health budget and personnel on it.

About 15 years ago, many countries started PHC (Primary Health Care) activities to escape the vicious cycle of modern health care. The major concepts of PHC approaches consist of community participation, appropriate technology, intersectoral collaboration and the mobilization of local resources. For areas of intervention, PHC concentrates on 8 elements, which are: health education, the control of endemic diseases, environmental sanitation and safe water supply, maternal and child health and family planning, an expanded programme for immunization, nutrition, treatment of common diseases and the supply of essential drugs. In Thailand and many developing countries, three major activities are being carried out at the community level. These are: training of village health volunteers, establishment of community PHC centers and establishment of community health funds.

Possible areas for Japanese collaboration in health are: the improvement of sanitary conditions, the prevention of communicable diseases, the construction of modern medical facilities, the supplying of medical equipment, and the dispatch of medical experts. However, the research, development and marketing of appropriate medical technology is the most expected collaboration. The products should be simple, easy to maintain, resistant to high temperatures, durable and at a price developing countries can afford to pay. To satisfy the above requirements international medical cooperation for research and development of appropriate technology and self-reliance in health are meaningful and eagerly looked at by both donor and counterpart countries, because the research and development of appropriate medical technologies are beyond the capabilities of developing countries and do not attract the interest of medical industry in industrialized countries as it requires due consideration in safety and visible effectiveness.

I Introduction

Despite rapid advances in the medical sciences and medical technology in industrialized countries and in international assistance through several international agencies (WHO, World Bank, Asian Development Bank, JICA, UNICEF and others) during the past 50 years, health problems in developing countries have remained the same as they were in the past.

The author was born and raised up in a developing country and has been working for almost 12 years in Thailand and the South-East Asian region in research, development, training and education. This article describes the author's view of the health problems in developing countries and suggests what should be appropriate strategies for solving these problems.

II Health Problems in Developing Countries

The health problems in developing countries are summarized in Table I.

First, developing countries have many patients and many types of diseases. Their people are suffering from many diseases which are no longer seen in indus-

* This article was first published in Japanese in *Kokusai Kyoryoku Kenkyu* Vol. 13 No. 1 (April 1997).

Table 1 Health Problems in Developing Countries

1. Many patients, many types of diseases.
2. Few health personnel, few health facilities.
3. Concentration of available health resources in urban areas.
4. Weak health service administration.
5. Poor country but expensive medical equipments.
6. Lack of advanced medical technology.

trialized countries, namely, opistorchiasis, malaria, amoebic dysentery, diphtheria and trachoma, with the additional risk of injury and accident as well as worldwide common diseases such as cancer, heart disease and cerebro-vascular diseases

Second, there are relatively few health personnel (physicians, nurses, dentists, pharmacists, etc.), health facilities (hospital, clinics) or supplies (drugs and equipment).

Third, the available health resources (health personnel and facilities) are concentrated only in urban areas, but the majority of the population lives in rural areas.

Fourth, health service administration is weak. For example, in Thailand, under the Ministry of Health, there are the following services: at the provincial level, the provincial health office and the provincial hospital; at the district level, the district health office with few health personnel and the community hospital with 10-30 beds for 50,000-100,000 people; at the subdistrict level, the health center with only a sanitation worker and midwife. There is no health service administration at the village level, where the majority of people live.

Fifth, health services in developing countries are very costly considering the fact that there is such a big gap in GNP per capita between developing countries and industrialized countries. Based on the fact that people pay a small amount of money for medical services, it is easy to get the impression that medical services in developing countries are cheap. However, this is not true because medical bills do not represent real medical costs. The costs are heavily subsidized by the government in order to provide universal health services. The only items that are less costly in developing countries are the salaries of physicians and nurses.

Last, most developing countries are poor countries which do not have modern technology which they themselves have developed, and so they must rely on expensive and sophisticated medical equipment imported from high income countries. Dependency on foreign medical technology has not changed since the Second World War.

III An Analysis of Health Problems in Developing Countries

Chart I demonstrates an analysis of the health problems in developing countries. Health problems in developing countries are caused partly by their low socio-economic states such as negative biological factors, unsanitary environmental conditions and insufficient caloric intake, and partly by their introduction of expensive medical systems from high income countries. Despite the big difference in their socio-economic development levels, most developing countries have adopted similar medical systems, which include modern medical education and modern technology-based curative treatment, to those found in Europe and North America.

The mismatch of low socio-economic development status in developing countries with the introduction of expensive industrialized health care systems has resulted in high medical-costs, both to each countries and its people. In addition, developing country will never be able to produce enough medical doctors or construct enough hospitals to meet the needs of their people, especially the people in rural areas.

Finally, developing countries will always be dependent on foreign medical technology, which will be more sophisticated, more irrelevant to the country's needs and more expensive. Because health care is not accessible to the majority of the population, people lead their lives without proper prevention or early treatment, and have poor health. Their poor health affects their income and educational activities. And, the vicious cycle of illness-poverty-illiteracy repeats itself over and over as it has since the introduction of industrialized health care systems.

IV Basic Strategies for Solving Health Problems in Developing Countries

It is neither appropriate to abolish the modern medical systems nor spend most of the budget on modern health services. One has to make effective use of the modern medical system in place by extending its services to the unreached community through a supplementary health system. (Chart 2)

A supplementary health system should be geared toward lower medical costs, better distribution of health resources saved from the system, and less dependence on sophisticated medical technologies. This will eventually result in increased accessibility to health care and better health for the majority of the populations in question. Hopefully these reforms will break the vicious cycle and start a new era of health care for developing countries.

In order to implement these changes, action at the community level is most important. Chart 3 illustrates the health delivery system in Thailand. Most of the tertiary medical facilities (university hospitals, regional hospitals, provincial hospitals and others) are concentrated in urban areas such as Bangkok and provincial cities. The secondary medical facilities (community hospitals) where few young medical doctors are working, are available at the district levels. Primary medical facilities (health centers) are available at the sub-

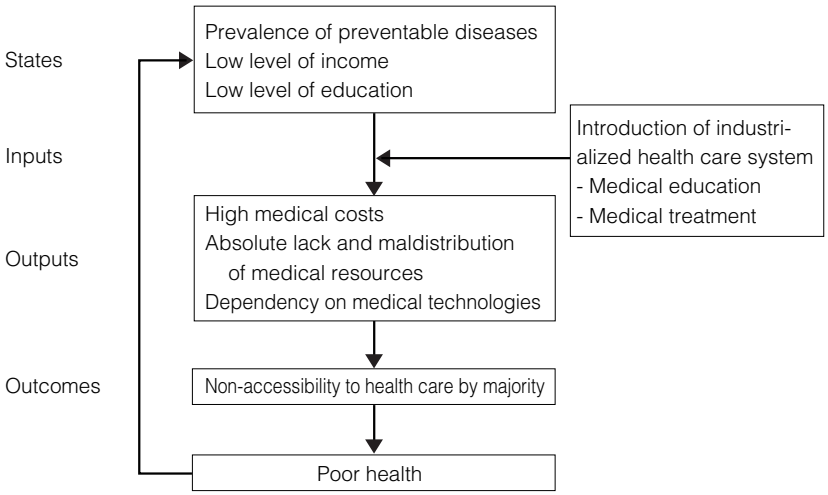

Chart 1 An Analysis of Health Problems in Developing Countries

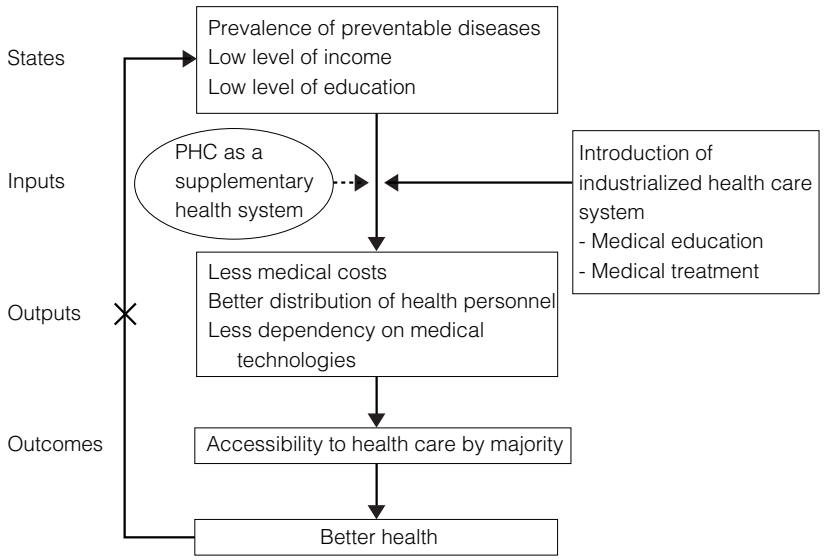

Chart 2 Strategies to Solve Health Problems in Developing Countries

district level, but there are no medical doctors.

Because there are no health facilities or health personnel at the village level, there is no health promotion, health education or disease prevention activities. People often fail to receive treatment for early symptoms due to lack of basic measures such as periodical check-ups at the community level. They must wait until the symptoms are quite severe and then bypass health centers to seek medical treatment at secondary or tertiary medical facilities.

When people who need only primary medical care all come to big hospitals, the efficacy of the modern medical system decreases. Tertiary medical facilities established by the government for advanced treatment, such as university hospitals, are crowded with primary care patients, while health centers and community hospitals remain underutilized. Therefore, we need to strengthen the health education, health promotion, disease prevention, and early disease detection at the community level as well as make more effective use of the referral system between health centers and community hospitals and tertiary medical facilities.

V Primary Health Care as a Supplementary Health System at the Community Level

In 1978, the Alma-Ata Conference was organized jointly by the WHO and UNICEF. The conference was attended by representatives of 135 governments and the Alma-Ata Declaration was adopted. The declaration called for a national commitment on Health for All by the Year 2000 with Primary Health Care as the national strategy. Since then, PHC has been carried out in several countries using several different approaches.

Chart 4 shows PHC implemented in Thailand with its three components: PHC elements, PHC approach and PHC activities.

1. PHC Elements (Table 2)

For areas of intervention, we concentrate on 8 elements of Primary Health Care. These are:

- Health education at the grass-roots level: increasing local residents' awareness of health.

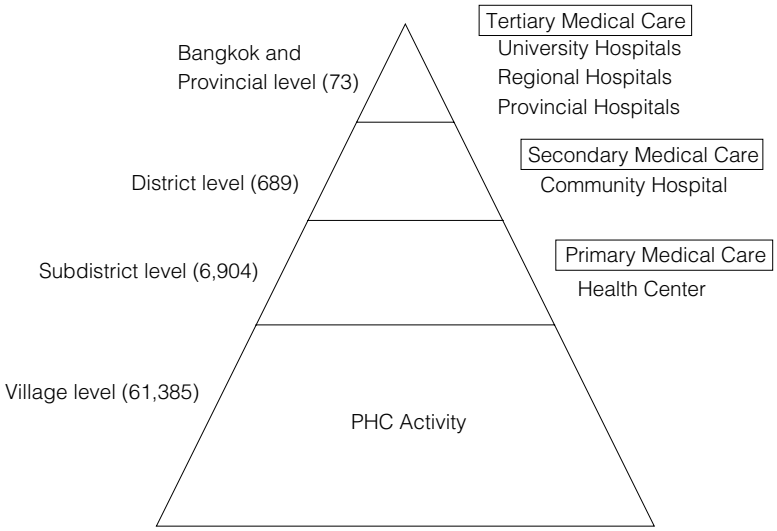

Chart 3 Health Delivery System in Thailand
Source: *Annual statistics 1997*

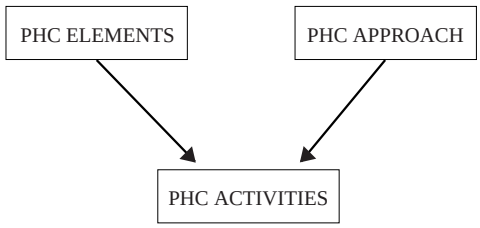

Chart 4 Three Components of PHC

• Community control of endemic diseases: taking preventive measures against infectious and endemic diseases.
• Environmental sanitation and safe water supply: securing safe drinking water for local residents and improving their living environment.
• Maternal and child health, and family planning: introducing family planning to local residents and promoting mother and child health.
• EPI (Expanded Program for Immunization): conducting immunization programs at the community to prevent principle epidemic diseases
• Nutrition: securing sufficient quantity and quality of food for local residents by introducing necessary nutritives.
• Treatment of common diseases by the community and at basic health units: providing treatment of common diseases and injuries at the community level.
• Supply of essential drugs to the community: making local residents accessible to essential drugs.

2. The PHC Approach

The above-mentioned 8 elements of PHC are basic health services at the village level. However, one needs to find ways for the community to carry out these services. The major concepts of the PHC approach consist of 5 items as shown in Table 3.

• Community Participation

In order to carry out PHC activities, community participation is the most important element. It is impossible to expect successful health programs to improve public hygiene and health without active participation from the community, as is difficult to perform medical treatment without patients' cooperation.

• Appropriate Technology

The concept of appropriate technology is very important for changing a health system from "imported health care" to "domestic health care with self-reliance". Appropriate technology means the kind of technology which is economically affordable, and socially and culturally acceptable to the community. Although the introduction of modern health care can save some lives, it is difficult to promote it nationwide. There is also the danger that it will suppress the effort to develop appropriate technology. Again, the concept of appropriate technology will help to release developing countries from health's vicious cycle and will lead to the country's self-reliance.

• Maximization of Locally Available Resources

The concept encourages effective utilization of the natural, social and human resources in the community. We have to make effective use of resources which are available in the community, but which are sometimes forgotten.

• Intersectoral Collaboration

Because health and disease result from multiple factors, it is necessary to involve not only the health sector, but also other sectors as well to promote health development. We need an integrated approach with the participation of non-health sectors to effectively promote PHC activities in the community.

• Harmony with existing institutions

Although promotion of PHC is based on several principles and the participation of various entities, the most important units are the community and the people who live there. We therefore need to harmonize the actions of the community with the existing health system there to ensure the success of the PHC program. To do this,

Table 2 PHC Elements

1. Health Education
2. Local Endemic Disease Control
3. Environmental Sanitation and Safe Water Supply
4. Material and Child Health and Family Planning
5. EPI (Expanded Program for Immunization)
6. Nutrition
7. Treatment of Common Diseases
8. Supply of Essential Drugs in the Community

Table 3 PHC Approach

1. Community Participation
2. Appropriate Technology
3. Maximization of Locally Available Resources
4. Intersectoral Collaboration
5. Harmony with Existing Institutions

Table 4 PHC Activities

1. Training an Activities of Village Health Volunteers
2. The Establishment and Management of Community PHC Center
3. The Establishment and Management of Village Health Cooperatives

Table 5 Comparison of Basic Indicators among Developing Countries and Industrialized Countries

	U5MR*	IMR** (per 1,000 live birth)	POPULATION (millions)	GNP per capita (US$)	LIFE expectancy	Literacy rate
DEVELOPING COUNTRIES						
1 Niger	320	191	8.5	280	47	29
21 Cambodia	181	115	9.0	200	51	35
31 Lao P.D.R.	141	96	4.6	250	51	84
39 Bangladesh	122	94	122.2	220	53	35
46 Myanmar	111	81	44.6	220	58	81
68 The Philippines	59	45	66.5	770	65	94
87 Thailand	33	27	56.9	1840	69	93
INDUSTRIALIZED COUNTRIES						
121 USA	10	9	257.8	23240	76	100
126 France	9	7	57.4	22260	77	100
133 Switzerland	8	6	6.9	36080	78	100
134 U.K.	8	7	57.8	17790	76	100
138 Germany	7	6	80.6	23030	76	100
142 Japan	6	5	125.0	28190	79	100
145 Finland	5	4	5.0	21970	76	100

Source: UNICEF, *The State of The World Children*, 1995
* Order arranged by high U5MR (Under 5 Mortality Rate)
** IMR (Infant Mortality Rate)

all those who work in the medical system should understand the PHC concepts and be able to support PHC activities in the community. Support from medical institutions will greatly affect the PHC implementation in each community.

3. PHC Activities

The PHC approaches and PHC elements are only an ideological framework. We need to translate this into real activities at the community level. In Thailand and many developing countries, three major activities have been carried out at the community level. (Table 4)

l) Training of Village Health Volunteers (VHV).

Hundreds of thousands of villagers receive 3-5 day training programs on basic health. VHVs work as health communicators between the villagers and health center staff and promote health development activities in the community.

2) The establishment of community PHC centers.

Thousands of community PHC centers, which are owned and operated by people in the community, have been set up. This is the center for Primary Health Care operations at the village level. People come here to have their children's weight checked The centers also produce supplementary nutrition among other things.

3) The establishment of community health funds.

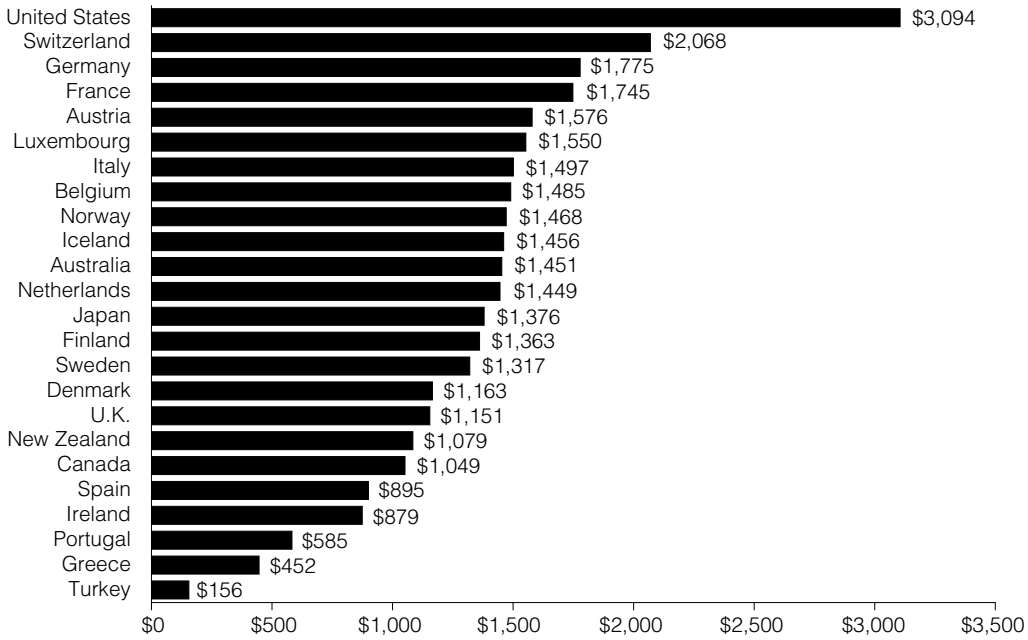

Chart 5 Per Capita Health Spending (U.S.$)
Source: *Health Affairs*, Fall 1994.

People put money together to buy essential drugs, construct sanitary latrines and produce supplementary food. Well-known community health funds in Thailand are the Village Drug Cooperatives, the Village Sanitation Fund, the Village Nutrition Fund and the Health Card Fund.

VI Expectations for International Cooperation in Health from Japan

It is natural that people expect cooperation from Japan because of Japan's success in its own economic, social and health development since the Second World War. Now let us take a look at Table l again and consider how Japan can cooperate to solve these problems through PHC strategies.

The first problem of many patients and many diseases has to be solved through the improvement of community health, environmental sanitation and the prevention of infectious diseases. Japan can easily cooperate in this area because Japan has its own post-war experience in solving problems of malnutrition, communicable diseases, parasitic diseases, poliomyelitis, dysentery, and tuberculosis.

The second problem of few health personnel and health facilities is an appropriate subject for Japanese cooperation as well. Because Japan has a large number of health personnel, good technology for hospital construction, and the ability to produce high-tech medical equipment and drugs. Cooperation in this area has been carried out actively in terms of the dispatch of medical emergency relief teams, the construction of modern hospitals, and the supplying of medical equipment and drugs among other things.

The third problem of the concentration of available health resources in urban areas and the fourth problem of weak health administration are strongly related to the politics and health administration in each country. It is not appropriate that these problems be solved through international cooperation.

The fifth problem of poor economies, but expensive medical equipment and the sixth problem of the lack of advanced medical technology really require attention from industrialized countries. In particular, assistance for the research and development of appropriate medical technology is greatly needed. Most medical supplies and equipment are produced by high income countries with GNPs of more than US$20,000 per capita (Table 5). With the widening income gap between developing countries and industrialized countries, it is more and more difficult for developing countries to consume medical products from these high income countries.

As shown in Chart 5 and Table 5, per capita health spending in the USA was US$3,094, and US$1,376 in Japan in 1992. On the other hand, GNP per capita in Lao P.D.R. was only US$250. If we assume that Lao P.D.R. spends 5% of their GNP on health, per capita health spending in Laos is only US$12.5. Using the same calculation, there were 65 low income countries with per capita health spending of not more than US$ 33.8 and 61 lower-middle income countries with per capita health spending between US$33.8 and US$ 134.8.

From these figures, we can see the necessity for the research, development and marketing of appropriate medical technology. The products should be simple and easy to maintain, resistant to high temperatures, durable and at a price that developing countries can afford to pay. They should also be safe and effective. The research and development of appropriate medical

technologies are beyond the capability of developing countries and do not attract the interest of the medical industry in industrialized countries. Progress in science, although very important, will not relieve human suffering unless it is affordable by the majority of the world. As an industialized country, Japan, which has advanced tehnology and qualified specialists with budgetary support and good research institutionsis expected to cooperate in medical technology transpher,

The author has described problems in developing countries, the basic strategies and PHC concepts to solve these problems, as well as the possible collaboration of Japan. Because developing countries have many problems, most kinds of international assistance are appreciated. Problem-solving(release) assistance is preferable to social welfare-type assistance, that is, relief in the form of sending materials and equipment, dispatching short-term experts, emergency relief operations, etc.

The ultimate goal of cooperation should be to improve the health services of developing nations so that they can become self-reliant. Therefore assistance which contributes to policy formulation or to the implementation of a policy leading to self-reliance, although they take more time and effort than usual forms of assistance, will be greatly appreciated by both donor and counterpart countries.

References

1. Department of Economic Cooperation, Ministry of Foreign Affairs, *The White Paper on Japan's Official Development Assistance,* Volume 2, 1996 (Tokyo: Association for Promotion of International Cooperation, 1996).
2. WHO, *The World Health Report,* (l996).
3. UNICEF, *The State of the World Children,* (1996).
4. Tarimo, E., Webster, E.G., *Primary Health Care Concepts and Challenges in a Changing World – Alma-Ata Revisited,* (Division of Strengthening Health Services, WHO, 1996).

ARTICLE

Women in Development and the Evaluation of UN Population/Family Planning Policy: Analysis of United Nations Population Fund (UNFPA)

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The status of women in development projects undertaken by the United Nations has changed with the times. This change is closely related to a history in which the status of women shifted from a subject of welfare to a leading player in development. Since the 1980s, the understanding of women in development has transformed into the understanding of gender which pays closer attention to the relationship between men and women. This transformation is also apparent in the Platform of Action adopted at the Fourth World Conference on Women.

The United Nations has been implementing systematic population/family planning policies for the past 25 years. These policies, whose single objective was to control population, diversified to include various new viewpoints such as women's health and the improvement of the social status of women. Moreover, throughout the history of the UN, several new concepts, including one which is the integration of maternal and child health care, and reproductive health and gender have been introduced into specific policies. This change can also be seen in the implementation of specific projects carried out by the United Nations Population Fund (UNFPA). Reproductive health and gender perspectives are prominent among the various attempts made by a section established in the UNFPA in 1986 to deal with issues concerning women, population and development.

One of the reasons behind these new concepts being interpreted and applied in the population/family planning policies is the shift from being considered subjects of population control, to being leading players in protecting health. Another reason is that an awareness has emerged that it is necessary to consider social and cultural relationships between men and women in order to implement family planning effectively. This overlaps with the change in women's status as found in the paradigm of "Women in Development" (WID) and the gender perspective, through which we can see the impact of WID on population/family planning policies.

I Introduction

Throughout its history, the United Nations has coped with women's issues in various ways. The understanding of the status of women and the approach toward women found in the United Nations system have changed along with the times. Over time, attempts were made to analyze "development" from a women's point of view. These attempts have been monitored and are now being reflected in UN policies under the paradigms of "Women in Development" (WID) and "Gender and Development" (GAD). This shows that the UN's specific policies on women and the theoretical framework in which women are understood closely relate to each other.[1]

In recent years, awareness of women in the area of population/family planning cooperation has risen and "women" has become a key word in making policies and implementing projects. In 1994, during the United Nations International Conference on Population and Development in Cairo, convened under the auspices of the UN, "women" in population/family planning was discussed as a primary topic throughout the conference.

It was after World War II that the UN began regarding an increase in the global population to be a serious problem and started searching extensively for countermeasures. It has only been 25 years since the UN started coping with the challenge systematically. However, although it has been only a short period, the UN's population policy has undergone many transitions. A large amount of research has been done regarding the transition and a vast majority of the analysis have been done from economic and environmental perspectives.[2] These studies provide a variety of information on the global population issue; however

* This article was first published in Japanese in *Kokusai Kyoryoku Kenkyu* Vol. 12, No. 2 (October 1996).

1. Hiroko Hara el al. (ed.), *Gender, Sokan Kagaku Library 2* (Gender, Correlated Social Science Library 2) (Shinseisya, 1994) and others (hereafter cited as *Gender, Library 2*).
2. S. Johnson, *World Population and the United Nations* (Cambridge, 1987) and others.

there is little research which analyzes the UN population policies from the WID perspective. Population policy has, however, shifted from having a unified objective, that being to suppress population, to population/family planning policies with diversified goals that include women's health in general. The shift is also clear from the content of the Program of Action issued at the United Nations International Conference on Population and Development in Cairo and must have some connection with the steps taken by the UN on women and development.[3]

One of the new concepts in population/family planning policy is reproductive health. This concept was originally used in the context of "Human Reproduction"[4] by the World Health Organization (WHO). However, the interpretation has expanded over time. "Reproductive Health" was defined in the Cairo Program of Action as "a state of complete physical, mental and social well-being".[5] However the concept is very obscure and has been interpreted differently and applied in different policies at different times. However, during the United Nations International Conference on Population and Development in Cairo, the importance of women making their own decisions in relation to reproductive health was recognized. Based on the reasons above, it is assumed that WID is one of the important concepts to understanding the transitions in population/family planning policies.

Based on this background, it is assumed WID and population/family planning policy are related to each other and have been affecting each other at different times and in different phases. Accordingly, this article aims to analyze and examine the dynamics of these two areas in relation to steps taken by the UN. As to the field of "health", factors which are thought to be important in the discussion pertaining to WID are extracted as well as analyzed taking into account the effect which the integration of family planning and the health of mother/child have had on population/family planning policies. First of all, this article deals with the action taken by the UN on WID and gives a historical analysis of the status of women, and looks at how these two things have affected the UN's population policies. We also analyze their effect on the concept of reproductive health. This research takes UNFPA as a case study because UNFPA is the only UN organization which directly deals with population issues.

The method used here is mainly to analyze the annual reports of UNFPA (1980-1993), UNFPA publications, and other UN publications. Data on UNFPA are all from annual reports. Interviews of experts were conducted whenever it was deemed necessary.

II The Transition of Women's Status in the UN

This section will give an overview of how women have been placed in the United Nations system and how changes in policies have influenced population/family planning.

The United Nations was established in 1945 in an effort to secure global peace and safety in the post-war era and to resolve various international issues. The Charter of the United Nations (adopted in 1945) reconfirmed basic human rights as well as the belief in equal rights between men and women.[6] A year later, the Commission on the Status of Women was formed. The Universal Declaration of Human Rights adopted in 1947 prohibits discrimination based on gender. The first publication which dealt primarily with women's rights is said to be the Convention on the Political Rights of Women (adopted in 1952) which referred to women's suffrage. Meanwhile, World Women's Year 1975 and the First World Conference on Women in Mexico City were realized, followed by the Convention on the Elimination of All Forms of Discrimination against Women issued in 1979, which is referred to as the women's version of the Universal Declaration of Human Rights.

Looking only at the phenomena mentioned above, it may appear as if equality between men and women has been one of the major issues at the UN since its formation. However, before the adoption of the Convention on the Elimination of All Forms of Discrimination against Women, the focus of the dialog was on "de jure"[7] inequality between the genders, never on "de facto"[8] inequality found in economic gaps, invisible social systems, and customs. It was not until the 1970s when the importance of the role of women in social and economic development was recognized for the first time.

It was WID which facilitated this recognition and supported it theoretically. WID is a concept which has gradually developed since the 1970s and is based on the interconnected movements of people in development circles such as policy implementers, researchers and feminist activists primarily from western countries. WID has developed with the purpose of "integration of women into development"; however, the meaning of integration has changed from time to time, as women were shifting from those only being recipients to being participants, from playing passive roles to playing active roles, and WID's objectives have become diversified.[9] In the actual process of planning, implementing, and assessing development projects, the integra-

3. United Nations, *Programme of Action of the United Nations International Conference on Population and Development* (1994) (hereafter cited as *Programmme of Action*).
4. WHO, *Special Programme of Research, Development and Research Training in Human Reproduction, Reproductive Health. A Key to a Brighter Future* (Biennial Report 1990-1991), (1992).
5. United Nations, *Programme of Action*
6. United Nations PR Center, (ed.), *Kokusai Rengo no Kiso Chishiki* (Basic Knowledge of the United Nations) (United Nations PR Div., 1987).
7. United Nations, *Convention on the Elimination of All Forms of Discrimination against Women* (1979).
8. *Ibid.*
9. Development Assistance Committee of the Organization for Economic Cooperation and Development, *Guiding Principles on Women in Development* (1989); Yasuko Muramatsu and Yasuko Muramatsu (eds.), *Empowerment no Joseigaku* (Study on Women's Empowerment) (Yuhikaku, 1995) and others.

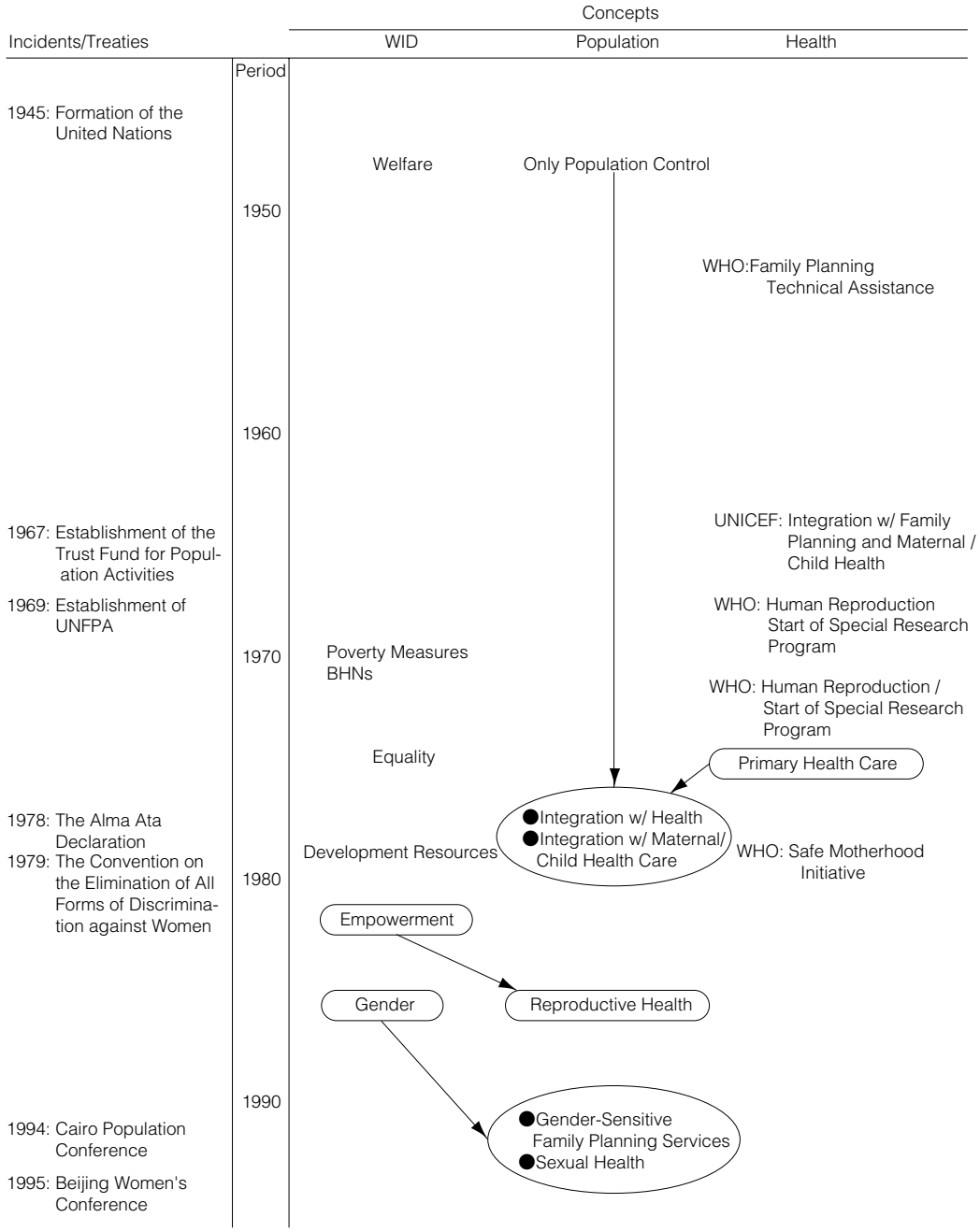

Figure 1 Incidents and Concepts in the Area of WID, Population and Health

*Note: Prepared by Authors

tion of women into development is being taken into consideration at various levels as described earlier. From the development study point of view, the purpose of this integration is to extend more effective development assistance; whereas from a women's studies' perspective, it is to improve women's status in general, particularly women in developing countries.[10] In addition, if divisions by sector including health care industry and agriculture could be said to be vertical development areas, WID could be said to be the development concept which intersects all of those sectors. Because WID is intersectoral, an increased understanding of WID could affect policies in health, and population/family planning.

Moser (1993)[11] divided WID into 5 different phases: welfare, equity, anti-poverty, efficiency and empowerment. Following these phases, this article will sort out the transitions which have happened to women's status since the formation of the UN, and analyze the effect of WID on population/family planning.

10. Japanese Society for International Development, "Kaihatsu to Josei, Kenkyu no Kakuritsu wo Mezashite" (Women in Development: With the Aim of Establishing Research), *Kaihatsu to Josei Monthly Committee Report* (1992).
11. C. Moser, *Gender Planning and Development: Theory, Practice and Training* (Routledge, 1993).

It should be noted that all the approaches mentioned below are still being undertaken in parallel (see Figure 1).

1. Before WID: Women as Subjects of Welfare (Pre-1950s)

At an early stage of the UN's activity, before the concept of WID appeared in development assistance policies, women were only regarded as subjects of welfare who were left behind in development projects. The focus of development aid during this period was on macro-economic growth, centered around financial and technical assistance to newly independent countries which came into existence after the war. The contribution of women in economic activities was not valued, and the focus was only on the domestic roles played by women. The challenge facing development aid was primarily to fulfill the needs of mothers and wives in the areas of food aid, nutrition issues, and family planning. This approach was only concerned with fulfilling women's needs related to their lives, and did not give much thought to improving the position of women in society.

With regard to the population issue, it was in the 1950s when family planning became a part of population policy for the first time. The WHO started providing technical aid in the area of family planning with the purpose of controlling population growth. However, consensus had not yet been reached, even within the UN, regarding how far the UN should be involved in this area. Therefore, the activity of the UN was limited until the Trust Fund for Population Activities was established in 1967 (In 1969, it was renamed the United Nations Fund for Population Activities (and later the United Nations Population Fund).

2. The Birth of WID: Women as a Subject of Poverty Measures (Since the 1970s)

Since the 1970s, it has come to be recognized that economic-oriented development assistance does not benefit the poorest in society and, in some cases, it may broaden the gap between men and women. Based on the influence of Boserup (1970)[12] and others who pointed out that economic development affects men and women differently, WID gradually began to be reflected in development aid policies. In 1970, the resolution of the Second UN Development Decade for the first time touched on the positive roles of women in development. Since the mid-1970s, the International Labour Organization (ILO), and the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD/DAC) have advocated the importance of fulfilling the basic human needs (BHNs). In addition, the World Bank began searching for measures to resolve poverty. It was thought that by resolving women's poverty, there would be an expansion in the macro-economy. Therefore, projects to create income for women were implemented. However, this approach did not reduce the burdens of daily living on women.

In the area of population/family planning, family planning was implemented as a part of health services, and was gradually integrated into maternal and child health care. In the Alma Ata Declaration[13] issued in 1978, WHO and United Nations Children's Fund (UNICEF) promoted primary health care (PHC). Family planning, and maternal and child health care were regarded as one of the most important issues. It could be said that family planning and maternal/child health care services found a place as BHNs.

3. Women as Equals (Since about 1975)

With World Women's Year 1975, the Conference on Women in Mexico and the following United Nations Women's Decade as a turning point, a global women's movement arose in both academic studies and the feminist movement, and there was a call for equal opportunities for women. Voices rose saying affirmative action for women should be taken in an effort to facilitate and integrate women's participation in every corner of the society, rather than women being regarded as a marginal "women's issue". Therefore, it was advocated that WID should be included in every sector of development projects. However this approach was neither well received by aid organizations or by recipient nations because it touched on changes in the balance of power between men and women. For the same reason, the approach was not reflected in actual policies because it was politically difficult to realize.

Concerning population/family planning, based on a variety of research and experience, it was recognized that various factors, not only the availability of contraceptive services, but also the economic power and education level of women, would have effects on the implementation of family planning. The UNFPA began implementing specific policies which took these factors into consideration.

4. Women as a Resources for Development (since the early 1980s)

The Structural Adjustment Programs/Policies undertaken by the International Monetary Fund (IMF) and the World Bank in the 1980s weakened, in many ways, social services including education and health care in the countries concerned. In addition, due to the worldwide economic recession, the amount of aid relative to that given in the past decreased. Therefore women as an undeveloped resource drew attention. This was followed by a trend to invest in women in order to increase the effectiveness of development through improved productivity. Women began to be expected to make a dual contribution, by participating

12. E. Boserup, *Women's Role in Economic Development* (St. Martins Press, 1970).
13. WHO, *Primary Health Care: Report of the International Conference of Primary Health Care* (Alma Ata, USSR, Sept. 6-12, 1978).

in economic and community activities. Unlike the approach taken in the 1970s in which women were a subject, this new approach regarded women as a measure for development. This approach, which includes people's community participation, is still frequently applied by many aid organizations.

In the area of population/family planning, investment in women in the form of improving the education and health services for women became a part of UNFPA's programs with the idea that improving the level of life and the status women would contribute to the resolution of the population problem in the long run.[14]

5. From WID to GAD: Women as an Autonomous Agent in Development (since the mid- 1980s)

In reaction to the feminist movement centered in western countries, feminism rose in developing countries during this time. At the same time, with various grassroots organizations and non-governmental organizations (NGOs) gaining power, the idea of "participatory development", which proposes participation in decision-making at the grassroots level, rather than mere community participation, spread. It was thought that women should play a leading role in controlling various development resources, rather than just being able to access to them. An awareness began to spread that it was important for women to "empower" themselves in both social and economic terms in order to be autonomous agents.[15] One of the reasons behind this change was the influence of people who advocated "gender and development" (GAD), which replaced WID.

GAD is a concept which developed based on the idea that not only women, but also gender, should be taken into consideration in the process of development. "Gender" in this context means "sexual difference in social terms" which contrasts with "sex" in biological terms. It is a concept of sexual classification determined by social factors such as ideology, history, race, economy and class.[16] GAD came into existence in response to criticisms directed at WID, saying "WID targets women only in general", or "WID does not touch upon social structure issues". GAD was applied in several aid organizations in Europe and the United States starting in the 1980s.[17]

Unlike WID, in which women are generalized and removed from the rest of society, and analyzed, GAD's objective of analysis is the relationship between men and women as well as the structures behind it. It also proposes that unequal relationships and power structures between men and women should be corrected in the development process. Another key characteristic of GAD is that it stresses women as the leading players in reform and that women need to organize themselves to achieve political influence.[18] A series of United Nations' conferences on women, including the Second World Conference on Women in Copenhagen in 1980, the Third World Conference on Women in Nairobi in 1985 and the Fourth World Conference on Women in Beijing in 1995, observed dialogs surrounding women moving towards more diverse discussions around gender.

In the area of population/family planning, an awareness rose that women should be empowered in gender relationships, and a concept of reproductive health which promises women's ability to make decisions over their own bodies, gained global recognition during the conference in Cairo. It is assumed that one of the principles for development which affected the formation and recognition of the reproductive health concept was the understanding of women in GAD, which sees women as autonomous agents with control.

III UNFPA's Population Policy and the WID Perspective

This section takes up the steps undertaken by UNFPA as a case study of the United Nations' population policies. The authors would like to analyze the formation and activities of UNFPA, and examine how the WID perspective has been included in specific policies.

Between 1950 and 1960, global population growth exceeded 20% a year, and in the 60s, rapid population growth began to be seen as a global problem. As concerns grew worldwide over the issue, in 1967 the General Assembly of the UN established the Trust Fund for Population Activities, which was the precessor of the UNFPA. In the early stages of its establishment, the fund aimed at providing resources to extend technical cooperation with regard to population problems. The activities of the current UNFPA began in 1969. Its budget has been increasing every year to enlarge the scale of its activities(Figure-2). Since the 1970s, UNFPA has been the top runner among many multilateral aid organizations in the area of population issues. Presently, one third of the population aid extended to developing nations is being channeled through UNFPA. The number of recipient countries totals 140.[19]

Figure 3 shows the breakdown of UNFPA's activities. At present, UNFPA extends many specific activities in eight spheres. Among these, the budget for family planning accounts for about half of the total and its proportion is the highest. The ratio of budget allocated

14. UNFPA, *The State of World Population* (1989).
15. Study Group of Development and Gender, *Gender Analysis in Development Projects* (1993) (hereafter cited as *Gender Analysis*).
16. Hara, et al., *Gender, Library 2*, and others
17. L. Tinker (ed.), *Persistent Inequalities* (Oxford University Press, 1990).
18. Study Group of Development and Gender, *Gender Analysis.*
19. UNFPA, *Making a Difference: Twenty-five Years of UNFPA Experience* (1994) (hereafter cited as *Making a Difference*).

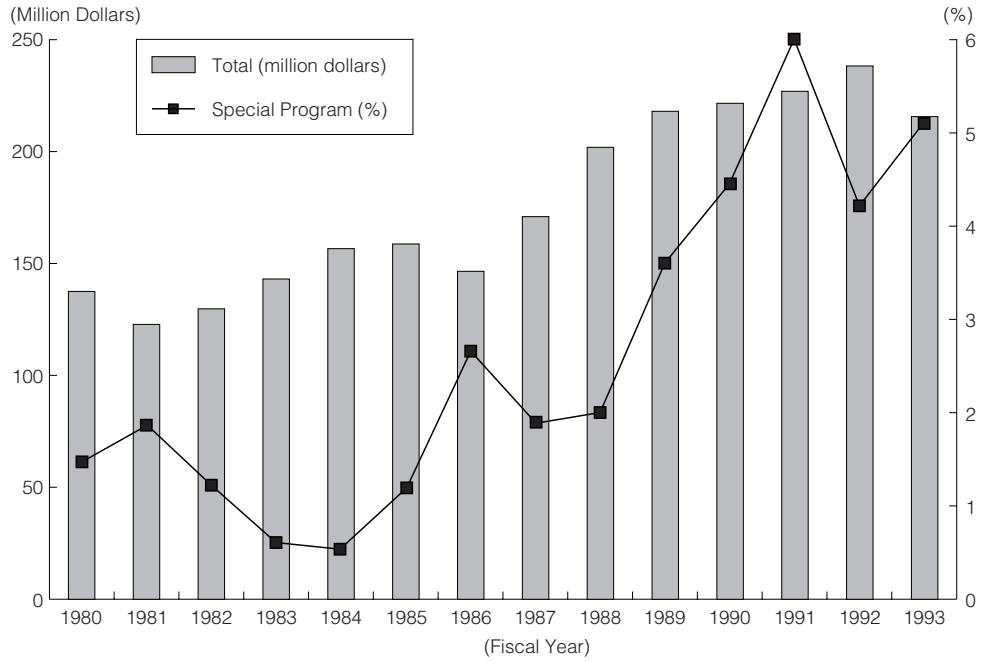

Figure 2 UNFPA's Annual Budget (Total and Special Programs)
Source: *UNFPA Reports*, UNFPA, 1980-1993.

to family planning has not changed much since the establishment of UNFPA. This fact indicates that family planning is at the top of the list of UNFPA's priorities. In addition, UNFPA has been supporting women-related projects throughout its existence. The authors would like to review the steps taken by UNFPA in relation to women from a historical point of view.

As concerns over global population issues surged after the Conference on Women in Mexico, UNFPA published the "Guideline for Policies and Support to Special Programs in the Field of Women, Population and Development" in 1975 (The guideline was revised in 1980, 1988 and 1993). This guideline had a broad impact on various aspects of the activities performed by UN organizations. However, it especially promulgated its support for the following activities.[20]

1) education for women, especially formal and informal education which leads to employment
2) employment programs for women
3) the participation of women in decision making processes
4) support for women's organizing activities at the grassroots level
5) improvement of the health of women and children

The issue of women, development and population was included in the "Manual for Needs Assessment and Program Development" in 1979. The manual contains indicators to be used by UNFPA to assess projects conducted by each country. This can be regarded as the first written criteria for evaluating measures taken on women.[21] Later in 1987, UNFPA adopted the "Strategy to Strengthen the Fund's Capacity to Deal with Their Community, Women, Population and Development" with the purpose of drastically increasing the budget for women and development.[22]

In the planning process of the Four Year Plan in 1991, UNFPA acknowledged six principles for projects undertaken in each country, of which three are given here.[23]

1) to review whether the program is gender sensitive
2) to provide staff with training on gender
3) to cooperate with other organizations involved with women and development

As to measures taken by UNFPA to create institutions to oversee the integrated activities of WID, a section, Women, Population and Development (WPD), was established at UNFPA's headquarters in 1986, along with an advisory panel. The section was established with the purpose of including a gender perspective in specific programs. However, it was reorganized in 1991 into a section on "Technology and Assessment on WPD", which has been active to the present. The reason behind the establishment was that an awareness had risen that women's participation and equality with men in population policies were basic human rights.[24] Many female staff work in the WPD section, and as of 1994 it accounts for 44% of the specialized workers in UNFPA. In terms of balance between the genders,

20. United Nations, *Activities of the UNFPA* (Economic and Society Council, 1991).
21. UNFPA, *Making a Difference.*
22. *Ibid.*
23. *Ibid.*
24. *Ibid.*

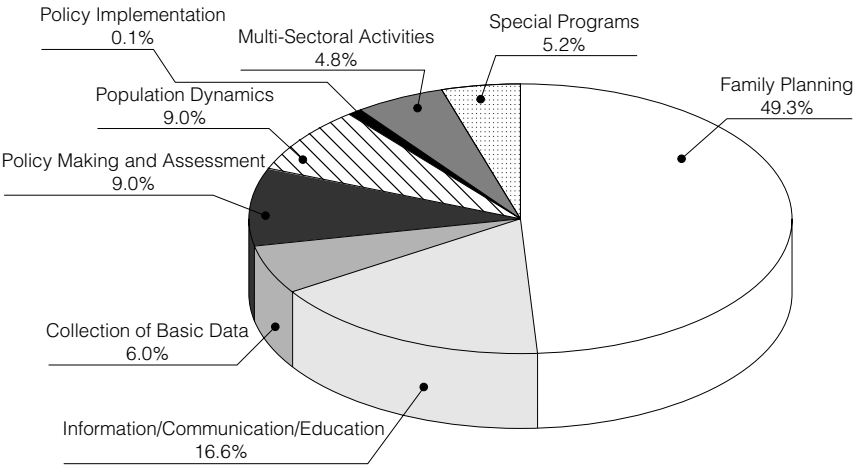

Figure 3 UNFPA's Expenditure according to Program
Source: *UNFPA Annual Report*, UNFPA, 1992.

UNFPA is the top among international organizations.

Since its birth, WPD has been engaged in many activities; however, among others, its Special Program (SP) merits attention. SP is quite unique among UNFPA's programs because SP has specific targets. Women are one of the targets as well as the young, the elderly and others. The following projects are being undertaken with women as their target.[25]

1) a project to improve and facilitate micro-enterprises
2) a project to support women organizing groups
3) a project to make policy-makers more concerned about issues related to women

Of the three, the project to improve and facilitate micro-enterprises is being executed on an experimental basis and is based on the hypotheses that economic foundation provides women with options other than getting married young and having many children, and that women can improve their status, attain dignity, and make decisions on their own. The project's goal is to support micro-enterprise management by providing women with financial resources, technical assistance, information and training, as well as to give women job training and to help women gain economic power.

A report in 1992 showed gaining income changed women's reproductive behavior even though the report did not present a direct relation between an increase in income and a drop in birth rate. It also reported women were requesting family planning and maternal and child health care.[26] The result, from a reproductive health point of view, is noteworthy. Even though it has been said that the concept of reproductive health requires not only medical services, but women's participation in many social and economic activities, this project is unique in the sense that it can be understood as a concrete expression of this awareness. However, it is still in an experimental stage and further evaluation is awaited. SPs, in addition to the above, aim to install social justice and to improve social welfare through local people's participation in development. WPD is in charge of implementing SPs for women.

Figure-2 shows historical changes in the annual budget spent on SPs. The budget for SPs accounts for only a small portion of the total budget for the UNFPA. However, their budget reached 4% in the late 1980s compared to 1% earlier in the decade. It is noteworthy that it continued to grow year after year. Between 1990 and 1992, 40 SPs were conducted in 28 countries and it is estimated the number will continue to increase.

Another example of WPD activity is dispatching advisers to Country Support Teams (CST). CST, which is organized by UNFPA, is a team of specialists sent for the purpose of extending technical guidance and collaborating with local governments. The team consists of staff from United Nations' agencies which specialize in various things, and other specialized organizations. Currently, there are eight teams extending activities in eight different nations. WPD sends its delegation to the teams and monitors how the gender perspective is included in project implementation.[27]

Based on the historical review of the UNFPA activities, it is clear that UNFPA, from early in its establishment, has constantly given priority to projects for women and taken the stance of supporting women . The approaches of support have gone through transitions, shifting from mere family planning services to more multidimensional approaches.

Taking a general view of the changes in UNFPA's policies with the WID perspective in mind, we see that UNFPA became concerned with gender in policies in the late 1980s, especially after the formation of WPD in 1986, and began moving in the direction of not only giving women active support, but also including a gen-

25. UNFPA, *UNFPA Report*, 1993.
26. UNFPA, *Evaluation Report, Women and Micro-Enterprises: An Assessment of UNFPA Experience* (1992).
27. UNFPA, *Making a Difference.*

der perspective in all projects. This direction could also be seen at the International Conference on Population and Development held in Cairo in 1994 because provision of gender sensitive services was clearly stated in the Program of Action.

IV WID's Impact on Population Policy

So far, this article has dealt with changes which population policies have gone through and the changes of women in WID. In conclusion, the authors would like to examine the relations among these concepts. Figure 1 concisely displays incidents, treaties and major concepts in the areas of WID, Population and Health. Based on Figure-1, the authors propose three major stages of change found in population policies of the UN, and analyze WID's impact on each stage.

1. In the 1970s: from Population Control to Integration with Health Service and Maternal/Child Health Care

Before the 1970s, women were merely a subject of welfare. However, the 1970s was the time when women began to be regarded as a key feature in eliminating poverty, as is found in the principle of WID. In this context, to fulfill BHNs has become essential.

On the other hand, during this period, family planning as a method of population control did not succeed in bringing the global birth rate down. Thus, the United Nations began integrating family planning into health services as BHNs. Another reason for the integration was the influence of Margaret Sanger from the US and others who promoted birth control as a form of family planning, which had been integrated with health since the 1910s.[28] Women's role in population/family planning, however, continued to be that of "mother" to protect children's health. As a result of children's and mothers' health becoming a focal point, family planning came to be included in health services, especially maternal/child health care. Another reason that family planning was unified with health and maternal/child health care was that the concept of health in development was reviewed. This review came out of WHO/UNICEF's proposal of PHC in the 1970s.

2. In the 1980s: from Maternal/child health care to Reproductive Health

From the late 1970s until the early 1980s, women were transformed from being subjects of services and welfare to becoming autonomous agents with control. The conference on women convened in Nairobi in 1985 discussed "women's health in every stage of life", which is a concept equivalent to today's concept of reproductive health.[29] What led to the discussion was the fact that the Convention on the Elimination of All Forms of Discrimination against Women in 1979 clearly mentioned that women have the right to make their own decisions on reproductive power and sexuality, and that reproductive rights as a basic human right had been agreed upon internationally.[30] We believe that these changes made a huge impact on the policy shift from maternal/child health care to reproductive health in the second half of the 1980s. In short, it is a shift from a safe motherhood approach to an approach which places an importance on women independently protecting their own health. This change coincides with changes in the status of women in WID, and its impact is clear. More specifically, in 1988 UNFPA co-sponsored WHO's research on reproductive health along with the United Nations Development Programme (UNDP) and the World Bank. From then on, the concept of reproductive health found in the United Nations system has been understood in the framework of "women's health", which is a broader framework than the one WHO had long used , that is, "reproductive activities".[31] In 1994, during the International Conference on Population and Development in Cairo, the concept was publicly defined and the importance of the concept in population policy was recognized.[32]

Since the 1980s, the public has become more aware of the diversity of women within the WID framework. There is not only one type of woman; each woman leads a different lifestyle and makes different choices. Because of this, reproductive health came to be understood as a woman's overall health not limited to being pregnant or giving birth and this began having an impact on policies. The reason why reproductive health began showing an innovativeness never found in conventional concepts was that issues including contraception, abortion, sterility, STDs, diseases peculiar to puberty and menopause, and female genital mutilation, which had previously been analyzed according to age and had been dealt with in dissimilar frameworks, began to be understood within a comprehensive concept of "women's health over a life time". The background of the change is that women's various needs became recognized and accepted.

3. The 1990s: from "Women" to "Gender"

As described in the previous section, in the 1980's, WID's principle was transformed into GAD, which pays more attention to gender. This is seen in the GAD framework described in the previous section.

It was not until recently, in the 1990s, when gender started to be discussed in population policies. What is significant here is that UNFPA had already established WPD in the late 1980s and began revising its programs from a gender point of view. Entering the '90s, the necessity of considering not only women but the rela-

28. Japan Family Planning Association, *Kazoku Keikaku Binran* (Family Planning Handbook) (JFPA, 1994).
29. United Nations, *The Nairobi Forward-looking Strategies for the Advancement of Women* (1985).
30. R. J. Cook (ed.), *Human Rights of Women: National and International Perspectives* (University of Pennsylvania Press, 1994).
31. WHO, *Special Programme of Research, Development and Research Training in Human Reproduction, Proposed Programme Budget for 1990-1991.*
32. United Nations, *Programme of Action.*

tionship between men and women in the implementation of family planning was acknowledged. This overlaps with the gender perspective in GAD and its influence is felt.

Another example of gender influence on population policies is the concept of "sexual health" which began to be used since the early 1990s. This is a health concept presupposing "sexuality" and it was described in the context of "relationships between women and men in terms of sexual relations and reproduction" in the Platform of Action adopted during the conference on women in Beijing.[33] At present, this concept is not officially defined in the UN; however, it is a comprehensive concept which clearly separates "reproduction" from "sex" and includes even homosexual relationships. There have been intense dialogs regarding men and women with various sexual orientations as well as sex between disabled men and women. This concept draws attention because the public, through the GAD perspective, has begun realizing that relationships between men and women are determined by various complex factors such as gender.

One of the key features of the concept of sexual/reproductive health is that it clearly states that relationships between men and women are determined by various factors, including gender and sexuality. The concept of sexual/reproductive health, as a result of discussions held during the International Conference on Population and Development in Cairo and Conference on Women in Beijing, has gained global recognition. We believe that the expansion from the perspective of WID to that of GAD in the United Nations system , in other words from "women" to "gender", has promoted the formation of this awareness.

V Conclusion

This article analyzed the United Nations' population policy from the point of view of the effect of WID, with special reference to UNFPA's activities. Currently (as of 1993) Japan is the largest donor country to UNFPA and provides 45 million US dollars annually.[34] This fact is not widely known; however, it should be recognized that Japan has the power to influence global population/family planning. It is, therefore, necessary to analyze and monitor the United Nations' population policies.

In addition, in 1994, Japan and the United States co-founded an aid program in the area of population and AIDS called the Global Issues Initiative (GII). In relation to GII, Japan has been extending a huge amount of ODA, which will total 3 billion dollars by the year 2000.[35] Moreover, Japan's WID Initiative[36] which was proposed by Japan's Ministry of Foreign Affairs during the World Conference on Women in Beijing clearly stated that Japan's ODA would take "empowerment" and "gender quality" perspectives into consideration. The statement also recognized "health" as one of the major issues and declared that Japan would strive to secure "sexual/reproductive health/rights". Japan has tried to include a "gender" perspective in some ODA projects, but as far as population/family planning is concerned, there is not enough experience including the gender perspective. It is vital to deepen discussions to form a theory and to apply it to the actual programs in the coming years. The authors hope this article will be of help in this regard.

Bibliography

1. Cassen, R., et al, ed., *Population and Development, Old Debates, New Conclusions* (Overseas Development Council, 1994).
2. Elson, D., ed., *Male Bias in the Development Process* (Manchester University Press, 1991).
3. Japan International Cooperation Agency, *WID Hairyo ni okeru Syakai/Gender Bunseki Syuho Chosa* (Social/Gender Analysis Method Research in WID Perspective) (JICA, 1993).
4. Japan International Cooperation Agency, *WID Hairyo no Tebikisyo* (Guidebook of WID Perspective) (JICA, 1993).
5. Japan International Cooperation Agency, *Jinko to Kaihatsu, Bunyabetsu Enjo Kenkyukai Hokokusyo* (Population and Development, Sectoral Aid Research Committee Report) (JICA, 1992).
6. Japan International Cooperation Agency, *Bunyabetsu (Kaihatsu to Josei) Enjo Kenkyukai Hokokusyo* (Sectoral Aid Research Committee Report, Women in Development) (JICA, 1991).
7. Johnson, S., *The Politics of Population* (Earthscan, 1995).
8. Kardam, N., *Bringing Women In, Women's Issues in International Development Programs* (Lynne Reinner Publishers, 1991).
9. Pietila, H. and J. Vickers, *Making Women Matter, The Role of the United Nations* (Zed Books, 1990).
10. Quaker United Nations Office, *Guide to Women-Specific Policies and Programmes within UN Departments and Specialized Agencies* (1994).
11. Saras, Rafael M., (University of Nihon, Population Center, trans), *Kokusai Jinko Enjo no Riron to Seisaku* (Theory and Policy of International Population Aid) (Eicho Sya, 1979).

33. United Nations, *Beijing Declaration and Platform of Action* (The Fourth World Conference on Women, Beijing, Sept. 15, 1995).
34. UNFPA, *UNFPA Report, 1993.*
35. Ministry of Foreign Affairs and Japan International Cooperation Agency (eds.), *Jinko/AIDS, Nihon no Chikyu Kibo Mondai Initiative* (Population/AIDS, Japan's Global Issues Initiative) (Kokusai Journal Sya, 1994).
36. Ministry of Foreign Affairs, *Nihon no WID Initiative* (Japan's WID Initiative) (1995).

12. Sen, G. and C. Grown, *Development, Crises, and Alternative Visions, Third World Women's Perspectives* (Monthly Review Press, 1987).
13. United Nations, *Follow-up to the Recommendations of the International Conference on Population 1984, Activities of the United Nations Population Fund* (Economic and Social Council, Feb. 15, 1994).
14. United Nations, *Follow-up to the Recommendations of the International Conference on Population 1984, Monitoring of Multilateral Population Assistance* (Economic and Social Council, Feb. 22, 1994).
15. United Nations, *Report of the International Conference of Population* (1984).
16. United Nations, *UNFPA Annual Financial Review 1992* (Governing Council of the United Nations Development Programme, May 6, 1993).
17. United Nations, UNFPA, *Financial Report and Audited Financial Statements for the Biennium Ended Dec. 31, 1993* and *Report of the Board of Auditors* (General Assembly, 1994).
18. United Nations, *World Population Conference* (Economic and Social Council, 1974).
19. The United Nations Association of Japan, *A Concise Guide to the United Nations* (1990).
20. United Nations Development Programme, *Ningen Kaihatsu Hokokusyo 1995, Gender to Ningen Kaihatsu* (Human Development Report 1995, Gender and Human Development) (Kokusai Kyoryoku Syuppankai, 1995).
21. UNFPA, *Evaluation of the United Nations Population Fund: Synthesis Report* (1993).
22. UNFPA, *Global Population Assistance Report 1982-1990.*
23. UNFPA, *Population Policies and Programmes: Proceedings of the United Nations Expert Group Meeting on Population Policies and Programmes* (Cairo, Egypt, Apr. 12-16, 1992, 1993).
24. UNFPA, *The State of World Population, 1980-1995.*
25. UNFPA, *UNFPA Report, 1980-1993.*
26. UNFPA, *What It Is, What It Does* (1982).
27. WHO, *Special Programme of Research, Development and Research Training in Human Reproduction, Research in Human Reproduction, Biennial Report, 1988-1989* (1990).
28. WHO, *The Work of WHO, 1988-1989.*
29. Young, K. ed., *Women and Economic Development* (Berg/UNESCO, 1988).

CASE STUDY

Japan's Concession-Type Grant Aid Cooperation to Cho Ray Hospital in Viet Nam

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In December 1971, the Japanese government undertook grant aid cooperation for the construction of Cho Ray Hospital in Saigon at the request of the South Vietnamese government. The cooperation was extended in the manner of a so-called "concession in kind" which meant that the Japanese government took charge of the construction, and granted facilities by transferring the property rights when construction was finished. This form of grant was quite unique in the sense that it differed from conventional grant aid cooperation. Grant aid cooperation in principle involves the provision of funds equal to the payment covering the obligations incurred by the government of the recipient country to Japanese nationals.

The execution of concession-type grant aid cooperation is closely related to the fact that there has been a close connection between Japan's postwar rehabilitation and Japan's development assistance which began with Japan's entry into the Colombo Plan on October 6, 1954. Laws which were enacted right after the war, such as the Foreign-Exchange and Foreign Trade Control Act, the Export Trade Control Ordinance and the Export-Import Bank of Japan Act, indicated Japan's intention to become a trading nation. It is an undeniable fact that reparation and semi-reparation, as well as the grant aid cooperation derived from them, have been undertaken in accordance with Japan's foreign policies. Concession-type grant aid cooperation was a scheme which satisfied all these factors.

Among the laws enacted under these circumstances, the laws which formed the basis of the expansion of Japan's development assistance include: Regulation on Rationalization of Budget Allocations pertaining to Subsidies, etc. (Law No. 179) in 1955, Regulation on Grants, etc. of Goods Necessary for Economic and Technical Cooperation to Foreign Governments, etc. (Law No. 23) in 1960, the revision of Law No. 23 and the Enforcement Ordinance of that revision in 1970. Since then, these laws have practically supported the implementation of development assistance, including technical cooperation and grant aid cooperation.

In spite of the preparation of the legal system involving these laws, concession-type grant aid cooperation to Cyo Ray Hospital was the first and the last case of such a project. The main reason for this is that implementation of the project created so much more work than expected that the ministries involved were reluctant to continue it. However, concession-type grant aid cooperation is feasible under the current grant aid cooperation implementation system of JICA because JICA has established a system which can overcome the difficulties of implementation.

The real problem facing today's grant aid cooperation execution is that project implementation is regulated under existing laws which are based on the assumptions of domestic public works. As a result, difficulties are created. One example of this is that emergency funding is not allowed. The challenge of the future is whether domestic restrictions can be applied more flexibly to development assistance implementation.

I Introduction

In December, 1971, the Japanese government undertook grant aid cooperation for the construction of Cho Ray Hospital in Saigon (currently Ho Chi Minh City) based on a request from the South Vietnamese government (from now on referred to as the Vietnamese government). The cooperation was extended in the manner of a so-called "concession in kind" which means that the Japanese government takes charge of construction, and grants facilities by transferring property rights upon completion of the construction. This form of cooperation was quite unique in the

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Table 1 Reparation Records

Burma (Myanmar)	Apr. 16, 1955 - Apr. 15, 1965	72 billion yen
The Philippines	July 23, 1956 - July 22, 1976	190.203 billion yen
Indonesia	Apr. 15, 1958 - Apr. 14, 1970	80.309 billion yen
Viet Nam	Jan. 12, 1960 - Jan. 11, 1965	14.04 billion yen

Source: Prepared based on bibliography (8).

sense that grant aid cooperation is in principle implemented as "financial cooperation", which means the Japanese government executes the grant by making payments in Japanese yen to cover obligations to Japanese nationals, etc. incurred by the government of the recipient country.

Generally speaking, one of the reasons why grant aid cooperation forms a part of development assistance is that technology can be transferred to engineers and technicians of the recipient country through construction and so on. In principle, the government of the recipient country should be fully responsible for implementing projects, including placing orders and carrying out building work.

However, the construction of the said hospital introduced in this article was quite unique in the sense that not only was the Japanese government directly in charge of the construction, but it also transferred the title to the facilities to the government of Viet Nam. This paper aims to reveal why such concession-type grant aid cooperation was undertaken and what made it possible by tracing the history of the development of reparation and semi-reparation, which are the predecessors to grant aid cooperation, as well as the history of the development of technical cooperation, and to analyze the preparation of laws which directly and indirectly supported the implementation of such grant aid cooperation.

II Postwar Rehabilitation and Development Assistance

1. Execution of Reparation and Semi-reparation

Amid postwar rehabilitation, the Japanese government, under Article 14 of the Peace Treaty with Japan adopted in September 1951, began bilateral talks with individual countries to make reparations for Japan's deeds during the Second World War. First of all, negotiations with Burma (current Myanmar) progressed and reached the stage of signing the Japan-Burma Peace Treaty and Agreement on Reparations and Economic Cooperation in November, 1954 (which came into effect on April 16, 1955). Later, Japan concluded reparation agreements with the Philippines, Indonesia and Viet Nam, and at the same time signed semi-reparation agreements with Thailand, Laos, Cambodia, South Korea, Singapore, Malaysia, Micronesia and others. Thus, Japan strove to improve relations with neighboring countries.

In the meantime, as a special municipal law to support the implementation of reparation and semi-reparation, the Special Accounts Act on Fulfillment of Special Obligations including Reparation and etc. (March 31, 1956, Law No. 53) was enacted in 1956 and special accounts under the jurisdiction of the Ministry of Finance were also established the same year.

Two reasons why Japan's reparation was extended in the form of products and services instead of funds are: 1) the victorious nations of World War II, including the US, were more interested in reparation in the form of services from the beginning, based on the fact that the gigantic reparations in the form of funds extended by Germany after the end of the World War I didn't have much effect on the German economy nor the economic development of the victorious nations; 2) recipient countries opposed the initial plan that reparation be made only in the form of services. However, Japan was certain that reparation in the form of services and products would benefit not only the economies of recipient countries, but also Japan's economic development in the long run.[1]

In the end, the overseas procurement of products was approved as long as the procurement did not aggravate the foreign exchange debt burden. It was inevitable since not all the products could be procured inside Japan. There was a concern that using foreign-currency holdings to purchase products might have a negative impact on the exchange market in the short run. As a result, there was an urgent need for the preparation of municipal laws which are essential for foreign-currency management and overseas procurement (Table 1 and 2).

2. Promotion of Economic Cooperation to Asian Countries and Establishment of Asian Society for Economic Cooperation

At the same time reparation negotiations were undertaken, the Japanese government managed to obtain approval for Japan's entry to the Economic Commission for Asia and Far East (ECAFE) in June 1952. In addition, the cabinet adopted the Principle for Promotion of Economic Cooperation to Asian Countries in December 1953 in order to contribute to economic development in Asia, which was still in chaos. In April 1954, Asian Society for Economic Cooperation (ASEC) was formed through the efforts of both the

1. Ministry of Foreign Affairs Reparative Division (Supervisor), Baisho Mondai Kenkyukai (Ed.), *Nihon no Baisho* (Japan's Reparation) (Sekai Journal Sha, 1963), p. 23.

Table 2 Semi-Reparation Records

Thailand	July 9, 1955 - May 3, 1959	5.4 billion yen
	Agreement concerning Settlement of "Special Yen Problems"	
Laos	Oct. 15, 1958 - Jan. 22, 1965	1 billion yen
	Agreement on Economic and Technological Cooperation	
Cambodia	Mar. 2, 1959 - July 5, 1964	1.5 billion yen
	Agreement on Economic and Technological Cooperation	
	(Subject: Agricultural Technology Center, Breeding Stock Farm)	
Thailand	Jan. 31, 1962 - May 3, 1969	9.6 billion yen
	Amendment of Agreement concerning Settlement of "Special Yen Problems"	
Burma (Myanmar)	Mar. 29, 1963 - Apr. 16, 1977	47.336 billion yen
	Agreement on Economic and Technological Cooperation	
South Korea	June 22, 1965 - Dec. 17, 1975	67.728 billion yen
	Agreement of Reparation Payment and Economic Cooperation (Loan aid)	
South Korea	June 22, 1965 - Dec. 17, 1975	102.093 billion yen
	Agreement of Reparation Payment and Economic Cooperation (Grant aid)	
Singapore	Sept. 21, 1967 - Mar.31, 1972	2.94 billion yen
	Japan-Singapore Agreement on Grant Aid Cooperation (Subject: Science Museum)	
Malaysia	Sept. 25, 1967 - May 6, 1972	2.94 billion yen
	Japan-Malaysia Agreement on Grant Aid Cooperation	
	(Subject: Cargo Ship for Overseas Service)	
Micronesia	Apr. 18, 1969 - Oct. 15, 1976	1.8 billion yen
	Japan-U.S. Agreement on Trust Territories	
Singapore	Oct. 19, 1970 - Sept. 30, 1972	2.94 billion yen
	Exchange of Notes on Yen Loan	

Source: Prepared based on bibliography (8).

public and private sectors in an attempt to realize the principle into practice. Moreover, Japan joined the Colombo Plan on October 6, 1954 to take an active role in resolving problems such as poverty and socioeconomic development facing Asian countries (The Colombo Plan is an international organization formed in July 1950 to coordinate technical cooperation for increased food production in Asian countries, primarily the British Commonwealth nations, and help them to overcome poverty). Thus the Japanese government declared internationally its intention to promote development assistance and to create a system to implement that assistance.

Japan's first technical cooperation started in 1954 with a total budget of 24.85 million yen when it dispatched 28 experts and accepted 16 trainees through ASEC. Later in 1957, further steps were taken which included: pre-investment basic surveys which are equivalent to the current master plans and feasibility studies undertaken by JICA; the Technical Cooperation Project for the Middle and Near East, and Africa, which aims to extend technical cooperation to countries in the Middle and Near East, and Africa, and; the Technical Cooperation Project for South and Central America, which aims to give technical cooperation to South and Central American nations. In 1958, the Ministry of International Trade and Industry (MITI) appropriated a budget for the establishment of an overseas technical training center joining together three forms of cooperation, those being the dispatch of experts, accepting trainees and the provision of equipment (the project named the West Bengal Prototype Production Training Center in India). In 1959, the cabinet decided to give the Ministry of Foreign Affairs jurisdiction over the budget to and the ministry appropriated the budgets for four items.

However, it was not until July 1960 that the overseas center was actually established to undertake projects. Specifically, the first overseas center was the East Pakistan (currently Bangladesh) Agricultural Training Center, which was established in conformity with an agreement between the governments of Japan and Pakistan. The overseas center, the principle implementing unit of the overseas-center-type cooperation at that time, was established on the basis of an intergovernmental agreement. However, it was not until the 1970s when the project-type technical cooperation of JICA, which replaced the overseas-center-type cooperation, began to be extended based on a record of discussion (R/D) between project implementation agencies.

The development of technical cooperation led to the preparation of municipal laws. This preparation in particular led to a rapid expansion in the provision of equipment among projects at overseas technical cooperation centers, which is soundly substantiated by the fact that the budget of ASEC surged over a short period of time. The society undertaking programs with subsidies from the government and contributions from the private sector. Later it came to receive trust money from the Ministry of Foreign Affairs for extending technical cooperation and implementing overseas technical centers. The budget of the Asian Society for Economic Cooperation doubled in 1961, which was the last year of the organization and reached 1 billion yen. This stemmed primarily from a substantial increase in trust money

Table 3 Fiscal Budget for Asian Society for Economic Cooperation: 1954-1961

1954	24.85 million yen
1955	28.45 million yen
1956	106 million yen
1957	156 million yen
1958	208 million yen
1959	280 million yen
1960	480 million yen
1961	1 billion yen

Source: Prepared based on bibliography (1).

from the ministry along with the expansion of technical center programs which included provision of equipment instead of an increase in subsidies (Table 3).

3. Enactment of Regulations on Rationalization of Budget Allocations pertaining to Subsidies, etc.

A major reason why the budget for technical center programs was substantially increased, especially for the provision of equipment, was that the government strongly intended to expand development assistance. However, what really made it possible was the Regulation on Rationalization of Budget Allocations pertaining to Subsidies, etc. (Law No. 179), enacted in 1955 and the Enforcement Ordinance of the Regulation on Rationalization of Budget Allocations pertaining to Subsidies, etc. (September 26, 1955, Government Ordinance No. 255). With these laws, it became possible to provide equipment, procured with the national budget, to the governments of developing countries, although still only under certain conditions.

In granting products procured by the government with the national budget, the products should be procured by a fund from an aggregate of the items of the administrative expenses allocated from the general account budget. In the framework of annual budgetary expenditure subsidies include: 1) grants as expenditures to provide grants and grant in aid; 2) subsidies as interest benefits; 3) a share of the expenses based on international agreements; 4) contributions to the United Nations and other international agencies; and 5) grant in trust money as expenditures to contract national programs. The current grants to JICA, which are issued and based on the budget, and the subsidy to the Asian Society for Economic Cooperation which is provided with the aim of assisting certain office work and projects, belong to category (1). Almost all of JICA's projects are executed within the scope of category (1). In connection with this, programs undertaken by the Overseas Technical Cooperation Agency (OTCA), the succession body to ASEC, are on trust money from the government, and therefore belong to category (5).

In short, these laws allowed project implementing agencies to dispose of property obtained with the approval of the heads of the ministries or agencies concerned as long as it was not in contravention of the Finance Act (March 31, 1947, Law No. 34), the Enforcement Ordinance of the Finance Act (Government Ordinance No. 218), the National Property Act (June 30, 1948, Law No. 73), or the Enforcement Ordinance of the National Property Act (Government Ordinance No. 246).

Because Law No. 179 only required reparation and semi-reparation in the form of Japanese products and services, enactment of new laws was necessary in order to implement the provision overseas of products procured within Japan. As a result, a law, which supported the provision of products through reparation and technical cooperation, came into existence. The provision of products approved in the new law however did not cover the disposition of such items as real estate, vessels, airplanes, buoys, floating piers, floating docks, in addition to the accessories accompanying.

Prior to the enactment of the Law No. 179, there was another law which came into effect in addition to the previously mentioned Finance Act and National Property Act, that being Regulation on Lending without Compensation, Grant, etc. of Goods (December 23, 1947: Law No. 229). However, this law only dealt with the domestic disposition of goods, which the National Property Act does not cover.

Another factor which supported expansion of Japan's development assistance in the area of actual procedure was the revision of laws including the Foreign Exchange and Foreign Trade Control Act (December 1, 1949; Law No. 228), the Export Trade Control Ordinance (December 1, 1949; Government Ordinance No. 378), and the Foreign-Exchange Control Ordinance (June 1950; Government Ordinance No. 203). With these revisions, although purchased equipment still must go through customs, approval is not necessary because of an escape clause stating "goods presented by public organizations of Japan to foreign public organizations with the aim of donation (Paragraph 2 of Article 4 of the Control Ordinance, Annexed List 2 of Paragraph 9 of Sub-section 2) is applied.

4. Enactment of Regulation on Grant, etc. of Goods Necessary for Economic and Technical Cooperation to Foreign Governments, etc.

Law No. 179 was inadequate for expanding programs overseas since it limited the disposition and grant of property to within the country. Although there were requests for large-sized training equipment essential to a particular facility, or a fishing boat for training, these items could not be provided under the law. Thus, a new law was needed to make the provision of such items possible. As a result, the first comprehensive law covering the governments of developing countries and international agencies was enacted on August 27, 1960. It was the Regulation on Grant, etc. of Goods Necessary for Economic and Technical Cooperation to Foreign Governments, etc. (Law No. 23).

However, this law only dealt with certain goods, citing that "the Japanese government can grant goods necessary for economic and technical cooperation in accordance with international treaties and agreements to government or governmental agencies of developing

countries, or to the United Nations or its specialized agencies, or transfer goods at lower prices than current market prices." In this regard, practical restrictions remained on the disposition of products and properties which were not qualified goods.

On the other hand, enactment of the law was closely related to a rise in the opinion that development assistance should be connected with furthering trade. Back then, Japan was suffering from sluggish exports as the upheaval on the Korean peninsula ended. Voices within the industrial circle calling for opportunities to seek cheap raw material overseas intensified. Thus, deregulation, including the lowering of tariffs, and the enactment of new laws were awaited.

In September 1960, Japan joined the International Development Agency (IDA), which is frequently referred to as the second World Bank. In doing so, Japan communicated its intention, as a donor country, to expand its overseas assistance into action. Although joining IDA was not the direct cause of the law's enactment, it indirectly highlighted the necessity of preparing laws in connection with development assistance.

5. Formation of Overseas Technical Cooperation Agency (OTCA)

The enactment of Law No. 23 was in response not only to the expansion of assistance, but also to voices calling for strengthening the implementation system of assistance. In particular, the Japanese government established OTCA in July 1962 on a budget of 1.6 billion yen under special legislation enacted 2 months earlier with the aim of implementing development assistance to developing countries. With its establishment, Japan's technical cooperation was to make great strides.

Specifically, the source of OTCA's revenue concentrated on grant in trust from the government, such as trust money to implement overseas technical cooperation and economic development plans, accounts on conducting road development study in Sumatra, overseas development project study accounts, and overseas cooperation accounts including science education. Unlike subsidies, trust money is based on contracts and is paid in compensation for taking over the government's clerical work and programs. In this regard, the government remains the executor of the programs. With the establishment of the OTCA, the government expressed its will to take charge in giving assistance (Table 4).

Table 4 Changes in Equipment Provision Projects by OTCA *

1962 (at the time of establishment)	207 million yen
1967	987 million yen
1971	1.821 billion yen

Source: Prepared based on bibliography (7).
Note: * is the sum of expenditures for dispatching experts and buying equipment; for provision of equipment; for founding and implementing projects in overseas centers; for dispatching cooperation volunteers and buying equipment; for implementing medical cooperation, and procuring and supplying equipment; for implementing agricultural cooperation and transporting equipment; and for implementing technical cooperation for development and equipment supply, etc.

6. Commencement of Grant Aid Cooperation Programs

Reparation and semi-reparation were primarily extended in the form of services and products. It was not until 1966 when government-based grant aid cooperation as financial support which did not impose any obligation to repay, was extended with the aim of assisting recipient countries' economic and social development. The first case of such grant aid cooperation was the Nam Muang power development project in Laos, which was signed on August 29, 1966 (Table 5).

Reparation and semi-reparation were extended under the Special Accounts Act on Fulfillment of Special Obligations including Reparation, etc. (March 31, 1956; Law No. 53) which dictated the conclusion of treaties and approval of the Diet. On the other hand, grant aid cooperation programs are extended based on Exchange of Note (E/N), which says such programs are to be based on the municipal laws concerned. However, it does not specify the laws. But in general, such programs are implemented based on laws such as the Finance Act, the Public Accounts Act, and the Budget-Making and Accounts Ordinance, and are extended within the budget approved by the Diet because the source of revenue for such programs is derived from the general accounts budget.

In relation to the above, the Ministry of Foreign Affairs expressed its unofficial opinion in 1972 that the above mentioned budget-related laws should be referred to related laws on this matter, citing that "although economic and technical cooperation have been extended based on related laws and E/N, the related laws have not been specified yet. 'Based on the related laws' should be translated as 'within the disbursement of the budget', which in practice means E/N is to be reached within the limit of administrative power." (July 5, 1972; Director of the Treaties Division)

However, the government denied that the administration should have all the power to extend grant aid cooperation. Specifically, the government required the approval of the following treaties by the Diet: (1) any international treaty which contains legal matters; (2) any international treaty which contains financial obligation; (3) anything that, although it doesn't contain legal or financial matters, is a politically important international agreement in the sense that it prescribes relations between Japan and recipient countries or relations among countries in general and must be ratified as a requisite to having it to go into effect. (February 20, 1974; Minister of Foreign Affairs, Masayoshi Ohira, at Committee on Foreign Affairs, House of Representatives).

Regarding the meaning of 'based on the related laws', the Ministry of Finance acknowledged that the disbursement procedure itself is the related law, saying "the Japanese government is obliged to follow the disbursement provisions stipulated in Japan's related laws." Therefore, in principle, disbursement procedures of grant aid cooperation should follow the related

Table 5 Initial Grant Aid Cooperation

May 4, 1966	Laos	The Nam Muang River Electricity Development Project	1.786 billion yen
Aug. 1, 1969	Cambodia	The Phuleknot River Electricity Development and Irrigation	1.517 billion yen
Dec. 5, 1969	Laos	Wattai Airport Runway	250million yen
Apr. 18, 1970	Viet Nam	Housing and Health Center for Refugees in Saigon	260million yen
May 22, 1970	Laos	Wattai Airport Runway	180million yen
Oct. 17, 1970	Viet Nam	Da Nhim Hydroelectric Power Plant Rehabilitation	300million yen
Dec. 15, 1970	Laos	Vientiane-Dagon Power-Transmission Line	20million yen
Dec. 19, 1970	Cambodia	River ferry	100million yen
Feb. 23, 1971	Laos	Thailand-Laos Microwave	32million yen

Source: Prepared based on bibliography (8).

laws and should be disbursed within the budget approved by the Diet. However, the actual method of implementation is not prescribed in any law and the usual practice is that the government of the recipient country must place an order or procure construction work and other items, not the Japanese government. The only exception has been the grant aid cooperation for constructing the main building and attached facilities of Cho Ray Hospital in Viet Nam.

III Assistance to Viet Nam and Concession-Type Grant Aid Cooperation

1. Technical Cooperation to Cho Ray Hospital

Japan's assistance to Viet Nam began with reparations based on an agreement which went into effect on January 12, 1960. Reparations included the Da Nhim hydroelectric power plant (99.49 million yen), a cardboard plant and a plywood plant (11.85 million yen), and the expenditure on the reparation mission (2.06 million yen). Technical assistance to the nation started in 1966, but the grant aid cooperation in its current form began later, on April 18, 1970. The first grant aid cooperation took the form of housing and a health center for refugees in Saigon (2.6 million yen).

Incidentally, full-scale technical assistance to Viet Nam began with the completion of the Exchange of Note on Medical Assistance signed on June 10, 1967. The target of the cooperation was the Cho Ray Hospital. In the E/N of this momentous cooperation, Japan promised it would bear the necessary expenses and take the measures necessary to realize the following: 1) the dispatch of medical experts; 2) the training in Japan for persons concerned on the Viet Nam side; 3) the provision of drugs, equipment and materials necessary for medical consultation, treatment, and medical research; 4) the construction of (a) a ward for brain surgery, (b) lodgings for Japanese experts. In short, the E/N was a comprehensive agreement which has been incorporated to cover both today's technical cooperation and grant aid cooperation.

However, because E/N is generally categorized as a technical cooperation agreement, the construction of facilities at Japan's expenses is not recorded as grant aid cooperation. Furthermore, the construction of facilities based on this technical cooperation agreement was the concession-type of cooperation, with a Japanese architectural consultant in charge of the basic design, and its implementation and supervision as well as a Japanese general contractor who undertook the construction. An agreement was made between the Chairman of the Board of Directors of the Overseas Technical Cooperation Agency and the contractor on July 13, 1967. However, transfer of ownership could not be made due to what was then Japanese law (the National Property Act, Articles 18 and 28). An E/N of December 21, 1968, which in the following year replaced the initial E/N, stated that "unless the current law, which prohibits the transfer of property rights of the brain surgery ward and the lodging is favorably revised, such a transfer cannot be made."

Although the transfer of title to the brain surgery ward and lodging for experts was not made, both governments agreed to leave the management of the facilities to the Chairman of the Board of Directors of the OTCA (letter dated December 21, 1968). With this, the Viet Nam side was able to utilize the facilities under certain conditions. In the meantime, the Southeast Asian Fisheries Development Center (SEAFDEC), an international agency established in March 1968, requested the Japanese government to provide shipping boats for training and research to its centers in Thailand and Singapore. In order to respond to the request, the government decided to revise the laws.

2. Revised Regulation on Grant, etc. of Goods, etc. Necessary for Economic and Technical Cooperation to Foreign Governments, etc., and Enactment of Enforcement Ordinance of the Subject Regulation

In 1970, the Japanese government amended Law No. 23, which was enacted in 1960, to the Regulation on Grants, etc. of Goods, etc. Necessary for Economic and Technical Cooperation to Foreign Governments, etc. (April 16, 1970, Law No. 21), and enacted the Enforcement Ordinance of the Subject Regulation (April 16, 1970, Government Ordinance No. 61). It took 10 years for the government to revise the law. The revised law allowed the grant of buildings, citing the government of Japan can grant goods, ships, buildings and other properties prescribed in government ordinances necessary to economic and technical cooperation under international treaties and agreements to governments and/or governmental agencies of developing

Table 6 Initial General Grant Aid Cooperation to Viet Nam (1970-1975)

Apr. 18, 1970	Housing and health center for refugees in Saigon.	260 million yen
In addition, farm machinery (360 million yen) was also provided with food assistance on June 9, 1970.		
Oct. 17, 1970	Da Nhim Hydroelectric Power Plant Rehabilitation	300 million yen
Oct. 2, 1971	Da Nhim Hydroelectric Power Plant Rehabilitation	688 million yen
Nov. 26, 1971	Construction materials for Job Training Center for Orphans	220 million yen
Dec. 24, 1971	Medical Equipment for Cho Ray Hospital (1)	200 million yen
Feb. 9, 1973	Expansion of Job Training Center for Orphans	272 million yen
Aug. 22, 1973	Medical Equipment for Cho Ray Hospital (2)	100 million yen
Aug. 22, 1973	Da Nhim-Saigon Power-Transmission Line Restoration	288 million yen
Oct. 3, 1973	Housing Construction for Refugees and Farm Appliances	500 million yen
Feb. 13, 1974	Operating Equipment of Job Training Center for Orphans	90 million yen
Mar. 30, 1974	Drugs for Re-settlement of Refugees, Housing Construction Materials, etc.	5 billion yen
Mar. 30, 1974	Da Nhim-Saigon Power-Transmission Line Restoration	42 million yen
July 4, 1974	Medical Equipment for Cho Ray Hospital (3)	540 million yen
Aug 19, 1974	Main Building of Cho Ray Hospital (4)	4.1 billion yen
Jan. 28, 1975	Annex of Cho Ray Hospital (5)	500 million yen
Jan. 28, 1975	Drugs for Cho Ray Hospital (6)	100 million yen

Source: Prepared based on bibliography (8).

countries, or to the United Nations and/or its specialized agencies, or to other international agencies determined by government ordinances, or transfer at lower prices than current market prices.

Law No. 23 restricted the grant or transfer to only "necessary goods", whereas the revised Law No. 21 expanded it to "goods, etc.". The revised law opened the path for the commencement of a basic design study for grant aid cooperation to Cho Ray Hospital in July 1970, as well as the first and the last execution of concession-type grant aid cooperation executed in July 1973.

3. Grant Aid Cooperation to Cho Ray Hospital

Based on various factors, from the preparation of laws to requests by the business community, the Japanese government decided to extend the first concession-type grant aid cooperation to Cho Ray Hospital in Viet Nam. Accordingly, a basic design survey was conducted from July 1970 until February 1971. Then a detailed design was drawn up. Tenders for procurement and construction were finally held on August 26, 1971 and July 27, 1972, respectively. In the meantime, a ceremony for laying the cornerstone was held on October 12, 1971. In spite of the tumultuous condition in the country, the construction work went smoothly. The main building was completed on August 19, 1974 , and the annex, on January 15, 1975.

Incidentally, the Ministry of Construction was in charge of the overall management of the design, estimate and supervision of the construction works under directions of the planning council, which consisted of delegates from the Ministry of Foreign Affairs, the Ministry of Construction, the Ministry of Welfare as well as the OTCA, the Board of Governors of the council, and the implementation committee. The basic design was contracted to the Japan Institute of Medicalcare Architecture, the detailed design and supervision of the works were contracted to the Takeo Sato Design Office, and execution of the works was carried out by Hazama Corporation and Meidensha Corporation based on a public tender.

The reasons why construction of Cho Ray Hospital was undertaken as a concession, instead of making payments to cover the obligations incurred by the government of Viet Nam is officially unknown. However, It is believed that one reason is that there was a strong request from the industrial circle for Japan to execute large scale assistance on its own. Another reason may be that this was the first full-scale construction project. At that project, grant aid cooperation to Asia, including Viet Nam, consisted mostly of the provision of materials and equipment used in power stations and telecommunication facilities, the construction of simple facilities to keep the materials and equipment in, and simple engineering work, such as building runways. Thus, the Ministry of Foreign Affairs showed great enthusiasm in contributing to this project for the purpose of publicly announcing its involvement.

According to Takashi Tanaka's "Zoku Monogatari Kensetsusho Eizenshi no Gunzo 2: Viet Nam Cho Ray Hospital no Kensetsu" (Nikkan Kensetsu Tsushin Shimbunsha), the Ministry of Foreign Affairs revealed its resolution when it asked the Ministry of Construction for cooperation, citing "we are willing to revise the Finance Act in order to execute assistance".[2]

Grant aid cooperation to Cho Ray Hospital was the fourth project in Viet Nam and in its execution E/N were disbursed six times, namely, December 24, 1971, August 22, 1972, July 4 and August 19, 1974, and January 28. 1975 for 2 items. The provision of medicine and equipment began with the completion of E/N

2. Takashi Tanaka, *Zoku Kensetusho Eizensi no Gunzo 2: Viet Nam Chorai Byoin no Kensetsu* (History of Building and Repair of the Ministry of Construction 2: Construction of Cho Ray Hospital in Viet Nam) (Nikkan Kensetsu Tsushin Shimbunsha, 1995).

as usually done in the financial cooperation to cover the obligation, but for the 4th and 5th phase which cited the concession of the works, the dates when E/N were signed indicate the day when the cooperation was completed (Table 6).

4. Realization of Concession-Type Grant Aid Cooperation-The first and only such project

As described earlier, the E/Ns related to this concession were signed on August 19, 1974 and January 28, 1975. The E/Ns say that the Japanese government will concede the stated facilities and transfer property rights instead of executing the grant by making payments in Japanese yen to cover the obligation incurred by the government of Viet Nam. Specifically, the clause "based on the related laws of Japan and the provisions of E/N", which is found in any E/N, was not included in these E/Ns. Instead, the following clause, which states "the Japanese government transfers on a grant basis to the Government of the Republic of Viet Nam, on August 19, 1974, title to the buildings of the Hospital reconstructed by the Japanese government, as specified in the Annex to this Note" was included.

Despite the turmoil in Viet Nam at that time, the construction work progressed smoothly and on August 19, 1974, the E/N for the concession of the main building was signed. Later, on January 15, 1975, the construction of the attached facilities was completed and the E/N for the concession of those facilities was signed. Thus, the first concession-type grant aid cooperation was completed.

Unfortunately, this project has been the first and only case of concession-type grant aid cooperation so far. In spite of the initial enthusiasm of the Japanese government, the work turned out to be very complicated and enormous, especially for the Ministry of Construction, which was in charge of supervising the design and managing the construction. As a result, all parties concerned became skeptical about promoting this type of cooperation in the future. In the end, the Ministry of Foreign Affairs gave up the idea of developing the scheme.

The author would like to revive the idea and apply it to current grant aid cooperation. The major problem of the concession-type grant aid cooperation was that the implementation system was ill prepared. Considering that JICA, which is in charge of implementing grant aid and technical cooperation, has specialized departments supervising basic design study, detailed design and supervision of construction works, and handles far more work than in the past, it is believed that concession-type grant aid cooperation can be executed if the system is similar to the current JICA system.

IV Conclusion

This paper dealt with the preparation and development of municipal laws before concession-type grant aid cooperation to Cho Ray Hospital in Viet Nam was realized. It should be appreciated that the preparation of laws progressed because of a demand to expand assistance and trade right after the end of World War II. It is no exaggeration to say that the preparation of these laws paved the way to Japan being the world's number one donor country. The most important laws, which are related to procurement of goods and services, were drawn up and enacted between the 1940s and the 1970s. The assistance-related laws enacted after that were only dispatch laws, which deal with the dispatch of international emergency assistance personnel in case of calamity or natural disaster and experts in technical cooperation.

The challenge facing today's grant aid cooperation is not the enactment of new laws, but rather, the flexible application of the existing laws, namely, removing the limitations imposed by the single fiscal year system of budget-making, approving budgets in reserve, and easing study report obligations under Paragraph 1 of Section 2 of Article 34 of the Finance Act (the implementation plan for expenditure bearing actions), as has been done with domestic public works. Unlike domestically, where there is easy access to written materials and the procurement of goods, work overseas depends solely on compiled surveys. Because of this, the author strongly suggests that conditions different from those applied within Japan be applied to programs overseas. In this sense, it is necessary to consider easing restrictions.

Quoted Laws and Ordinances

The following are the laws and ordinances which led to the concession-type grant aid cooperation:

The Finance Act (March 31, 1947), Law No. 34.
The Enforcement Ordinance of the Finance Act (April 1, 1947), Government Ordinance No. 218.
The Public Accounts Act (March 31, 1947), Law No. 35.
The Budget-Making and Accounts Ordinance (April 30, 1947), Imperial Ordinance No. 165.
Regulation on Lending without Compensation, Grant and etc. of Goods (1947), Law No. 229.
The National Property Act (June 30, 1948), Law No. 73.
The Enforcement Ordinance of the National Property Act (August 1948), Government Ordinance No. 246.
The Foreign-Exchange and Foreign Trade Control Act (December 1, 1949), Law No. 228.
The Export Trade Control Ordinance (December 1, 1949), Government Ordinance No. 378.
The Foreign-Exchange Control Ordinance (June 1950), Government Ordinance No. 203.
Regulation on Gratuitous Conveyance of Goods Necessary for Welfare Programs based on a Resolution of the United Nations (Special

Enactment on December 26, 1952), Law No. 337.
The Import-Export Trading Act (August 5, 1952), Law No. 299.
The Enforcement Ordinance of the Import-Export Trading Act (September 12, 1955), Government Ordinance No. 244.
The Trade Insurance Act (March 31, 1950), Law No. 67.
The Enforcement Ordinance of the Trade Insurance Act (July 31, 1953), Government Ordinance No. 141.
Regulation on Rationalization of Budget Allocations pertaining to Subsidies and etc. (September 26, 1955), Law No. 179.
The Enforcement Ordinance of the Regulation on Rationalization of Budget Allocations pertaining to Subsidies and etc. (September 26, 1955), Government Ordinance No. 255.
The Special Accounts Act on Fulfillment of Special Obligations including Reparation and etc. (March 31, 1956), Law No. 53.
The Control of Goods Act (May 22, 1956), Law No. 113.
The Delegation of Power of International Trade and Industry Minister to the Custom Director under Provisions of Paragraph 2 of Article 11 of Export Trade Control Ordinance (April 28, 1960), 35th Official Notice No. 1873.
Regulation on Grants and etc. of Goods Necessary for Economic and Technical Cooperation to Foreign Governments and etc. (August 27, 1960), Law No. 23.
The Overseas Technical Cooperation Agency (OTCA) Act (May 10, 1962), Law No. 120.
Agreement on Establishment of Southeast Asian Fisheries Development Center: (date, unreadable)1, Notification No. 7 of the Ministry of Foreign Affairs.
Regulation on Grants and etc. of Goods and etc. Necessary to Economic and Technical Cooperation to Foreign Governments and etc. (revision) (April 16, 1970), Law No. 21.
The Enforcement Ordinance of the Regulation on Grants and etc. of Goods and etc. Necessary to Economic and Technical Cooperation to Foreign Governments and etc. (April 16, 1970), Government Ordinance No. 61.

Bibliography

(1) Asian Society for Economic Cooperation (ASEC), *Asia Kyokai: Sono 7 Nen no Ayumi* (Asian Association: Its 7-Year-History) (1961).
(2) Inoue, Kanae, *Taikei: Kancho Kaikei Jiten* (Systematic Encyclopedia of Government Agencies) (Gihodo, 1973).
(3) Japan International Cooperation Agency (JICA), *Kokusai Kyoryoku Jigyodan 10 Nen no Ayumi* (10-Year History of the Japan International Cooperation Agency) (1984).
(4) Kato, Goichi and Koji Hyodo, *Hojokin Seido: Sono Shikumi to Unyo* (Subsidy System: Its Structure and Management) (Nihon Densan Kikaku, 1988).
(5) Komura, Takeshi, *Yosan to Zaiseiho* (Budget and the Finance Act) (Shin Nihon Hoki, 1987).
(6) International Cooperation Study Group (Supervisor), *Kokusai Kyoryoku Handbook* (International Cooperation Handbook) (Kokusai Kaihatsu Journal Sha, 1983).
(7) Overseas Technical Cooperation Agency (OTCA), *Kaigai Gijutsu Kyoryoku Jigyodan 10 Nen no Ayumi* (10-Year-History of the Overseas Technical Cooperation Agency) (1973).
(8) Research Institute of International Trade and Industry, *Heisei 6 Nenban Keizai Kyoryoku no Genjo to Mondaiten* (Current Situation and Problems of Economic Cooperation for Fiscal Year 1994) (1995).
(9) Tatani, Chikako, "ODA", *Jurisuto* 8 (1995), pp. 1-15.
(10) Yoneda, Osamu, "Chorai Byoin no Kensetsu", *Kenchiku Hozen* 59 (1989), pp. 81-83.

CASE STUDY

International Sex Tourism in Asia and Vulnerability to HIV/AIDS

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The Objective of this paper is to assess individual and collective vulnerability to Human Immunodeficiency Virus (HIV) and other Sexually Transmitted Diseases (STDs) resulting from international sex tourism in Southeast Asia, and to provide a perspective on development issues, including the tourist industry, in the era of the AIDS epidemic.

This paper defines and analyzes factors affecting the vulnerability of sex workers and their partners to HIV infection in connection with international sex tourism. Published and unpublished information on sex tourism in Southeast Asia was reviewed. This information, along with the author's experience in the field, the characteristics, scale and trends in sex tourism were examined in the context of: (1) HIV infection associated with sex tourism; (2) the social and economic background of the countries where sex tourism prevails; (3) the sexual behavior of sex workers and their clients; and (4) programs which aim to prevent an epidemic of HIV and other STDs resulting from the sex trade.

The findings are as follows:

(1) international sex tourism is a rapidly expanding industry in this region;
(2) the nature and length of relationships between sex workers and their clients should be considered in designing HIV/STD prevention programs;
(3) sex tourism is fueled by a twofold economic gap, that is the economic gap between countries where the sex trade takes place and the clients' home countries, and the economic gap within a country where the sex trade occurs;
(4) it is true that sex tourism is one of the factors affecting the spread of HIV infection. However, it should not be emphasized more than the risk of HIV infection resulting from sexual contact between sex workers and their local clients;
(5) while HIV infection through sex tourism accounts for only a small percentage of the total cases, the sexual networking of those involved in sex tourism has contributed both to the spread of HIV within the host country and to the global spread of HIV.

The economic gap between people benefiting and those not benefiting from the ongoing economic growth in Southeast Asia serves as a stimulus for the development of sex industries, including sex tourism. The challenge for the future is to expand HIV/STD programs to provide information, education, health and social services for female and male sex workers and their clients. In the nations where sex tourism prevails, development programs should be undertaken in economically deprived areas, and enterprises should be started to create other valid income alternatives. One of the most pressing issues is to deter child prostitution. Plans at the national and local government levels must be drawn up in Southeast Asia to eliminate the explicit and implicit sexual tones and trends of tourism marketing campaigns deliberately directed at countries which are involved in sex tourism.

I Introduction

In recent years, there has been a rapid growth in the number of tourists traveling overseas. The number, which amounted to 25 million in 1950, jumped to 500 million in 1993. It is estimated that it will reach 750 million by the end of the century and 970 million by the year 2010. Many developing nations intend to become tourist-oriented nations. At the same time, traveling

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Table 1 Foreign Entries to Asian Countries and Resulting Revenues

Year	1987	1988	1989	1990	1991	1992
Thailand						
Number of Entries			4,809,508	5,300,000	5,400,000	
Millions of U.S. Dollars			3,855	4,023	4,600	
Millions of Thai Bahts			96,386	100,572	115,000	
Indonesia						
Number of Entries	1,060,000	1,301,000	1,626,000	2,178,000	2,600,000	
Millions of U.S. Dollars	924	1,283	1,628	2,100	2,500	
Myanmar						
Number of Entries	41,904		5,044	8,968	8,061	
Millions of U.S. Dollars			4.9	9.4	13.6	
Millions of Kyats			29.9	56.6	81.6	
India						
Number of Entries			1,736,093	1,707,158	1,677,508	1,867,651
Millions of U.S. Dollars			744	741	1,005	1,185
Millions of Rupees			24,560	24,440	33,180	39,100
Nepal						
Number of Entries			239,945	254,885	292,995	
Millions of U.S. Dollars			68.3	63.7	58.6	
Number of Hotel Beds			9,408	10,224	11,384	
Sri Lanka						
Number of Entries		182,662	184,732	297,888	393,669	
Millions of U.S. Dollars			53	102	163	
Millions of Rupees			2,600	5,000	8,000	
Philippines						
Number of Entries		1,043,114	1,189,719	1,024,520	951,365	
Millions of U.S. Dollars		1,400	1,468	1,306	1,285	
Singapore						
Number of Entries			4,829,950	5,322,854	5,414,651	
Millions of U.S. Dollars			4,300	5,702	5,777	
Millions of Singapore Dollars			6,449	8,553	8,666	

Note: Entries to Singapore do not include entries from Malaysia.
Quoted from bibliographic entry (17):
Sources: Tourism Authority of Thailand
UN Statistical Yearbook
The Europa World Year Book 1993
Ministry of Tourism and Civil Aviation of India
Department of Tourism of Nepal
Department of Census and Statistics of Sri Lanka
Department of Tourism, Central Bank of the Philippines
Singapore Tourist Promotion Board

overseas is no longer confined to people with special jobs, but has become common for ordinary citizens.

The sex trade has been widely practiced for a long time and there is nothing new about sex trade taking place among travelers. It is, however, a recent phenomenon that the sex trade is occurring on such a large scale, and that it is expanding. International sex tourism used to be thought of as the major route of HIV infection. However, at present, HIV infection associated with international sex tourism accounts for a small percentage of the total number of cases. For example, in Thailand where AIDS is prevalent, much has been talked about the relationship between the AIDS epidemic and the tourist industry. However, HIV infection in most cases occurs among the local Thai, and infection between locals and foreigners is only 1% of all the cases found in Thailand. Nevertheless, it is undeniable that in many countries the first contact overseas, and sex tourism has a great significance as the infection route for spreading HIV to countries as well as to areas where HIV infection is not rampant.

The sex trade can take a variety of forms making it difficult to identify sex tourists. Sex tourists will not reveal their true purpose for going overseas. In fact, not all tourists go overseas. In fact, not all tourists go overseas for sex even if the opportunity presents itself. In some cases, the sex trade is a part of business entertainment, and clients are supplied with sexual favors. For example, women caddying during the daytime sometimes provide extra services at night.

The purpose of this paper is to analyze the characteristics, scale and trends in tourist/service industries as well as sex tourism in Asian countries in relation to:

(1) the evidence of HIV infection occurring through sex tourism;
(2) the social and economic background of nations where the sex trade is prevalent;
(3) the sexual behavior of sex workers and their clients;
(4) programs designed to prevent HIV and other STDs resulting from the sex trade.

Based on the analysis, the author aims to define and examine factors affecting vulnerability to HIV infec-

Table 2 Revenue from the Tourist Industry and Percentage of GNP

Country	Millions of U.S. Dollars	%
Thailand	4,600	5.1
Indonesia	2,500	2.2
Myanmar	14	0.2
India	1,185	4.2
Nepal	59	1.7
Sri Lanka	163	1.9
Philippines	1,285	2.8
Singapore	5,777	14.7

Quoted from bibliographic entry (17):
Sources: Tourism Authority of Thailand
UN Statistical Yearbook
The Europa World Year Book 1993
Ministry of Tourism and Civil Aviation of India
Department of Tourism of Nepal
Department of Census and Statistics of Sri Lanka
Department of Tourism, Central Bank of the Philippines
Singapore Tourist Promotion Board

tion, and propose a perspective on future policies.

II The Tourist Industry in Asia

In most developing countries, the majority of the working population is engaged in agriculture. In recent years, urban migration has increased. Still, some 80% of the population in Southeast Asia are farmers residing in rural areas. Central governments are interested in developing tourism to achieve economic growth because tourism generates large amounts of money, creates jobs which bring in cash income, and serves as a way to encourage foreign currency exchange. Each country has embarked on the development of its tourist industry using slogans such as "Visit Malaysia Year" in 1990. Even politically-isolated Myanmar has been making more efforts to join the world economy and announced its intention to expand the tourist industry in that nation. Japan, through the ODA, has supported Asian countries in this field. The Asian Development Bank extends large amounts in loans to the tourist industry in Nepal. The World Bank does the same in Bali. Table 1 shows the number of tourists to each Asian country from the late 1980s to the early 90s and the resulting revenue. In general, for all countries, as the number of tourists increased, so did revenues. Meanwhile, Table 2 shows the ratio of tourist revenue to GNP. In Singapore, Thailand and India, tourism industries' ratios are high in their GNPs.

Geographical conditions and business/political features effect the movement of tourists. In the past, most frequent coming and going were observed between some specific countries such as former colonies. However, as globalization proceeds, the movement of tourists is difficult to specify.

III The Sex Industry in Asia

1. The Sex Industry in Thailand

In Thailand, the sex trade takes place, regardless of social status, age, or location. A number of studies show that 50-70% of men have been to brothels by the time they reach their early 20s.

The Thai Ministry of Public Health issued an estimate in 1992 that there were 76,863 sex workers working in 5,622 brothels nationwide. In Bangkok itself, there are 20,366 sex workers in 688 establishments although this estimate may be too low. According to a report published by the International Labor Organization (ILO), in 1982 there were 100,000 sex workers in the country. Other sources present an even higher figure of 200,000. The ILO estimates that 6.2 - 8.7% of Thai women between the ages of 15 to 34 have worked in the sex industry.

The majority of sex workers are from north and northeastern Thailand, which are renowned for the beauty of their women. The reason why these areas produce so many sex workers is poverty. In northern villages, there are few opportunities for education or employment, and starvation is widespread. The area that lies across from northern Thailand, Myanmar, the Yunnan Province in China, and Laos is called the "Golden Triangle" and is a production center for narcotics. Many smuggling routes originate from this area. It is said that almost all heroin in the world and 80% of the drugs on the streets in the US are produced here.

The sex trade can take both direct and indirect forms. Direct sex trade takes place at so-called brothels, whereas indirect sex trade is conducted in tea houses, massage parlors and bars. Generally speaking, sex workers engaged in the direct sex trade are poorer, paid less for their services, and serve more clients per night. The STD infection rate among them is also higher. There are many young girls who have been taken from villages, tricked into believing that they would be working as waitresses or maids, and forced to work under conditions similar to confinement. In some cases, indirect sex trade lasts from several days to several weeks. Arrangements are made to meet near an airport and go directly to places like Phattaya, Phuket, Chiang Mai, or Samui. Some drug-addicted fathers in the northern Thailand sell off their daughters to buy narcotics. In addition, in recent years, partially because of the economic development in Thailand, an increasing number of young girls from more economically deprived neighboring countries such as Myanmar and China are brought into Thailand through the Golden Triangle.

Most Japanese businessmen prefer to have club memberships and regular hostesses. On Tania Street in Bangkok, there are many clubs that cater exclusively to Japanese businessmen. In general, the charges are higher compared to other clubs. Many Japanese are willing to pay more to avoid trouble with inebriated foreigners and believe that there is a higher risk of HIV infection if they share hostesses with other foreigners.

Young Japanese, however, tend to come to Thailand whenever they have substantial amounts of money. They stay at relatively inexpensive hotels that do not cater exclusively to Japanese and where they may be more at risk for infection.

In 1967, the governments of Thailand and the US agreed on a contract to provide "Rest and Recreation (R&R)" to soldiers serving in the Vietnam War. This agreement fueled the development of the sex industry in Thailand. In 1971, the World Bank furthered the development of tourism in the country. The economic policy supported by the World Bank promoted extensive industrial development including aviation, tourism, and entertainment. The World Bank encouraged tourism as an effective tool for propelling the country's economic development. In fact, the flourishing Thai tourism has contributed greatly to its economic development. Unfortunately, the sex tourism trade has flourished along with the tourism industry.

2. The Sex Industry in Indonesia

Indonesia has a large sex industry. The city of Surabaya is infamous in Indonesia for its sex trade, where most clients are Indonesians and foreigners are rare. On Bali, some 10% of clients are other Asians and Europeans. On Kuta, half of the clients are foreigners. Clients at the more expensive establishments are mostly Japanese, Singaporean, Taiwanese or Hong Kongnese. After the AIDS epidemic struck Thailand, Indonesia, which already had a developed sex industry, replaced Thailand as a popular destination. Bali is a popular destination for homosexual clients. Forty-two percent of male homosexual clients who come to Indonesia are Europeans, 21% Australians, followed by Americans and Japanese.

3. The Sex Industry in Papua New Guinea

Although Papua New Guinea launched a 5-year tourism development plans in 1989, the number of tourists has dropped by one-third because of the country's political instability. Half of foreign tourists are Australians, who account for the vast majority of sex trade clients. Papua New Guinea is also known as a popular destination for homosexuals.

4. The Sex Industry in Cambodia

The number of foreign visitors to Cambodia has surged since 1991. In the sex industry in Cambodia, most sex workers are Vietnamese or Khmer women who have crossed the border into the country. Their clients are mainly Thai businessmen and United Nations Peace Keeping Operations (PKO) soldiers. The values of the US dollar and Thai baht are high relative to the Cambodian riel, which encourages boarder crossings for commercial sex. While the PKO played a vital role in peacekeeping in Cambodia, as the NGO called "Community" complained to the then UNTAC Secretary General Special Representative, Yasushi Akashi, that UN soldiers stationed in Phnom Penh have fueled the rapid expansion of the sex trade industry in the country. It should also be noted that the HIV infection rate in neighboring Vietnam is higher in the south closer to Cambodia than in the north closer to the Golden Triangle. Not a few sex workers in Cambodia are from Vietnam.

5. The Sex Industry in Vietnam

After the surrender of Saigon 20 years ago, the twin problems of the sex trade and drug addiction, which later led to an AIDS epidemic, emerged. These problems, coupled with unemployment, are worsening the situation in Ho Chi Minh City (formerly Saigon). In the city, which produces 30% of the country's GDP, there are 50,000 sex workers and 20,000 drug addicts, which account for 70% and 23% of the nation's total respectively. In 1992, few cases of HIV infected/AIDS patients were reported. However, in 1994, more than two thirds of patients treated for drug addiction had been infected with HIV.

6. The Sex Industry in Sri Lanka

Sri Lanka's sex industry is smaller than that in other Asian nations. It is a popular destination for pedophiles. The scale of child prostitution is estimated to be larger than that in Thailand or the Philippines and is growing. The first cases of HIV infection in the country was a young male sex worker, called a "beach boy", who had never been abroad.

IV Sex Tourism and HIV Infection

1. HIV infection Resulting from Sex Tourism

As described above, international sex tourism does not serve as the riskiest factor in HIV infection in countries where AIDS is already present. However, in some countries, sex tourism has been a significant route through which HIV entered the country.

In many countries, the first cases of HIV infection were individuals who had had sexual contact with foreigners. At an early stage in the history of AIDS, sexual contact overseas accounted for the majority of the total cases of HIV infection. However, over time, domestic sexual contact became the major route of infection. For instance in South Korea, most cases found prior to 1992 were individuals who were infected overseas. After 1992, the number of people infected through sexual intercourse within the nation overwhelmingly exceeded cases originating from abroad.

Table 3 shows the number of HIV cases among Australian males believed to have resulted from sexual transmission in Southeast Asia, occurring primarily in Thailand and the Philippines. As of March 1993, there were 17 reported cases of British nationals infected overseas. The period in which infection took place was between 1991 and 1992 and the location was Thailand for all cases.

There are two routes by which HIV is spread through sex tourism. The first is sex tourists from countries where the HIV infection rate is relatively low

Table 3 : Australian Males Infected with HIV Resulting from Sexual Contact in Southeast Asia

	Diagnosis			Sexual Contact	
	State	Year	Age	Year	Country
1	NSW	1987	30	1983~85	The Philippines
2	NSW	1990	28	1984~87	Malaysia, The Philippines, Thailand
3	NSW	1991	54	1990	The Philippines
4	QLD	1989	24	1989	Thailand
5	QLD	1989	29	1989	The Philippines
6	SA	1990	63	1982~89	The Philippines
7	WA	1990	32	1990	Thailand

NSW: New South Wales
QLD: Queensland
SA: South Australia
WA: Western Australia
Quoted from bibliographic entry (17)
Source: *Australian HIV Surveillance Report*, Apr., 1991.

visiting countries where the rate is high. The second is sex tourists from countries where the rate is high visiting countries where the rate is low. Japanese going to Thailand for the purpose of sex tourism belong to the first group, whereas Thai going to Cambodia belong to the second. In both cases, the route of infection also operated in the opposite direction. Haiti, the Philippines, Algeria, Morocco and Tunisia are countries to which HIV is believed to have been brought by foreign tourists.

2. Behavioral Factors Contributing to the Risk of HIV Infection

There are many kinds of sexual contact, from those which carry a high risk of HIV infection to those which are relatively low risk. The ones with high risk are sexual intercourse associated with insertion, especially anal insertion, intercourse without the use of condoms, and intercourse with an unspecified number of sexual partners. Although it is widely known that as the use of condoms increases, the risk of HIV infection decreases, there are various barriers to promoting condom usage.

A study conducted among Germans who had had sex with both Thai and German sex workers shows the rate of condom usage with Thai sex workers to be much lower than with German sex workers in Germany. There are primarily two reasons. The first is the economic gap that exits between industrialized countries and developing countries. Due to an unbalanced relationship resulting from this economic gap, sex workers who need money feel compelled to accept any situation no matter how risky it is, and reluctant to insist on using condoms even if they know that failure to use condoms might result in HIV infection. Furthermore, it is hard for sex workers who have language barriers and are not trained to negotiate with foreigners.

The second reason is feelings of romance. Two-thirds of sex tourists in Thailand spend several days, rather than just a one night, with one sex worker. This is accompanied with feelings similar to those experienced in romance, and leads them think their sex partner is having sexual relationship only with them. As a result, measures to prevent STD/HIV infection are ignored. A similar result was found in a study conducted among Japanese. While condoms are used at the beginning of a relationship with a sex worker, if the relationship continues, the use of condoms decreases. STD/HIV infection takes place during this unprotected period.

In some countries, access to condoms is limited. In some cases, there are virtually no condoms available. In other cases, condoms are very expensive, more expensive than sex workers can afford, or cost as much as their earnings. The same pertains to HIV tests. In some places, fake HIV-negative certificates cost less than HIV tests. Because of these two factors, there is an increase in the number of underage and new sex workers recruited, and an active mobility of sex workers. Education and information on the prevention of STD/HIV infection are far from complete.

Children, who are uneducated, are being forced into prostitution. They do not know how to negotiate with their clients. The increasing demand for uninfected sex workers is fueling the demand for increasingly younger sex workers. In child prostitution, clients tend to refuse to use condoms. Children are therefore forced into riskier behavior. A survey conducted in 1988 shows 40% of 100,000 sex workers in Thailand are under 16 years of age and the percentage of condom usage is only 5%. Those clients who wish to have anal intercourse tend to prefer young male sex workers. Some young male sex workers are not homosexuals, but are engaging in sex only to earn money.

In addition, the movement of sex workers also plays a role in the spread of HIV infection. For example, Dominican sex workers travel frequently between the Caribbean and Europe, and the majority of sex workers in Holland are originally from Eastern Europe. In Southeast Asia, young girls are brought across the border into Thailand from Myanmar and China. In Thailand, HIV infection among Thai sex workers has been leveling off, but infection among non-Thai has

been increasing. In addition, many non-Thai are not served by the AIDS program because of language barriers.

As sex workers serve more clients, the risk of HIV infection also grows because there are many more chances for non-infected sex workers to be exposed to the risk of infection.

3. Social and Economic Factors Contributing to the Risk of HIV Infection

1) The Economic Gap among Nations

When there is an economic gap between two countries, it is believed that people from the economically more powerful country go to the other country to encourage in sex tourism, as with Westerners and Japanese traveling to Southeast Asia. In addition, people from less affluent countries go to wealthier nations to work as sex workers, as it the case with women from Thailand and the Philippines going to work in Japan. In this sense, Thailand brings to mind both images. Rapid economic growth in Thailand has attracted workers from neighboring countries, with young girls illegally entering the nation to work as sex workers.

2) Domestic Economic Gap

Severe economic gaps within a country increase the factors which attracts sex tourists and increase the likelihood that the country may become a sex tourist destination. Easy access to sex is not enough to attract sex tourists. The destination must also be developed. For instance, resorts with nice beaches and comfortable hotels must be in place. In addition, the facilities have to be reasonable enough for an average citizen of an industrialized country to afford. It is the abundant and cheap labor coming from the economically deprived class who support the resorts offering services with reasonable prices. Induced by opportunities to earn cash, poor people move to big cities. Therefore, both a good transportation system and entertainment facilities nations are necessary. At the same time, there must be rural areas where economic development has not yet begun. These factors are central to certain nations flourishing as sex tourist destinations. Thailand's rapid and unbalanced economic expansion centered in big cities has permitted the country to become a foremost destination for sex tourism.

The domestic income gap resulting from rapid economic growth also produces a gap in educational opportunities. The economically deprived classes are marginalized, and in particular, women are left behind. The school enrollment ratio of boys to girls is improving. However, women are still less educated in all countries in this region except Sri Lanka. In Cambodia, the illiteracy rate among female adults is as high as 78%. A high illiteracy rate poses difficulties for AIDS prevention programs and sex education of the population concerned. It also poses difficulties for women in negotiating and gaining job opportunities.

Poverty fuels the sex trade. HIV infection is found among both the rich and the poor. However, it clearly strikes the poor more severely, as is found in the US. This is because poverty produces various factors which result in an increased risk of HIV infection.

The fact that sex workers are in a weak position increases their vulnerability to HIV infection. Because of poverty, these people do not have educational opportunities. Without education, they are forced to take whatever jobs are available to them to support their families. This is especially true of women in the villages. In addition, women who have not completed even their primary education, do not know how to negotiate. They feel compelled not to insist in any situation. Young girls forced to work under confinement in cheap hotels are not able to negotiate, and are given neither the freedom to choose their clients nor the types of services they will perform. They cannot use condoms if their clients refuse. Because they make only a small amount of money from each client, they have to serve many clients. All of these factors taken together produce a chain of high risk.

3) The Status of Women

The low status of women is also a factor which increases the possibility of HIV infection. As mentioned earlier, because their low status narrows their opportunities for education and increased awareness of the issues surrounding HIV infection and makes it difficult to negotiate condom usage, women are more at risk for HIV infection.

4) Social and Cultural Factors

In economically deprived northern Thailand, only the Buddhist temples enjoy affluence. Girls donate the money they earn through the sex trade in the hopes of being reborn as a man in their next life. In their minds, the sex trade is not a crime. Thai village societies tolerate young girls going to work in big cities for a couple of years in order to donate to temples, buy their families domestic appliances such as TV sets and refrigerators, which no village farmers can afford, and build houses. The society accepts the girls getting married and returning to lead a normal life.

Sexual services given to employers and business connections as remuneration also increase the risk of HIV infection. For instance, an Australian soccer team is offered a sex tour to Phattaya Beach in Thailand as a reward for winning a tournament, Japanese businessmen provide business partners with services as a part of entertainment, and US marines go to bustling streets on their arrival in port.

In terms of child prostitution, clients from industrialized countries seek opportunities in developing countries because they would face criminal charges in their home countries. There are also illegal organizations helping them.

5) War

War also increases the risk of HIV infection. The Vietnam War fueled the expansion of the sex industry in Thailand and the Philippines. UNTAC also caused

the rapid development of the sex industry in Cambodia. Needless to say, when soldiers are stationed in a country, the risk of HIV infection increases. After the soldiers leave, the sex industry remains as does the risk of HIV infection.

War and political instability damage the tourist industry, and brings soldiers. Soldiers, as a reaction to being away from home, and having to endure severe training and extreme stress, try to escape from the uneasiness of the impending battle. These circumstances may lead people to act in ways that they would not under normal conditions, namely, being customers in the sex trade.

The number of widows increases in war. Losing a husband or sons means losing income. War increases the number of women whose only option to support their family is working in the sex trade. In the midst of the social turmoil, rape is also prevalent and the risk of HIV infection increases. However, there is no institutional support. Organization, such as UNHCR, who deal with refugees, avoid dealing with these issues, because it is too difficult to collect accurate data on the people affected and because attacking the issue would make it harder to find recipient countries for refugees.

In spite of the decline of the total number of tourists to Sri Lanka and the Philippines, the number of tourists for child prostitution remained unchanged because their desire to do something which they cannot do without breaking laws in their home countries is greater than their fear for their safety.

4. Programs Aimed at Preventing an Epidemic of HIV and Other STDs

1) Measures within the Sex Trade

Information and education on safer sex, including the promotion of condom use have to be extended to both sex workers and their clients. Regular access to HIV tests and treatment needs to be secured. The waiting rooms of STD clinics could be a place where the provision of information and educational activities takes place. In addition, increasing the awareness of human rights could work to stop risky sexual intercourse.

NGOs involved in this area should be given more aid. Their outreach activities have to be encouraged, education on the prevention of HIV infection must be extended, and job-training in technical fields facilitated so that sex workers have job opportunities outside the sex trade. NGOs have to be formed in countries such as Laos where none currently exist. Cooperative relationships among NGOs, governments and international organizations should be strengthened. Governments of countries where the sex tourism industry exist as well as the governments of countries supplying the clients must make extensive efforts to combat the industry. Both countries need to improve the status of women, and the working conditions of sex workers and their ability to negotiate, rather than banning sex trade, because simply banning sex trade merely forces it underground. Governments should enact laws to crack down on clients, not sex workers. Clients who refuse to use condoms should be punished.

Active AIDS education in primary schools in northern and northeastern Thailand has to be encouraged because of the risk that its children will be sold into prostitution in the big cities and because it is in this part of Thailand that the worst AIDS epidemic is occurring.

One of the most pressing issues is child prostitution. However, efforts to abolish child prostitution have met with resistance due to the financial rewards and consumer demand involved in the industry. Several measures are being employed to discourage the practice. These include laws to punish the customers of child prostitution, both in the country of occurrence and in the client's home country. In addition, the media has worked to expose the industry and tourist agencies promoting it. Others have suggested that the names and pictures of child prostitution client's should be revealed. These efforts are beginning to pay off. One of the main recommendations announced at the International Conference to prevent Child Prostitution in Sweden in 1995 was passing a law to punish the customers of child prostitution no matter where it took places. In 1996, the UK passed legislation punishing persons who have returned from abroad, but who participated in child prostitution while abroad, responding to the movement by NGOs such as "Christian Aid". Collaboration among governments will be necessary to resolve the issue across borders.

2) Regulating Sex Tourism

The tourist industry itself should not be discouraged. It is wonderful to visit historical sites and religiously important places, to see beautiful scenery and natural wonders, and to receive the warm welcome of people of different cultures. The tourist industry is also promising as a route to economic development. However, it is also important to monitor, regulate and control whether sex tourism expands in association with growth of the tourist industry. As is generally known that in China measures against AIDS have to be taken in the province of Yunnan, which forms one of the borders of the Golden Triangle, and in Beijing, where the majority of reported cases are among youths in their 20s. However, it is Hainan Island which international organizations such as UNICEF have chosen as a target for their AIDS prevention programs. The World Bank has been also interested in Hainan Island for the AIDS component of its health development projects in China. The reasoning is that the tourist industry on the island is rapidly expanding. A resort which includes many hotels is being built. Labor is flowing in from the countryside, increasing the possibility of HIV being brought in and being spread. Sex tourism may accompany an expansion in the tourist industry in a region because of international and domestic economic gaps. Development programs should be implemented to control the sex trade and to find alternative sources of income so that laborers from economically deprived areas do not have to engage in the sex industry.

3) Economic Development Measures

It is necessary to reduce the economic gap between nations and regions in the long term. In addition, it is also necessary to narrow the gap between regions and genders. In developing countries, policies aimed at controlling migration from the countryside to the cities, achieving full primary education in rural areas, improving the status of women, and creating job opportunities in the countryside will, in its turn, help to prevent the growth of sex tourism.

Facilitating the diversification of industry in a nation also helps to prevent an AIDS epidemic. It is difficult for a government which is totally dependent on tourism to actively implement policies which might result in a decline in income, as well as to understand and collaborate with such activities. Because limited job opportunities help to fuel the sex trade, one way of controlling this is by developing other industries and offering a variety job opportunities to its people.

The World Tourism Forum was held in Osaka in 1994. The center of discussion was that "incentives for developing tourism were to attain foreign exchange, to create jobs, and to develop regions. At the same time, when tourism development is done on a large scale, it results in a negative environmental and social impact, including destruction of the fisheries industry, and an increase in the crime rate". The tourism development is also coupled with expansion of the sex industry, which poses serious problems to public health. Urgent measures should be taken to control such important social issues as STD/AIDS epidemic issues, organizations supplying male and female sex workers, and human right deprivation by such organizations.

V Summary

1. HIV infection spreads among sex workers through sex tourism.
2. Clients spread HIV in their home countries, including to their own partners, after returning from international sex tours.
3. International sex tourists account for a small percentage of sex industry clients, but they certainly contribute to an expansion of the industry.
4. An economic gap among nations furthers sex tourism.
5. A domestic economic gap fuels the development of the sex industry.
6. As an emergency measure, it is important to rescue the victims forced into the sex trade including child prostitution.
7. As a short term measure, providing information and education is important.
8. As long term measures, promoting the diversification of industry and reducing the economic gap between cities and rural areas by promoting industries outside urban centers are important challenges.

VI Conclusions

The AIDS issue is neither a problem which stays in one country, not a problem which one country can resolve by itself. The issue requires global collaboration. NGOs, governments and international organizations must work together to promote education and information on STD/HIV prevention, to extend direct measures including supplying instructive materials and condoms, and to extend indirect measures including education for women, the improvement of the status of women, creating job alternatives, and reducing economic gaps. While financing from other donor countries and international organizations dries up, the Global Issues Initiative (GII), which Japan has proposed, is drawing attention along with high expectations.

This paper is based on information, data and interviews collected while I was preparing my thesis for a Master's degree under Dr. Daniel Tarantola at the International AIDS Center at Harvard University in 1994. It was revised by adding the field experience I gained while attending a summer course in primary health care and social development at the University of Mahidol, Thailand in 1988 as well as knowledge gained during official trips to Thailand and as an officer in charge of international AIDS training while working at the Research Institute of Tuberculosis and the Japan Foundation for AIDS Prevention in 1995. However, this paper does not necessarily represent the opinions of any above organizations or the World Bank.

Bibliography

1) "AIDS Surveillance Iinkai Hiraku (AIDS Surveillance Committee Meeting Held)", *Shukan Hoken News* 790 (1995).
2) *Australian HIV Surveillance Report*, Vol.7, Supp12 (National Centre in HIV Epidemiology and Clinical Research).
3) Bamber, S. D., K. J. Hewison and P. J. Underwood, "A History of Sexually Transmitted Diseases in Thailand, Policy and Politics", *Genitourin. Med.* 69 (2) (1993): pp. 148-157.
4) Benzruchka, S., *Trekking in Nepal* (6th Edition), (The Mountaineers).
5) Bloor, M., "HIV-related Risk Behaviour among International Travelers, An Overview", in National AIDS Trust (ed.), *Socio-Economic Impact of AIDS in Europe* (Forthcoming).
6) Brinkmann, U. K., *Features of the AIDS Epidemic in Thailand*, Working Paper No.3 (Harvard School of Public Health, 1992).
7) Cohen, E., "Tourism and AIDS in Thailand", *Annals of Tourism Research* 15 (1988): pp. 467-486.
8) Ehreich, P., "Asia's Shocking Street", *Reader's*

Digest, Special Report (1993).
9) "End Child Prostitution in Asian Tourism", *EC-PAT Australian Bulletin* No. 6 (Jan.-Mar., 1994).
10) *The Europa World Year Book 1993.*
11) "Flirting with AIDS", *The Japan Times Weekly International* (Mar. 28, 1994).
12) Ford, K., D. N. Wirawan and P. Fajans, "AIDS Knowledge, Condom Beliefs and Sexual Behaviour among Male Sex Workers and Male Tourist Clients in Bali, Indonesia", *Health Transition Review* 3 (2) (1993).
13) Kleiber, D., *AIDS und (Sex-) Tourismus, Niedersachsisches Sozialministerium,* Edition AIDS 11 (1990).
14) Kramer, D., *Neue Erlebnisquälitaten gegen alte Gewohnheiten Niedersachsisches Sozialministerium,* Edition AIDS 11 (1990).
15) Mugbil, I., "Thailand Is '2nd Most Popular Asian Destination'", *The Bangkok Post* (Monday Mar. 6, 1995).
16) Mulhall, B. P., et al., "Planned Sexual Behaviour of Young Australian Visitors to Thailand", *The Medical Journal of Australia* 158 (Apr. 19, 1993).
17) Otani, J., *International Sex Tourism in Asia and Vulnerability to HIV* (Master's Thesis) (Harvard International AIDS Center, Harvard School of Public Health, 1994).
18) *Overview of AIDS Prevention and Control in Korea* (Bureau of Public Health, Ministry of Health and Social Affairs, Korea, 1994).
19) Phongpachit, P., "From Peasant Girls to Bangkok Masseuses", *Women, Work and Development* 2 (International Labour Office).
20) "Ripe for Rape", *The Economist* (Jan. 15, 1994).
21) Robinson, L. S., "Touring Thailand's Sex Industry", *The Nations* (Nov. 1, 1993).
22) Shiokawa, Y., "Waga Kuni deno Seiseki (The Result in Our Country), Epidemiology of AIDS in Japan", *Nihon Rinsho, Special Edition HIV/AIDS* (1993).
23) Vorakitphokatorn, S., R. Cash, T. Chosa and Y. Sakurai, *The Study of Promiscuous Sexual Behaviour among Thai and Japanese Men in Bangkok* (Japan Foundation for AIDS Prevention).
24) Wilke, M., et al., *Sexual Behavior of Gay German (Sex-) Tourists in Thailand,* (International AIDS Conference, Amsterdam, 1992, PoD 5239).
25) Wirawan, D. N., P. Fajans and K. Ford, "AIDS and STDs, Risk Behaviour Patterns among Female Sex Workers in Bali, Indonesia", *AIDS Care* 5(3) (1993).
26) Wong, M. L., et al., "Factors Associated with Sexually Transmitted Diseases among Prostitutes in Singapore", *International Journal of STD and AIDS* 3 (1992): pp. 332-337.
27) The World Bank, *World Development Report 1993.*

CASE STUDY

Management of the Revolving Drug Fund: Comparative Case Studies in Lao People's Democratic Republic

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In Laos, the National Revolving Drug Fund (RDF) Committee which was formed recently, is in the planning stages of establishing the RDF nationwide. The objectives of this study are to describe the structure of two RDF systems in this country which have been undertaken on an experimental basis in Vientiane and Khammouane Province; to compare the management of both systems, the former being a "health service-included" system and the latter, a "community-oriented" system; and to analyze the lessons which can be drawn from each system for the future RDF system.

The RDF in Vientiane has been established based on the existing health care facilities, human resources and wage structure in an effort to revitalize local health centers. The RDF in Khammouane Province aims at training rural health workers and using it as a point of departure for establishing comprehensive primary health care which covers rural areas as well. In Vientiane, the amount of procurement, retail sales prices, profit allocation, and prescriptions are decided at a practical level, whereas in Khammouane these items are standardized and things at the practical level must conform to the standard.

The Vientiane type of "self-management" system has both positive and negative aspects; the positive aspects are that this type of management facilitates autonomy and secures flexibility of management. The negative aspects are that this type of management lacks unification, the objectives of the RDF are blurred, it is difficult to monitor, it is difficult to clarify where financial responsibilities lie, and inappropriate prescriptions can be made. The advantages of the Khammouane type of "institutionalized" management include: management in villages can be simplified and it is possible to form a basis for community-based management. The disadvantages are that the institutionalization and maintenance of the system concentrates on provinces, there are a lack of incentives at interim levels, and non-experts are in control of prescriptions.

When establishing a nationwide the RDF system in the future, important issues to consider are where to settle between the "health service-included" system and "community-oriented" system, and which management system to adopt. The simplification of management in villages found in the Khammouane type is essential when expanding RDF to the community level. It is also necessary to allow autonomy to some degree to health care facilities which lie in between the community level and the national level.

I Introduction

The Revolving Drug Fund (RDF) draws attention among health sector financing in developing countries as a leading method of community financing. Many developing countries have made it a principle to provide Medicare and drugs free of charge based on socialist ideals, have no intention to collect costs, and have often defrayed the expenses by drawing money out of the national treasury. However, more and more health development projects have begun introducing a RDF system to preserve the sustainability of the drug distribution system as well as to improve the efficiency of the overall health sector.

The RDF system begins with a one time initial investment, which could be either in medicine or in cash. In the latter case, cash is spent to purchase medicine, and to form an initial medicine inventory. In purchasing medicine, medicine is chosen from among essential drugs, meaning medicines of high necessity from a medical point of view, and medicine which can be purchased at low cost because the patent on them has expired. WHO publishes guidelines and a model list to

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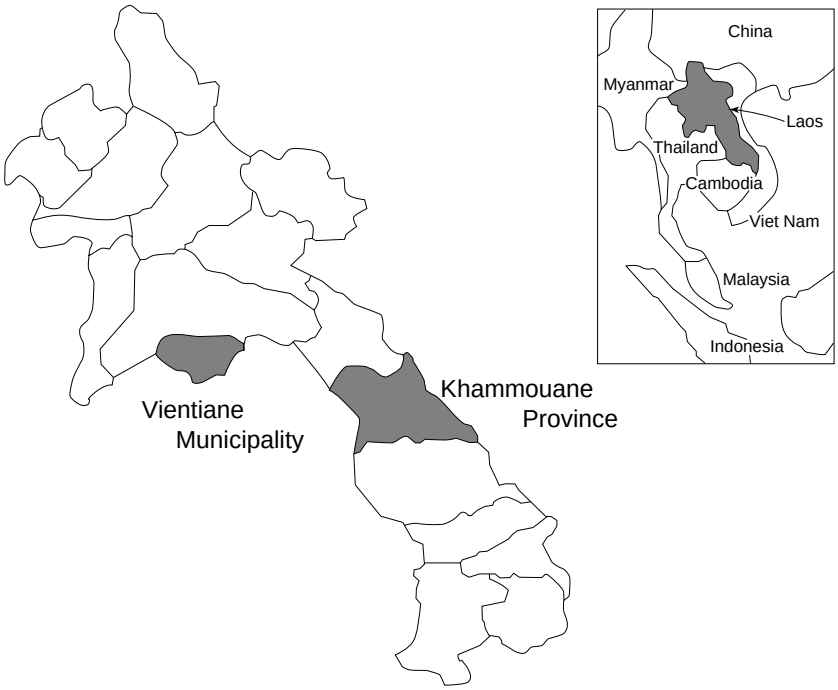

Figure 1 Location of Laos and Target Areas

be used in each country in designing an essential drug program.[1] Purchased medicine is distributed to selling points using available transportation. Existing hospitals and health centers, and medicine boxes found in the homes of local residents can be outlets for sales. After residents have bought medicine, the revenues are funneled back into purchasing new medicine. Technically speaking, investment from outside is not necessary after the initial investment because a revolving fund is formed and completely self-efficient financing is established. However, in reality, there are many factors which lead the funds to shrink or run out; for example, exemption of payment for particular medicines such as anti-tuberculosis medicine and for the poor, low retail prices, or medicine being damaged or stolen, or expiring.[2]

The expected effects of the RDF are that: (1) residents would have better access to medicine; (2) the participation of residents in public health services would be encouraged in the areas of buying medicine and managing the fund; and (3) the management ability of the community would improve.[3] Besides this, the RDF could serve as a channel to stabilize the medicine supply at health facilities, improve the utilization rates of health facilities, and make retail prices, prescription activities, directions to use medicine appropriate in places where there are many private pharmacies. The commitment and management abilities of the community are essential to making the RDF successful. The RDF requires a higher level of management compared to the free distribution of medicine. Whether there is a high level of management ability in developing countries, moreover at community level, is the major challenge facing the RDF.

The Bamako Initiative, adopted during a conference held in 1987 among the health ministers of African nations, advocated primary health care (PHC) as well as maternal and child health care financed through community financing. Based on this proposal, UNICEF backed many experimental RDFs in the region. There are reports citing that some of the trials registered success in collecting partial or full expenses on medicine.[4] In Southeast Asia, the most famous RDF project is in Thailand, where the RDF undertaken by villages is found all over the country and a large amount of research has been done.[5] In addition to Thailand, both Vietnam and Myanmar began making national policies to diffuse the RDF, backed by capital provided by

1. WHO, *The Use of Essential Drugs, Sixth Report of the WHO Expert Committee* (WHO, Geneva, 1995).
2. P. N. Cross, M. A. Huff, and J. D. Quick, "Revolving Drug Funds, conducting business in the public sector", *Social Science and Medicine* 22 (3) (1986), pp. 335-343.
3. *Ibid*.; D. Parker and R. Knippenberg, *Community Cost-sharing and Participation, A Review of the Issue* (Bamako Initiative Technical Report Series No. 9) (UNICEF, New York, 1991), pp. 8-14.
4. R. B. Blankney, J. I. Litvack and J. D. Quick, *Financing Primary Health Care, Experiences in Pharmaceutical Cost Recovery, Pritech (Technologies for Primary Health Care)-Management Sciences for Health* (Arlington VA, 1989), pp. 77-149; B. McPake, K. Hanson and A. Mills, "Community financing of health care in Africa: An evaluation of the Bamako Initiative", *Social Science and Medicine* 36 (11) (1993), pp. 1383-1405. (hereafter cited as "Community financing").
5. S. Wibulpolprasert, "Community financing: Thailand's experience", *Health Policy and Planning* 6 (4) (1991), pp. 354-360 (hereafter cited as "Thailand's experience"); C. N. Meyes, D. Mongkolsmai and N. Causino, *Financing Health Services and Medical Care in Thailand* (Harvard Institute of International Development, Cambridge MA, 1985), pp. 67-88 (hereafter cited as *Health Services*).

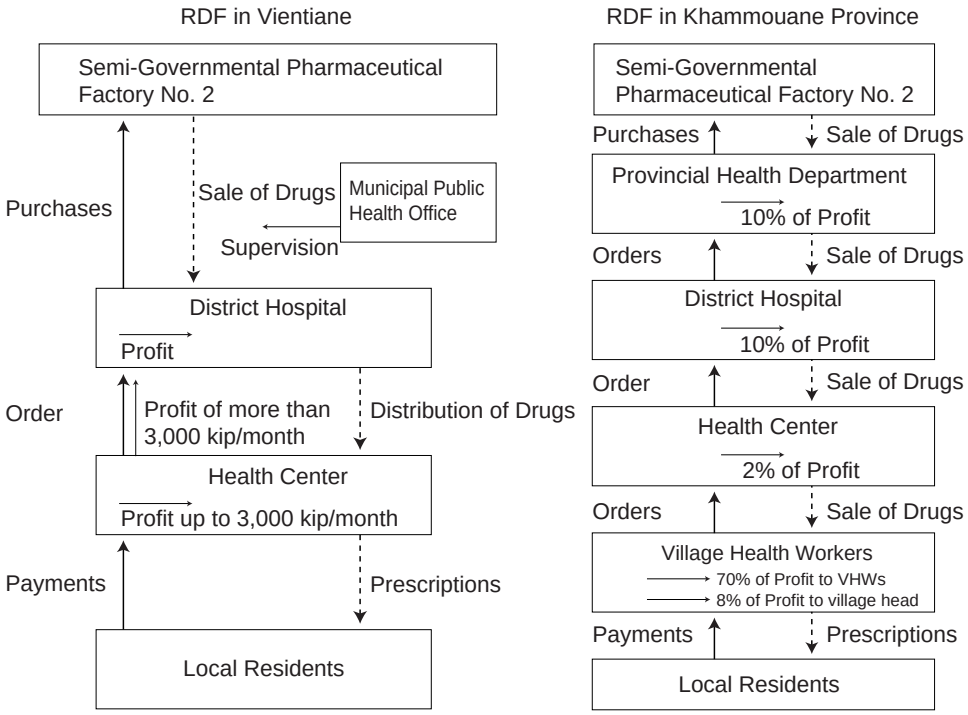

Figure 2 Flow of RDF in Vientiane and Khammouane Province
Note: ── indicates flow of money and --- indicates flow of drugs.

UNICEF and the Japan Foundation for the initial investment.[6]

In Laos, an expenditure and consumption survey was conducted on 2,937 households with 19,574 people nationwide between March 1992 to February 1993. The average household income was some 690,000 kip (approx. US$746). Expenditure on health care/medicare was 15,720 kip (approx. US$17), which accounted for about 2% of total expenses. Almost all the expenses on health care/medicare were spent on purchasing medicine, which proves that the purchasing power for medicine among people of Laos is relatively high.[7] In 1994, a national RDF committee was established . In the same year, The Japan Foundation began providing funds for medicine which accelerated the country's plans for establishing the RDF nationwide.[8] Presently, several pilot projects are going on in various places in the country.

The objectives of this study are to describe the structure of two RDF systems in Laos which have been undertaken on an experimental basis in Vientiane and Khammouane Province, and to compare the management of both systems, the former a "health service-included" system and the latter a "community-oriented" system, and to analyze the lessons which can be drawn from each system for the future RDF system.

II Subjects and Methods

The subjects of this research are two experimental RDFs, one in Vientiane and the other in Khammouane Province (Figure-1). Information was gathered through interviews with key officials, the analysis of records and periodicals, and from my own observations. The key officials in the RDF in Vientiane included the Deputy Director of the Vientiane Municipal Public Health Office, the Section Chief of Primary Health Care section, and the Director of the Dongbang Health Center in Xaithani district. The key officials in Khammouane Province were the Section Chief of the PHC Section of Khammouane Province Health Department, a JICA expert, the chief of Sisomseun village in Hinboun district, and a village health worker.

III Structure and Situation of RDF Management in Vientiane and Khammouane Province

RDF in Vientiane

1. Background and Geographical Factors

The Vientiane Municipality consists of 9 districts made up of 35 regions and 478 villages. There are hospitals at the district level and local health centers at the

6. I. S. Narula, *Bamako Initiative Programme for Revitalization of Grassroots Level PHC in Vietnam* (Review Mission Report) (Graduate School of International Health, University of Tokyo, Tokyo, 1995).
7. Committee for Planning and Co-operation, National Statistical Centre, *Expenditure and Consumption Survey and Social Indicator Survey* (1992-1993) (National Statistical Centre, Vientiane, 1995).
8. Drug Revolving Fund Committee Working Group, *Drug Revolving Funds National Guideline for Implementation* (Draft) (Ministry of Health, Vientiane, 1996).

Table 1 Drug List of RDF of Health Center in Vientiane and Community Level in Khammouane Province

Health Center in Vientiane		Community Level in Khammouane Province	
Ampicillin	Aminophyllin	Chloroquine	Dakin Solution
Penicillin	Salbutamol	Chloroquine Syrup	Neoban
Tetracycline	Codeine	Paracetamol	Bandages (Small size)
Erythromycin	Terpin	Paracetamol Syrup	Sanitary Cotton
Gentamicin	Eucalyptine	Ampicillin	Harphanky
Bactrim	Aldomet	Ampicillin Syrup	Mos-bar
Paracetamol	Adalat	Oral Rehydration Salt	
Analgine	Quinine	Elexir T	
Aspirin	Chloroquine	Berberine	
Atropine	Fansidar	Mebendazole	
Visceralgin	Lasix	Mebendazole Syrup	
Buscopan	Nystatin	Atrocarpine	
Phenegan	Glyseoflavin	Antipar Syrup	
Chlorpheniramine	Nidosamide	Phenegan Syrup	
Oral Rehydration Salt	Mebendazole	Dicophen Syrup	
Charbon	Decaris	Chlorphenamine	
Berbon	Atrocarpine	Co-trimoxazole	
Paregoric	Piperazine	Bactrim Syrup	
Imodiam	Valium	Alminium	
Antacid	Gardenal	Tan Acid	
Gelusil	Calcium	Tan Acid Syrup	
Gastropine	Vitamin B1, B6, B12	Curacid	
Sodamine	Ferrous Sulfate	Vano	
Oxyboldine	Vitamin C	Ferrous Sulfate	
Phosphal	Vitamin A	Vitamin B1	
Babydone	Dextrose 5%	Vick	
Heptamyl	Ringer Solution	Salicylate Ointment	
Solucampher	Physiological Sodium	Terramycin	
Coramine	Metronidazole	Chloramphenicol Eye Drops	
Cordiamine	Procaine	Methylene Blue	
Niketamide	Lidonaine	Mercurochrome	
Praziquantel	Adrenalin	Medical Alcohol	

community level. The RDF began in 1993 in 4 health centers with funds from the Save the Children Fund of the United Kingdom. Coupled with an initial investment of medicine received from the Japan Foundation in 1994 and 1995, RDF is now being undertaken at 22 local health centers out of the 35 that exist(the 22 local health centers are spread all over the city) as well as at all 9 district hospitals. The target population totals around 530,000. Before introducing the RDF, a survey was conducted to find out why the usage rate of local health centers was so low. As a result, the major reason turned out to be the short supply of medicine. Based on this finding, the RDF was established.

The city center of Vientiane is urbanized, but its outskirts are rural. As a metropolitan area, its population density is as high as 96.28 persons per km^2, being the highest in the country. Urbanization has proceeded rapidly compared with other areas. There are 331 private pharmacies in the city, which account for 22% of a total of 1,480 registered in 1993 nationwide. The number would sharply increase if non-registered illegal pharmacies were included.

2. Medicine Supply System

2.1 Medicine Manufacturers:

There are two semi-governmental pharmaceutical plants in Vientiane (Factory #2 and #3). As of 1992, these plants manufactured 328 items.

2.2 Procurement of Medicine:

At the end of every month, district officers, accompanied by officers from the Section of Pharmaceutical Affairs of the Vientiane Municipality Public Health Office visit plants and purchase medicines for both the district hospitals and the local health centers. This means neither medicine nor money is stored at the city level. The amount to purchase is decided by each district hospital and health center at its discretion. If stock runs out before the end of the month, additional purchases can be approved. In such cases, hospitals or health centers go directly to the factories.

2.3 Transport of Medicine:

Hospitals pay for the expenses of transport. However, it is relatively inexpensive because the factories are located within the municipality. Medicine is first transported to each district hospital from where it is distributed to the health centers. Health center officers use cars and motorcycles to transport medicine from the district hospitals.

Table 2 Income and Expenditure of RDF at Hatdokkeo Health Center, Sisattanak District between January and August 1996

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Sales	21,715	24,635	13,800	17,330	24,290	26,180	23,420	30,610
Purchases	25,000	0	21,200	28,055	0	31,150	28,000	0
Operational Cost*	11,000	2,500	0	0	3,700	3,000	1,700	0
Profit**	-14,285	22,135	-7,400	-10,725	20,590	-7,970	-6,280	30,610
Drug Inventory	95,199	72,080	81,556	109,864	85,574	96,680	113,117	115,595
Inventory Fluctuation		-23,119	9,476	28,308	-24,290	11,106	16,437	2,478
RDF Balance***		-984	2,076	17,583	-3,700	3,136	10,157	33,088
(Cumulative)		(-984)	(1,092)	(18,675)	(14,975)	(18,111)	(28,268)	(61,356)

Currency: kip (1 US$ =928 kip and 1 yen = 8.4 kip)
Note: * consists of transportation costs.
** is calculated by subtracting purchases and operational cost from sales.
*** is calculated by adding profit to inventory fluctuation.

2.4 Form and Site of Distribution:

At pharmacies inside district hospitals and health centers, RDF medicine is prescribed to both in- and outpatients, who are charged.

2.5 Inventory Control System:

Inventory is controlled by each district hospital and health center. Medicine close to expiration is prescribed first. Expired medicine is collected and exchanged for new medicine by the municipality at its own expense.

2.6 Kinds of Medicine and Prescription System:

The kinds of medicine and prescription system differ from level to level. Figure-1 shows medicine at the local health center level. Medicine at this level includes not only oral drugs, but also injections and intravenous fluids. The most frequently prescribed medicine at the Dongbang Health Center, for example, which I visited, were antibiotics (especially ampicillin and penicillin) and paracetamol (non-steroid antipyretic). Assistant doctors and midwives prescribe medicine at the local level, but at the district level, doctors prescribe medicine. However, there are no guidelines for prescriptions exclusive to the RDF. As to certain diseases such as malaria, diarrhea and acute upper respiratory tract infection, prescriptions are made according to WHO guidelines.

3. Cost Collection Structure

3.1 Formation of Initial Capital:

RDF was initially started with funds provided by the Save the Children Fund of the United Kingdom and was later expanded with drugs donated by the Japan Foundation.

3.2 Price Setting:

The Municipal Public Health Office recommends that retail prices be set with a 5% margin on the wholesale prices from factories. However, each entity determines its own retail prices. The Dongbang Health Center, for example, set a 20% margin.

3.3 Payment Exemption Principle:

Anti-malarial drugs, Vitamin A and anti-tuberculosis drugs are free of charge. There is no concrete scheme for exempting patients from paying for their purchases. Provided a purchaser claims to have no ability to pay, he/she, in most cases, is exempted from paying.

3.4 Profit Account (how profit is used):

Profits of 3,000 kip pre month (3.3 US dollars) as an upper limit are spent on the general administration at each health center. Any additional profits, if the fund is ten thousand or more, are paid to the district hospitals. At the district hospital level, both profits from its own RDF as well as the profits received from the health centers are spent on the general administration of the hospital.[9] The purchase of petrol accounts for the largest share of the RDF operational cost.

4. Finance

Although officers of the Pharmaceutical Affairs Department are in charge of financial management at the city level, they do not have a clear grasp of the city's overall earnings and expenses, or fluctuation of assets. Figure-2 shows the income and expenditure of the Hatdokkeo Health Center in the Sisattanak district between January and October 1996. The RDF Balance, which is a sum of profit and inventory fluctuation, rapidly changes over 7 months between February and August. However, overall profits amount to 61,356 kip (approximately 7,300 yen).

RDF in Khammouane Province

1. Background and Geographical Factors

Khammouane Province is located in central Laos

9. Vientiane Municipal Public Health Office, *Profit Account of RDF in Local Health Centers* (Notification) (Vientiane Municipal Public Health Office, Vientiane, 1995).

and consists of 9 districts and 939 villages. In October 1992, JICA started the Laos Primary Health Care (PHC) Project. In 3 districts in the province chosen as pilot areas, a PHC system has been established with provincial public health office as counterpart, and the RDF as an entry-point. The pilot area consists of 74 villages in total over 3 districts and covers a population of 100,000, which is 38% of the total population of the province. As of April, 1995, there were 50 villages out of 74 where RDF was being undertaken. In addition, 8 local health centers and 4 district hospitals were also extending the RDF.

Laos PHC Project has focused on training village health workers (VHW) who had previously not existed in the national health administration. The project has expanded the PHC system through the use of VHWs. Prior to this project, a survey was conducted in 898 villages (practically to village heads) regarding the health care needs in the villages. It was found that there was a strong need for a safe water supply and essential drugs. Based on the idea that the RDF is most appropriate as an entry-point for developing a PHC system, it was decided that the RDF be established.

From Thakhek, the provincial capital, only 2 district centers out of 9 are accessible by well-paved roads. During the rainy season, 3 districts are inaccessible by car as well as 70% of health centers in the province. Villages are small and located in remote areas (12). The survey conducted in relation to the project revealed that 13% of villages had private pharmacies and this number is gradually growing.

2. Medicine Supply System

2.1 Medicine Manufacturers:

The semi-governmental pharmaceutical factory in Vientiane (Factory #2)supplies medicine.

2.2 Procurement of Medicine:

The purchase of medicine is undertaken at the provincial level. The consumption of medicine is reported upward from the villages to health centers, from the health centers to districts, and finally to the provincial level. Based on this report, the province orders medicine monthly, adding an additional 30% for loss. The amount of the purchase is automatically determined based on the consumption of previous months. Therefore, the fluctuation in sales of medicine due to seasonal changes in the types of diseases and epidemics of certain diseases is only reflected in the amount purchased a month later. After confirming the reported consumption and recouping costs, the same amount of medicine as was consumed is distributed at the provincial and district levels.

2.3 Transport of Medicine:

Pharmaceutical factory #2 has an agent in the city of Thakhek. The factory pays for transportation to that agent. There are storehouses in the province and districts. From the province to the districts, medicine is first transported by tuk-tuks to bus stops, and then by buses to the districts. From the districts to the health centers, tuk-tuks, buses and boats are used. Transport from the province to the districts, and then to the health centers is undertaken as well as paid for by upper levels. From the health centers to the villages, village health workers transport the medicine.

2.4 Form and Site of Distribution:

In villages, VHWs own wooden medicine boxes which are kept in their homes as distribution points. During a visit to Sisomseun village in the Hinboun district it was observed that the VHW in the village runs a general store and had placed a medicine box in one corner of the shop. Health centers and district hospitals do not facilitate specially designated distribution sites for RDF. Therefore, the RDF is included along with regular prescriptions to outpatients (prescriptions to inpatients are dispensed at district hospitals).

2.5 Inventory Control System:

The amount of inventory is decided beforehand by the province. Medicine about to expire is used first. If medicine has expired or is damaged, it is replaced from the extra 30% in the original purchase. Therefore, it is the province which absorbs the loss.

2.6 Kinds of Medicine and Prescription System:

At present, 38 kinds of medicine are distributed to villages (Figure-1). These are oral and external medicines and do not include injectables and intravenous fluids. Injectables and intravenous fluids are distributed to health centers and district hospitals. In villages, VHWs prescribe medicine based on prescription standards, which are a simplified version of those in the WHO manual, for the treatment of 17 symptoms ranging from headache, backache, toothache, diarrhea, fever, dizziness, rash, tiredness, and shoulder ache to external injury, bug bite, stomach ache, nausea, coughing, sore eyes, anemia, and others. In the health centers and district hospitals, prescriptions depend on the prescriber's medical judgment. In Sisomseun village in the Hinboun district, which the author visited, the most consumed drug was chloroquine (an anti-malaria drug), followed by paracetamol.

3 Cost Collection Structure

3.1 Formation of Initial Capital:

Local residents put up the initial capital by buying tickets for essential drugs. The tickets are 50 kip and 10 kip notes exclusive to RDF. A thousand kip worth of tickets is sold at 1020 kip. When the formation of initial capital is in full progress, the province decides to distribute the medicine and medicine boxes. That is how the RDF begins. This type of advanced payment is possible because the local residents are committed to establishing the RDF.

3.2 Price Setting:

The retail price is set by adding a 25% margin to the wholesale price. Individuals are not allowed to set

their own prices at any level of the RDF.

3.3 Payment Exemption Principle:

The RDF does not deal with medicine distributed free of charge in national programs such as programs for tuberculosis. Mutual help among villagers is encouraged in cases where a villager fails to pay. In exchange for borrowing tickets, a villager might pay in labor or goods. Sometimes, the village head shoulders the payment by using village reserves and presents the evidence to the medical facilities concerned. The basic principle is to minimize exemptions as much as possible.

3.4 Profit Account:

Seventy percent of the profit goes to VHWs and 8% goes to the villagehead. 2%, after deducting the village's share, is allocated to general administrative expenditures of the health centers. Similarly, 10% is allocated to the districts and the province each to cover operational cost. Among operational costs, transportation accounts for the largest amount, including items such as tuktuk and bus fares.

4. Finance

The RDF was established in 46 villages at the beginning with an initial investment of 2,528,080 kip (3,466 US dollars). In the first 20 months after its establishment, the project registered sales of 5,608,880 kip (7,683 US dollars). If unused tickets were deducted the balance of 3,080,800 kip (4217 US dollars) would be gross profit (unconfirmed).[10] Because the size of the inventory is fixed, the only causes of fluctuations in the stock of medicine are damage to the medicine or the medicine expiring. The complete figures were unavailable to me. If we consider a balance of 3,080,800 kip, we can see that the fund had expanded over this period.

IV Comparison of RDF in Vientiane and Khammouane Province

Comparison of RDF Systems

The RDF in Vientiane could be described as a "health service-included" system, which uses existing health care facilities as working agents and utilizes their prescription operations. The RDF in Khammouane Province could be called a "community-oriented" system, which is established to supply medicine to villages. The former was established based on existing health care facilities, human resources and wage structures in an effort to revitalize the health care system, especially in health centers. The latter aims at training health workers in villages and making it a point of departure for establishing comprehensive primary health care which covers rural areas as well. Among RDF systems implemented in the context of the Bamako Initiative in Africa, the ones in Guinea and Uganda are of the first type; the one in Kenya is of the second type.[11] The RDF in Thailand is also community-oriented.[12] The RDF in Nigeria merits attention in the sense that it is a combination of the two. The RDF used to be at the Local Government Area (LGA), district and village levels. However after the Bamako Initiative began, the management of the RDF was shifted from the LGA to the districts and villages.[13]

By taking a look at the accessibility of local residents to drugs, the health service-included system works well in urban areas like Vientiane, where local residents have easy access to health care facilities. However, there is a strong demand for the community-oriented system in places like Khammouane Province, where there is limited access. In general, there are more private pharmacies in urban areas than in rural areas. It is difficult for the RDF to compete against these private pharmacies in the areas of accessibility and cost. In Vientiane, many residents only go to a health center after having treated themselves with drugs purchased at private pharmacies and seeing no improvement in their condition. There are many cases in which people have waited too long before going to a health center. By the time that they do go, their condition has worsened to the point that they are untreatable at the health centers. This is detrimental to the reputation of the health centers.

Comparison of Management

1. Comparison of Management Systems

1.1 Administrator:

In Vientiane, the RDF is administered by different people at different levels. At the city level, it is administered by the PHC Dept. and Pharmaceutical Affairs Dept. of the Municipal Public Health Office. At the district hospital level, it is administered by the pharmacist's staff, and at the health center level by the center's staff (assistant doctors or midwives). In Khammouane Province, the PHC Dept. of the provincial health office and JICA's technical experts play a central role in administering the RDF. However, the RDF is directly administered by the pharmacist's staff at district hospitals and by nurses at local health centers. In villages, the RDF is administered by two VHWs. In many villages, villageheads supervise VHWs and play a vital role in giving authority to the RDF. Villageheads appoint VHWs or choose among those who recommend themselves according to their level of education and reliability.

10. Health Sector Financing and Management Kenkyukai, *Yakuzai Kaiten Shikin Manual* (Revolving Drug Fund Manual) (Health Sector Financing and Management Kenkyukai, 1995), pp. 26-40 and 107-113.
11. McPake, Hanson and Mills, “Community financing”, pp. 1383-1405.
12. Wibulpolporasert, “Thailand’s experience” pp.354-360; Meyes, Mongkolsmai and Causino, *Health Services*, pp. 67-88; McPake, Hanson and Mills, “Community financing”, pp. 114-125.
13. McPake, Hanson and Mills, “Community financing”, pp. 1383-1405.

Table 3 Comparison of RDF in Vientiane and Khammouane Province from the Perspective of Management

	Vientiane	Khammouane Province
Type	Health service-included system	Community-oriented system
Objective and Role of the RDF	To strengthen the function of health centers and to improve the utilization rate of health centers among local residents	As the entry-point of a comprehensive primary health care system which includes / the community.
Major Implementation Unit	health centers (also implemented at district hospitals)	VHW (also implemented at health centers and district hospitals)
Autonomy of Management at the Implementation Unit	Higher: The amount of purchase is determined at each health facility. Additional purchases are possible. Retail prices are determined at the implementation unit. Health centers set an upper limit for profit and extra profit goes to the district. Prescription depends on the judgment of each staff member in accordance with WHO standards.	Lower: The amount of purchase is automatically determined based on consumption (+30%). Profit margin of retail prices are 25% across the board. Allocation rate of profit at each level is institutionalized. Prescription depends on guidelines based on a symptomatic approach.
Management Control at Level of Province/City	Weaker: the city doesn't have drugs in stock. The city doesn't control money. The city recommends what profit margins should be, however doesn't compel groups to meet them.	Stronger: The province has drugs in stock and controls money. The province makes institutional decisions on projects.
Management Burden at Each Implementation Unit	Implementation unit - large: An implementation unit determines the amount of purchase. The size of inventory fluctuates. Accordingly, it is necessary to control the income and expenditure of money as well as of fund including the inventory of drugs. City level -large: it is necessary to keep monitoring the income and expenditure of the overall fund as well as to intervene based on the monitoring.	Implementation unit - small: The size of inventory is fixed. The management system is simplified. A scheme which is easily understood by villagers was developed. Province level - large: It is necessary to set a framework and to continuously formulate policies to maintain the framework.
Problems and Challenges	Unclear objectives of overall fund due to lack of unity. It is difficult to monitor. It is unclear where the financial responsibility lies. Inadequate prescription.	Concentration of decision-making at provincial level as well as its dependency on JICA projects. Lack of incentives at intermediate level. Prescription by non-experts.

1.2 Incentives to Administrators:

Vientiane does not provide any incentives to its RDF staff other than an officially fixed wage. In health centers, wages are often unpaid or delayed. Main-taining momentum for the RDF among the staff is a big problem. However, a part of the profits from the RDF is spent on renovating facilities and maintaining the power supply. This might work as an incentive to improve the work place. In Khammouane Province, 70% of the profits gained in the villages goes to the VHWs and 8% goes to villageheads. In some villages, additional salary is paid in rice. There are no cash incentives to staff of local health centers or district hospitals.

1.3 Training for RDF Management:

In Vientiane, the city's health officers provide the RDF staff with 3 days of training at the beginning of the RDF implementation and one week of retraining once a year. In Khammouane Province, VHWs receive 5 days of training. First, VHWs attend lectures given by provincial health staff and districts on ways to approach symptoms, followed by group discussions and role-playing through which the participants' prescription activities are confirmed. Health facility staff receive 4 days of training.

1.4 Superordinate Supervision and Support:

In Vientiane, staff from the Public Health Office visit each RDF several times a year and provide guidance. In Khammouane Province, staff from the province or districts visit villages every 3 months in an attempt to audit accounts, compare consumption reports with inventory, and provide guidance on inventory control.

1.5 Management Information System:

In Vientiane, each health center and district hospital is obliged to report to the city on sales, purchases, profits, debts, operational cost, and total assets (both money and medicine). In Khammouane Province, each village submits an account sheet as well as monthly health reports which contain monthly data on demography and health to the health center. The account sheet is specially designed to show accumulative sales by simply circling the numbers of each drug sold during the month.

2. Advantages and Disadvantages from the Perspectives of Management Characteristics

As described in the Table 3, the RDF in Vientiane allows each entity to determine the amount of purchase, retail price, allocation of profit (at the district

level) and prescriptions, whereas the RDF in Khammouane Province sets a standard for each entity to follow. In Vientiane, the city's management control over its subordinates is relatively loose. In Khammouane Province, on the other hand, the project team, which consists of staff from the provincial health office and JICA experts, impose tight management control.

Looking at the responsibility of management, there are significant differences between the two. In Vientiane, the size of inventory changes because each implementation unit determines the amount of purchase. Therefore, each implementation unit is obliged to control income and expenditure as well as balance funds and drug inventory fluctuation. The city also bears great responsibility because it must continuously monitor the overall income and expenditure of the fund and intervene based on the results of this monitoring. In Khammouane Province, the size of inventory at each implementation unit is fixed and a simple reporting system has been developed to make it easier for villagers to understand. The province bears the major responsibility for setting up the scheme and making management decisions, such as adjusting the profit ratio and amount of purchases in the long run.

The self-control type of management in Vientiane has the following advantages:

- It facilitates the autonomy of each implementation unit regarding RDF management; which plays a vital role in raising the morale among staff as the system does not provide financial incentives.
- It secures flexibility in management. Running out of inventory or funds is avoided by purchasing drugs from private pharmacies, and selling medicine provided by the government free of charge.

However the disadvantages are:

- Management principles differ from facility to facility and the overall objectives of the fund become unclear. For example, financial risk decreases if the facility sells drugs provided free of charge by the government or if the facility runs the system by using money allocated by the government as hospital management budget instead of using its profits. The result, however, is that the financial objective of establishing a self-efficient revolving fund is not fulfilled.
- It is difficult to monitor the overall movement of capital because the management principles among facilities are not unified. A higher level of monitoring is vital because of the high degree of autonomy. In reality, the financial management done by the city is just to register figures reported by each health center and district hospital. Neither periodic totals nor analysis is conducted. Computerization has not been introduced yet.
- The areas of financial responsibility and countermeasures are unclear in cases where funds run out.
- Prescriptions by health officers tend to be certain drugs such as ampicillin and paracetamol. There are cases in which headaches are mistreated by anti-cholinergic drugs or antibiotics have been injected without intra-cutaneous test. At the same time, some medicine is abandoned without being used at all. The biggest challenge facing RDF in Vientiane is to strengthen the city's management including financial monitoring and set up of the overall scheme.

The advantages of the Khammouane-type scheme management set-up are:

- The management of each implementation unit is simplified. The management in villages especially, where there is no expert, is simplified. This enables RDF to be undertaken in villages where drugs are most needed.
- Community-based management is formed. Village-heads and VHWs play central roles in the implementation of the RDF in villages. In addition, unique ideas are applied in an effort to make villagers committed to the RDF. For instance, a survey is conducted among villagers on their needs prior to the implementation, a model village is chosen during the training of VHWs in order to arouse the spirit of rivalry, and the initial capital is collected from villagers.

On the other hand, there are disadvantages. They are:

- Responsibilities for designing and maintaining the system are concentrated at the provincial level. In particular, at present, management at the provincial level is strongly supported by able JICA experts. The biggest challenge for the future is whether the province will be able to maintain its ability in policy-making after the JICA project ends.
- Health facilities are not given the freedom to make their own decisions. It is also highly doubtful if low rates of profit allocation (2% to local health centers and 10% to district hospitals) can provide their staff with enough incentive.
- Non-experts, VHWs, prescribe drugs. The author would like to take the anti-malaria drug which is most prescribed as an example. Diagnosis of malaria is based on symptoms such as fever coupled with shivers and headache. Khammouane Province is an endemic area of malaria and chloroquine resistance to malaria registers from R1 to R2 in Laos.[14] Therefore, it is thought to be medically appropriate to give chloroquine to patients in villages based on these symptoms in order to prevent deaths caused by severe forms of malaria such as cerebral malaria.[15] It is necessary to assess the appropriateness of the medical standards used and to evaluate the prescriptions made by VHWs.

14. Lao People's Democratic Republic Kansensho Kiso Chosadan, *Lao People's Democratic Republic Kansensho Kiso Chosa Hokokusho* (Basic Research Report of Infection in Lao People's Democratic Republic) (JICA 1990).
15. UNICEF/Lao P. D. R., *Children and Women in Lao People's Democratic Republic* (UNICEF, Vientiane, 1992), pp. 55-58.

V Challenges of Management for Expanding the RDF in the Future

Based on the assessment of ongoing experiments, the government of Laos is considering unifying the RDF and expanding it nationwide. The government has come up with a nationwide plan for the RDF. The ongoing experiments of the RDF, as well-described in the two cases discussed in this paper, are unique in terms of the characteristics of the target areas as well as the sequence of implementation. Because of this, it is difficult to come up with an unified model. How to combine health service-included RDF and community-oriented RDF has not yet been clarified in the master plan. This is a critical point.

In relation to national RDF management, which organically combines all levels, from villages to the national level, it is impossible to control the overall income and expenditures of the fund if the Vientiane-type of self-management is applied, because of the large number of implementation unit. It is necessary to implement the Khammouane-type of management system, which places an importance on setting up an overall scheme and policy making, at higher levels, and at the same time to simplify operations at the village level. Because the health care facilities lie in-between these two levels, they would have to coordinate between the higher and lower levels. If health care facilities are not given enough freedom to make their own decisions, they may lose their commitment to implementing the RDF. Another concern is whether a unified model could be applied nationwide in spite of situations differing from place to place. One solution to these concerns is to decentralize the design of the RDF and policy making in order to maintain the system to some degree, but at the same time, allow higher levels to periodically monitor the financial situation, extend support and intervene whenever necessary.

The RDF in neighboring Thailand could serve as a good model for the RDF in Laos. Much research has been done on the RDF in Thailand and the social situation in the country is quite similar to that in Laos. The RDF in Thailand is community-oriented RDF, which is implemented around a village RDF steering committee [(13)]. The RDF in Thailand began in 1979 (the Fourth National Health Development Plan). In the middle of the 1980s, the total number of RDFs reached 18,000 nationwide as a result of the support of national policies. The RDF is regarded as the most successful among primary health care policies in the country in terms of the dispensing of drugs and the recouping of costs.[16] However, there are concerns such as that the initial role of the RDF, that being to increase accessibility to drugs, is fading away with the spread of private pharmacies, and that RDFs are selling some drugs which have harmful side effects, such as pain killers containing steroids.

The government of Vietnam is aiming to establish a health service-included RDF system which connects all levels from commune to nation. A primary health care committee which is supposed to be in charge of establishing the RDF has been formed across existing health administration organizations at each level. However, only 30% of the RDF could successfully organize the committee due to rigid existing administrative structure.[17] It is necessary to include all the organizations concerned in order to establish a community-based management system. This process is expected to be accompanied by difficulties.

Acknowledgment

The author would like to take this opportunity to express his gratitude to Ms. Sumiko Ogawa (former JICA expert in the Laos PHC project, Faculty of Medicine, University of the Ryukyus) and Prof. Yasuki Kobayashi, Institute of Community Medicine, University of Tsukuba for giving consideration and precious advice in the process of conducting this research. This research was conducted on a budget allocated by the International Medical Center of Japan as international cooperation contract research for the fiscal year 1996.

16. Meyes, Mongkolsmai and Causino, *Health Services*, pp. 67-68
17. I. S. Narula, *Bamaco Initiative Programme for Revitalization of Grassroots Level PHC in Viet Nam* (Tokyo, 1995).

CASE STUDY

Population Strategies in Sub-Saharan Africa: Population Education at the Community Level with Improvements in Living Standards as an Entry-Point — The Case of Enzaro in Kenya —

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This article describes the activities of population education using an improvement in the living standards approach. This has been undertaken in selected villages in western Kenya as an example of how population education can be implemented at the community level. The idea of population education with improvement in living standards is to implement population education within a framework of improving living standards, in a way that is relevant to people's lives, while promoting family planning. The activities in the selected village introduced in this paper are an attempt to put this idea into practice.

The activities are part of the program implemented by the Population Education Promotion Project which started in 1988, supported by Japan International Cooperation Agency. At the beginning of the project, the staff tried to spend a sufficient amount of time winning the trust of the local residents. Community-oriented activities which took account of the characteristics of the community were undertaken based on this trust, in cooperation with the district administration of the village. Education in family planning, health and sanitation was strengthened by utilizing a health center, which was established in response to the local people's needs, as the hub. Other activities included improved fireplaces to improve health conditions in the community, digging wells to secure safe drinking water, and smoothing communication between husbands and wives through support for the women. Women were chosen as the entry-point to the community because they showed strong interest in improving their living standards and were playing an important role in undertaking activities in the community. This choice significantly contributed to the progress of the activities.

It has been observed that people's way of thinking has changed at the individual, family and community levels since the beginning of the project. In addition, there is a positive attitude among local people towards family planning. In conclusion, for future population policies, it is effective to take a micro-level approach which takes account of the characteristics of a community and its people's values while strengthening the information and education in family planning at the national level.

I Introduction

From November 1990 to March 1995, one of the authors (Sato) worked as the project leader of the population education project, "The Project of Promotion of Population Education", which JICA undertook in Kenya in 1988. The other author (Kishida) has been working on the same project since July 1994 as an expert in community development and women in development. The purpose of the article is to introduce the activities in population education using an improvement of living standards approach which we conducted in a model village in western Kenya, and to share our experiences.

The Population Education Promotion Project (PEPP) in Kenya consists of 2 phases. The first phase started in December 1988 and ended 5 years later in December 1993. The main activities of the first phase included the production and promotion of audiovisual aids, primarily videos, related to population / family planning and training for personnel who produced and promoted these programs. The second phase began right after the first phase ended and is scheduled to end in December 1998. There are two counterpart organizations which have been engaged in these activities throughout the two phases: the National Council for Population and Development (NCPD), which plays a coordinating role in population programs and the

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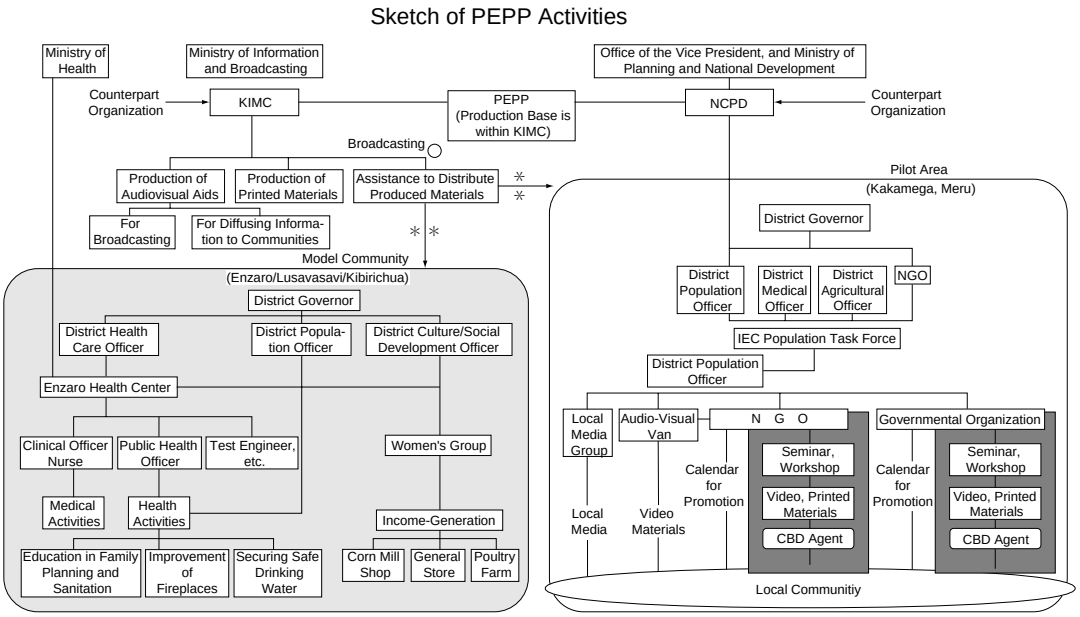

Figure 1 A Sketch of the Activities of the Population Education Promotion Project (PEPP) in Kenya and the Placement of Activities Described in This Paper

Note 1: * Distribution of materials
Note 2: ☐ activities introduced in this paper.
Note 3: ■ activities ended upon achievement of objectives. As to detailed activities and results, please refer to footnote 1.

Kenya Institute of Mass Communication (KIMC), which trains both engineers in audiovisual and printing media and journalists.

After the first phase began, the focal point of population education shifted from enlightening people about family planning to educating people to take action under their own initiative. Therefore, the strategy of activities also changed from being macro-oriented to being micro-oriented, which places a greater importance on the characteristics of a particular region and the values of its residents. In response to this change, besides educating people through TV and radio, the project trained staff, called Community-Based Distribution (CBD) agents at the district level, to promote family planning , convened video shows by using audio-visual vans and developed media at the village level.[1] In addition to these activities, the project has undertaken another activity at the village level, this being population education with the aim of improving living standards. The project aims to further fuel changes in the behavior of local residents based on the positive outcome of activities extended in the past by the Kenyan government, local NGOs and foreign aid organizations in the area of population education. Specifically, it aims to promote a change in behavior; that is, those that have not used contraceptives before, come to use them. This report focuses on this program (Figure 1). Although the program is still in progress, this article only deals with activities between August 1991, when the project began, through March 1995, when one of the authors (Sato) was about to leave the project.

II Idea of Population Education using Improvement of Living Standards in Sub-Saharan Africa

Africa, among developing countries, registers the highest population growth. In relation to this, Mr. Shigemi Kono[2] pointed out that there is a widespread understanding among population experts that the level of socio-economic development is very low and there is hardly any sign of demographic transition occurring. For example, Mr. Leon Tabah, a Frenchman who was

1. As to activities at both the district and village levels, please refer to the following articles:
<District Level>
Masami Yamamori, "Tojokoku niokeru Jinko Kyoiku Joho Hukyu (IEC) Katsudo: Kenya Jinko Kyoiku Sokushin Project wo Jirei toshite" (Population Education Information Promotion (IEC) Activities in Developing Countries: With Special Reference to the Kenya Population Education Promotion Project), *Kokusai Kyoryoku Kenkyu* 9 (1) (1993): pp. 107-118; Masami Yamamori, "Jinko Kyoiku/Kyozai Kaihatsu to Hukyu Katsudo no Syuho: Kenya Jinko Kyoiku Katsudo Project wo Rei toshite" (Population Education/Material Development and Method of Promotion Activities: With Special Reference to the Kenya Population Education Activity Project), *Kokusai Kyoryoku Kenkyu* 9 (2) (1993): pp. 79-92.
<Community Level>
Tokiko Sato, Kiyofumi Tanaka and Tomoko Ochiai, *Sahara Inan Africa niokeru Jinko Taisaku: Sonraku Level no Jinko Kyoiku: Kenya, Kakamega narabini Meru deno Katsudo Jirei* (Population Strategies in Sub-Saharan Africa: Population Education at the Community Level: With Special reference to Activities in Kakamega and Meru in Kenya) (in print).
2. Shigemi Kono, "Sekai no Jinko Mondai no Atarashii Kyokumen" (A New Phase in the World Population Problem), *Jinko Mondai Kenkyu* 46 (2) (1990), pp. 1-16.

the director of the population division of the United Nations for 10 years, cited that unlike other areas of the world, in Sub-Sahara Africa, the so-called "Black Africa", there is constant turmoil and maladjustment in the population, economic and social spheres.

In fact, Africa, especially Sub-Saharan Africa, has many problems. The region as a whole suffers from remarkably low rates of school enrollment and literacy as well as a low number of doctors per capita. There are no definite policies or plans for family planning. Neither the infrastructure nor the funds for constructing it are adequate. Looking at both the community and individual levels, there is vast poverty.

The State of the World's Children compiled in 1994[3] finds that poverty fuels increases in population and deterioration of the environment, which in turn worsens the poverty. This is the vicious circle facing developing nations. What makes the problem more complicated is the fact that there are many issues involved, such as the history of Africa, deep-rooted beliefs and ideas exclusive to certain ethnic groups and social classes[4] as well as recent social and economic changes.[5]

The problem is sometimes too complicated for people outside of Africa to understand. The reason why there has not been a satisfactory outcome even though a lot of aid agencies have been involved in population / family planning may be that a basic understanding of the region and also basic research have come out of the one-sided analysis of aid providers. We strongly suggest that aid providers learn the characteristics of Africa as a region and hold serious discussions over what is the most suitable way for Africa to promote family planning.[6]

The goal of family planning projects is to encourage people to voluntarily change their behavior. Considering the aforementioned situation in Africa, population/family planning projects are not able to achieve their goals unless a wider range of activities is undertaken, instead of only concentrating on health care aspects such as the provision of contraceptives and maternal and child health care.

What is the purpose of family planning? It is to improve the standard of living, not just for husbands or wives, but also for couples and families. This is why we suggest adopting a framework more relevant to people's lives, that being the improvement of the standard of living when extending population education at the community level, and also taking the community's characteristics and people's values into consideration.[7] The activities which we would like to introduce in this report are the pilot programs in which this idea has been put into practice.

III Activities in Enzaro Village and Lusavasavi Village

1. Target Area

The project selected two villages, Enzaro and Lusavasavi, from among villages in the Vihiga district in western Kenya, one of the project's pilot areas for population education in combination with an improvement in living standards. The Vihiga district is one of the pilot areas of the project (In 1994, a similar project also began in the Meru district, which is another pilot area). The Vihiga district is known for its high population density because the climate and soil in the district make it suitable for agriculture. Enzaro and Lusavasavi (referred to only as Enzaro from now on), are located in a ravine. The number of households in both villages totals 250. A glance is enough to see that the cultivated acreage is very limited. Therefore, the villagers are poor, with little cash income. In addition, Enzaro had been totally ignored in the development projects by the district administration before this project started (Figure 2).

People in Enzaro belong to the Luhia ethnic group. More specifically, they are Maragolis. The areas where Maragolis reside, including Enzaro, have a greater population density for their limited cultivated acreage. Many people go to big cities such as Nairobi to work. The population of Enzaro is 1,610 (Enzaro: 812, Lusavasavi: 798). The number of children below 15 years old accounts for 44% of the total population, which is the case in the rest of the country (Figure-3).

However, the birth rate and infant mortality rate in

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3. UNICEF, *The State of the World's Children* 1994 (Oxford University Press, New York, 1994).
4. For instance, indigenous beliefs, and customary laws such as polygamy.
5. For example, disruption of tribal rules accompanied by modernization, lack of sexual morality education in modern education, and increasing numbers of people (especially men) going to big cities to work.
6. Sheikh Hamidra Kane, who was Minister of Planning and Cooperation of Senegal in 1987, argued the same in his essay entitled "Create a New Development Model to Resolve Problems Facing African Countries" (Japanese title: Shinkaihatsu Model no Sozo). He wrote, "In addition to aid from foreign nations, diverse methods and knowledge of the African region are essential in connecting development with the reality of African society. Most problems facing African nations are truly exclusive to the region. At the same time, African strengths are also exclusive to the region. However, only appropriate assistance activities in response to each circumstance can bring out these strengths. It is important to plan development projects according to the circumstances and problems woven by the cultural and physical conditions of the region. What is needed today is a new concept of development, and new policies to implement that concept, and new methods to train staff who carry out the changes. The ultimate goal is to create development projects which could respond to different needs of different cultures." A quote from: UNICEF, *Africa Kiki karano Dassyutsu: Ningen Jushi no Kaihatsu wo Mezashite* (Escape from African Crisis: Toward Human-Oriented Development) (Toyo Shoten, 1987), pp. 20.
7. Tokiko Sato, "Kenya Jinko Kyuzo Mondai ni Torikumu Igakuchirigaku no Genba" (Practice of Medical Geography to Cope with Rapid Population Increase in Kenya), *Chiri* 36 (12) (1991), pp. 30-34.

   As to improvement of living standards, P. Oakley left a superb work from the perspective of people's participation. P. Oakley, et al., *Projects with People* (International Labour Office, Geneva, 1991). Japanese translation: *Kokusai Kaihatsuron Nyumon: Jumin Sanka niyoru Kaihatsu no Riron to Jissen* (Introduction to International Development: Theory and Practice of Development through People's Participation) (Tsukiji Syokan, 1993).

   The direct translation of seikatsu kaizen gata jinko kyoiku would be population education with improvement of living standards. However, it would be easier to understand if using a term of community-oriented population education, instead of its literal translation.

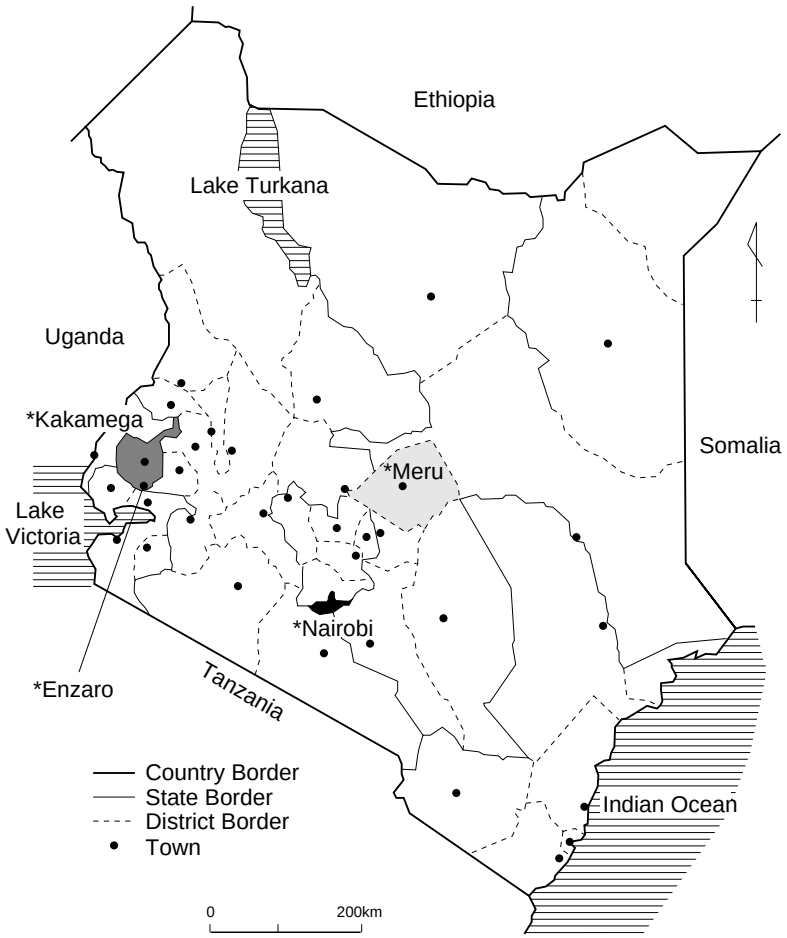


Figure 2 Geographical Location of Enzaro

Enzaro are much higher than in other areas. For instance, mortality rates among infants and children below 5 years old in this area between 1981 and 1991 registered 68.5 and 139.1 out of 1,000, respectively. These figures are higher than the averages of both western Kenya and the whole country during the same period (Table 1). The mortality rate for children under 5 years old is particularly high. In addition, the total fertility rate (TFR) among women between the ages of 15 to 49 registered 7.83 (between 1987 and 1991) and 8.42 (1991), which is much higher than the average of 6.4 for western Kenya (1990-1992) and 5.4 for the whole nation (1990-1992).[8] All these figures indicate that there still exists a high birth rate-high mortality rate pattern in Enzaro.

Table 1 Comparison of Infant and Child Mortality Rates in Enzaro, Western Kenya and Nationwide (1981-1991)

1981-1991 / Area	Infant Mortality Rate (per 1,000 births)	Child Mortality Rate (per 1,000 births)
Nationwide	62.5	93.2
Western Kenya	63.5	109.6
Enzaro	68.5	139.1

Source: Refer to footnote 8.

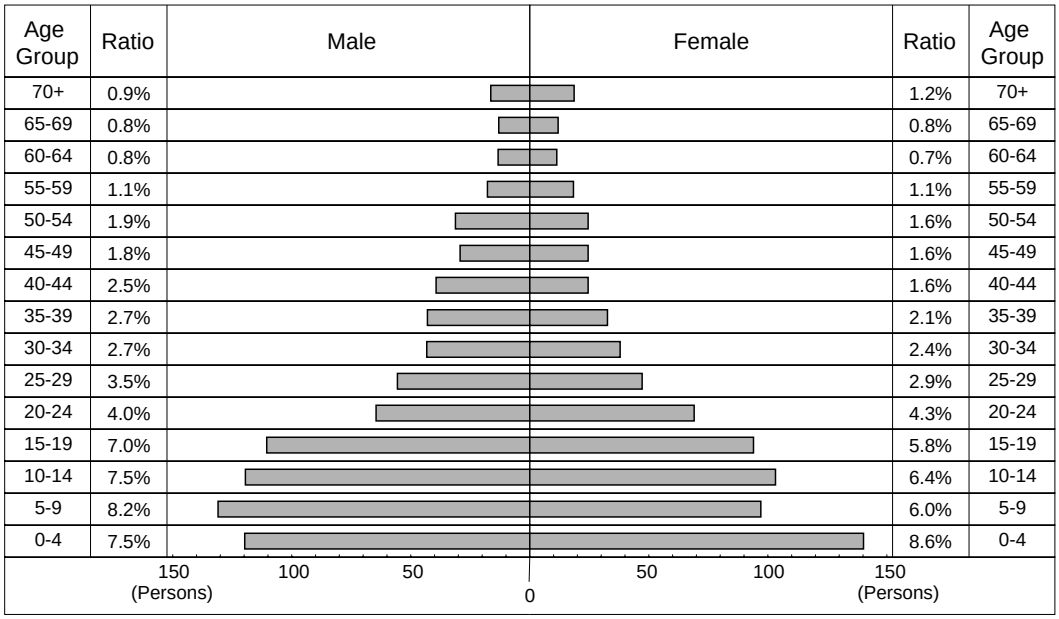
2. Activities during the Preparation Period (from August, 1991 to January, 1993)

The activities in Enzaro began in August, 1991 as mentioned earlier. However, prior to this, one year was spent primarily on preparation. Activities during the first year included: 1) basic surveys of household structures, and the health and nutrition of the population and infants/children; 2) a probe into the residents' needs; and 3) building a relationship of mutual trust between the residents and staff.

1) Basic Surveys on Household Structures and the Health and Nutrition of the Population and Infants

The first activity in Enzaro was to research the household structure in the area; the residents' understanding of family planning, their attitude toward it, and how many of them were actually practicing it; the number

8. Data on Enzaro and Lusavasavi was collected during the baseline survey on demographic characteristics of local residents and infants/children's health conditions which we conducted in August 1991 (unpublished). Data on western Kenya and the whole nation is based on the Demographic and Health Survey 1993 〔source: Government of Kenya, *Kenya Demographic and Health Survey 1993* (Ministry of Home Affairs and National Heritage and USA Macro International Inc., Nairobi and Maryland, 1994)〕.



Total population: 1,610 persons (as of August, 1991)
Male: 853
Female: 757

Figure 3 Population Composition of Enzaro according to Gender and Age

Note: There are 13 persons of unknown age, out of the total population of 1,610.

of children; and the health and nutrition among the infants/children. The survey helped in understanding the family structure among the people, the current situation of family planning, and the level of health and nutrition among infants/children. A population survey will be conducted again at the end of the project to measure how much impact the approach of improving the standard of living had on family planning practices.

In addition, it would be desirable to quantitatively evaluate the mid-term outcome in areas of, for example, decreases in the number of diarrhea cases, increases in income, and changes in awareness and behavior at the individual, family and community levels (as to these activities, please refer to II-3 and IV of this article).

2) Probe into Residents' Needs

It was decided that the entry-point of population education at the community level would be the improvement of the standard of living, but specific activities had not been decided. In order to determine which activities should be undertaken, it seemed that it was essential to observe life in the village, and to have dialogs with the residents to understand their needs. Otherwise, the project would remain an outsider's project and would never be taken over by the local people. Taking this into consideration, the village was visited frequently to observe people's lives and to have as many opportunities as possible to talk with them. As a result, it became clear that the residents had several complaints, among them poor drinking water, a lack of nearby medical facilities, and there was no entertainment in the village. They strongly desired to improve the situation.

3) Build a Relationship of Mutual Trust between Residents and Staff

We and our colleagues made a tremendous amount of effort to win the trust of the residents. As described before, it became clear through dialogs what the residents really wanted in order to improve their standard of living. It was thought that the quickest way to win trust was to take action to cope with these issues. Based on this idea, the following three actions were taken. First, a free medical examination day was held on two occasions in the first year.[9] The result was so successful that we, the organizers, and doctors were both quite surprised. Both times, examinations far exceeded the scheduled hours (The number of patients totaled 578, of which 463 were residents of Enzaro). The second action was to show video programs in the village. The audio-visual van was brought to the village and a double-feature program was shown, one for family planning, and maternal and child healthcare, the other for entertainment. Such shows were held 6 times in total over one and a half years. The third activity was to inspect the quality of water at watering places.[10] Technical guidance on the inspection was sought from

9. This free medical examination was a success. Mothers with infants were the most prominent among visitors. Blood and urine tests were also provided and many residents took the tests. However, young males were most reluctant to take these tests because they feared these tests were for syphilis.
10. No household in the village has a water supply and they primarily use water from the river. However, there is a small-scale public waterworks at the center of Enzaro. As a result of the inspection, it was proved that only this waterworks supplied relatively safe drinking water.

Figure 4 Sketch of Population Education with Improvement of Living Standards in Enzaro

a JICA expert who was working with the Ministry of Water Resources of Kenya.[11]

The outcome of these three activities was that the villagers came to recognize us and our colleagues, and there was an understanding among them that this project was intended to bring something good to their village. However, it was not until a health center was built and fireplaces were improved that their trust was truly won.

3. Specific Activities (between February 1993 and March 1995)

Specific activities undertaken at the community level centered around two kinds of activities: educational activities and activities to improve living standards. The activities took into account the observations of and dialogs with residents as well as the knowledge and experience of us and our colleagues (Figure 4). The activities were broken down as follows:

a) Educational Activities

- to strengthen education in family planning and sanitation

b) Activities to Improve Living Standards

- to improve healthcare in the community
- to secure safe drinking water
- to improve relationships among family members (through support for women)

1) Strengthening Education in Family Planning and Sanitation

Under this project, a health center was opened in Enzaro in April 1994. This health center is unique in Kenya. In this country, health centers as seen in Japan don't exist and preventive medicine is badly behind. This health center was established to be used not only for medical treatment, but also for health and family planning education, and community activities. Currently, the staff provides visitors with family planning and sanitation education in a seminar room attached to the center. Moreover, the center periodically invites experts to give talks on improving living standards in general, including how to grow vegetables and make ends meet. The seminar room is also used for activities which allow staff to have contact with residents.

2) Improving Health Care in the Community

Enzaro is inconveniently located. The closest health center was 20 kilometers away. Naturally, residents didn't go to see doctors except in the most severe cases. Even if they wanted to use contraceptives, being distant from the facility prevented them from going. This is the reason why, as mentioned before, this project opened a health center in Enzaro to improve the health care in the community.[12]

Another activity was to improve the fireplaces in an effort to decrease diarrhea among children. The following three facts supported the need to make improvements:

• Based on the results of stool examinations conducted during free medical checkups, it became

11. The authors accompanied the expert and the area chief to the inspection. It was quite shocking when several men approached us holding traditional swords called panga.

    The public waterworks was the only source confirmed safe enough to drink. The staff asked the chief to recommend to residents, especially those who didn't boil water before drinking it, to acquire drinking water from this source.

12. The Ministry of Health only assumes responsibilities for dispatching staff to the health center and distributing drugs which are provided free of charge primarily by aid agencies. Therefore, it is possible that the free distribution may be discontinued at the convenience of the agencies. In addition, the health center doesn't have enough money to repair medical equipment or buildings, or to buy new equipment. Unless the community members take care of their health center, it will fall into disrepair and disuse. This is why a health committee was voluntarily formed in the community when the center was opened. The committee facilitated provision of labor among community members during the center's construction. After completion of construction, it took part in management. However, the biggest problem facing the committee was its lack of capital since it was composed of volunteers (mainly elderly). Therefore, it was decided that half of the profit from businesses run by the women's mutual help group and TBA group would be spent on maintaining the center. Needless to say, agreement from both groups was sought prior to the decision.

clear that many residents of Enzaro host parasites (about 67% of people who took the test). Therefore, it was necessary to guide them into the habit of keeping a pot on the stove so that there is always boiled water to drink, and drinking it instead of unboiled water.

• A conventional three-stone fireplace consumes more fuel than is necessary. In addition, it takes longer to cook food.

• Improving the fireplaces would decrease the risks of diarrhea and burns among children, skin diseases among family members, and back pain among housewives.

Rebuilt fireplaces were received better than expected and within 3 months or so all households in Enzaro had one. This activity helped to put the idea of living standard improvement into people's minds. At the same time, it made the staff realize how important it was to undertake activities which had real relevance to people's lives.[13]

3) Securing Safe Drinking Water

Residents knew securing safe drinking water was vital. But why didn't they use it? The answer was simple. There was no safe drinking water available to them. They needed a well, but digging a well cost as much as 1 million yen. Fortunately, the Finnish International Development Agency (FINIDA) had been promoting well-digging in western Kenya, where Enzaro is located, and it had been decided that if the community would bear 30% of the cost, a well would be dug as soon as the community applied for it. It was decided that the project would bear 30% and digging began immediately.

As soon as the contract was signed, staff from FINIDA came to Enzaro to conduct geological research because there had been cases where no water was found for geological reasons. Fortunately, it turned out that there was plenty of water and wells were dug at three locations in the village. One is on the grounds of the health center. Another one is on a poultry farm run by a group of traditional birth attendants (TBA) and the last one is by the corn mill shop run by a mutual help group of women. The reason why the above three locations were chosen was that it was necessary to guide all three parties, those being the health center, the TBAs and the women, to take care of the wells themselves.

4) Improving Relationships among Family Members (Support for Women)

A husband and a wife have to decide how many children they are going to have when practicing family planning. However, Kenyan men are still uncooperative in family planning. After examining how to bring about a dialog between husbands and wives, we concluded that support for women was necessary in order to help them feel more confident about themselves. Therefore, the mutual help group of women and the TBAs[14] were called to hold discussions.

Through the discussions, it became clear that women wished to undertake activities in order to earn cash which they could spend as they pleased. Based on this finding, it was decided to open a general store, a corn mill, and a poultry farm. The reason why all these enterprises were limited to food was that improvement of nutrition in the community was also desired by encouraging people to consume products at home, in addition toselling them in the market. All the buildings related to these enterprises, from shops to hen houses, were built jointly by group members.

IV Characteristics of Activities in Enzaro

Activities in Enzaro have been going very smoothly. We believe that the reason is that activities in Enzaro have certain characteristics. This section deals with these special features.

1. Women as an Entry-Point to the Community

Community leaders, the village chief and senior members were first asked for advice regarding specific activities to improve the living standards. Needless to say, these leaders are primarily men. However, after closely observing the situation in the community, it became clear that the roles and natures of the genders differed. For example, men are cautious to outsiders, whereas the women are open. Second, women are more interested in improving their standard of living. This stems from the fact that women are in charge of rearing and educating the children, maintaining the health of family members, and taking care of the elderly.

The supply of drugs is of course in compliance with the principle of the Bamako Initiative. However, it has been pointed out that there is a problem with the Bamako Initiative, that being the principle works well when drug prices are stable, but once prices increase due to inflation or some other reason, there is the possibility that getting necessary amounts of medicine may become impossible due to monetary shortages. Regarding this, please refer to: Masahide Kondo, RDF no Model to *Ippanteki Mondaiten: Yakuzai Kaiten Shikin Manual* (A Model of RDF and General Problems: Revolving Drug Fund Manual) (Health Sector Financing and Management Kenkyukai, 1995), pp. 48-53 and B. McPake, K. Hanson, A. Mills, "Community Financing of Health Care in Africa: An Evaluation of the Bamako Initiative", *Social Science and Medicine* 36 (11) (1993), pp. 1383-1395. It is necessary to give serious thought to this matter before implementing the principle.

13. It is said that distributing improved fireplaces was not very successful in western Africa and some have pointed out that this is because "there is a gap between the environmental conservation measures which we in the North seek and the reality on the ground in Africa." (Makoto Katsumata, "Africa Jin nitotteno Kankyo Mondai" (Environmental Issues for African People) in Masao Yoshida (ed.), *Yomigaeru Africa* (Reviving Africa) (JETRO, 1993), p. 26. Katsumata enumerated reasons for improved fireplaces being unsuccessful. We found one of them particularly important, that is, "project executors try to diffuse the same fireplaces uniformly without taking regional differences into consideration." However, we would like to add based on our own experiences: (1) improved fireplaces don't have enough contrivances to appeal to the people; and (2) residents don't fully understand why it is necessary to improve their fireplaces. In any case, it is noteworthy that improved fireplaces won popularity in Enzaro, even though they didn't in western Africa.
14. In most villages in Kenya, there are a couple of women's groups whose objective is to help one another, including a group of TBA. The government stimulates formation of groups for the purpose of encouraging people to help each other in order to make up for the government's lack of capital. In general, each group consists of 20 to 30 members.

Moreover, it became clear that women play an important role in local activities. Men attend formal village meetings and discuss issues in the village. However, when it comes to carrying out activities, women are in charge in most cases. Accordingly, the staff came to the conclusion that the project would progress more smoothly if women were chosen as an entry-point to the community since the women showed a strong interest in improving their standard of living and are responsible for undertaking activities in the village. As a result, improvement of the kitchen, which occupies a vast majority of women's daily milieu, and more specifically improving the fireplaces, were chosen as the first steps among various activities to improve the standard of living.

2. Community Oriented Activities Which Place an Importance on the Specifics of the Community

What concerned us most when undertaking the project was not to extend self-righteous activities which ignored the peculiarities of the community, but to extend community-oriented activities which placed importance on such peculiarities. The most prominent example of such concern is the income-generating activities of the TBAs and the women's mutual help group. What we were most concerned about when extending the income-generating activities was making the activity challenging by requiring new skills, but not too difficult, and being familiar with the life in the village.

The women's group expressed their desire to run a corn mill shop and a general store. The project staff decided to support their decision because running a store is relatively easy, and it is a good opportunity for the members to receive basic training which they can use later when they move on to larger scale business.

The TBA group didn't know what they wanted to do. The diet in Enzaro is based on the traditional African ethnic diet and is exclusive to this region. People in Enzaro not only eat a lot of vegetables, including wild plants exclusive to this region, but also keep fowl, such as chickens, pigeons, quail and turkeys in their houses, as a protein source. Fowl is important in the traditional diet and it is not unusual for people to raise them. The project staff paid attention to this point and proposed that the TBA group run a poultry farm. They gladly agreed to the proposal.

Both the women's group and the TBA group were novices at running a business, which initially concerned the project staff. Therefore, a seminar was held for representatives of both groups. The contents of the seminar included the necessary skills to run a business, such as accounting, how to wait on customers and marketing. In addition, the TBA group was taught how to use an artificial incubator since they didn't have the technology to hatch eggs.

3. Cooperation with the District Administration

One common problem that grass-roots activities extended by NGOs and communities face (the community in this project) is how to keep close ties with the district administration. This project and the district administration, although the district office was not a counterpart, have maintained a close relationship in carrying out the activities. For example, the governor and public health department took the initiative of establishing the health center, from initial planning stage to actual implementation. The fence surrounding the center as well as the plants on its grounds were all provided by the district office. Public health officers stationed at the center are in charge of undertaking education in family planning and sanitation in the seminar room. Administrators from the district office also come to give talks whenever necessary. In addition, thanks to the governor's endeavors, the central government stepped in to finance the construction of dormitories for the staff of the center when he found out that the community had run out of capital.

There are two reasons why this project promoted cooperation with the district office. First of all, it is natural for community activities, including this one, to be placed firmly within the overall administration land to be extended by turning to the administration for support. Secondly, it was unlikely that the counterpart organizations of this project and the Ministry of Health would bear the project expenses in Enzaro, except for the salaries of the health center staff. Therefore, it is expected that the administration will assume some responsibility, as the local government, by giving the community a helping hand if it needs advice or aid after the project ends.

V Outcome of Activities to March 1995

Awareness among the residents of Enzaro improved at all levels; that is, at the individual, family and community level, as a result of the activities undertaken up to March 1995.[15] In summary,

- At the individual level, women began having confidence in themselves;
- At the family level, husbands began showing their understanding and support of their wives' activities; and
- At the community level, an awareness of an improvement in living standards began to grow among local residents.
- Now, we would like to explain these changes in greater detail.

1. Women Began Having Confidence in Themselves

When we questioned the former chief of Enzaro (87 years old) whether he thought the women in the village had changed, he said, "Women in old times received

15. This project is a so-called problems-resolving-project, which takes the stance of achieving the project goal by resolving problems. Because of this, we felt it was necessary to include all the favorable changes found in the process of achieving the objectives in this article and to evaluate them as outcomes of the project.

practical training in agriculture and other things. However, women today are more interested in learning how to read and write." The next question to him was what he thought, as a man, about the activities the women are engaged in at the moment. He answered, "I don't like it very much because if women are educated, they look down on men. But I will keep my mouth shut and see for the time being." We observed women becoming more confident rather than looking down on men as the former chief worried. It is undeniable that women have become more vocal inside the family as a result. Changes in women's awareness have resulted from the pride they feel in being leading players in the development of their community and that they are making money, or at least are able to make money.

2. Husbands Began Showing Their Understanding and Support for their Wives' Activities

Many women reported that their husbands became more gentle and cooperative at home. It is believed that husbands changed because they understood that their wives were undertaking activities which benefited them. For instance, husbands do not complain any more if their wives cannot come home in time to prepare dinner. In addition, husbands have begun to help their wives in farming, which in the past was primarily done by the women.

3. Awareness of Improvement of Living Standards Began Growing among All Local Residents

As a starting point in the improvement of living standards, the improvement of fireplaces was undertaken. In many cases, husbands, who used to be reluctant to be in the kitchen, helped their wives to rebuild their fireplaces. In some cases, husbands were so enthusiastic that they made fireplaces by themselves. Wives unexpectedly gained support from husbands who used to have nothing to do with the kitchen. In short, activities which at the beginning were undertaken through women expanded to include men too. The men began to change their way of thinking. This change is epoch-making considering how uncooperative men had been at the beginning of the activities, when they actually ran away when they saw a project car. This was because the main objective of the project was to promote family planning.[16]

VI Challenges

This project is an experiment in population education with the aim of improving living standards and promoting family planning, which means that the experiences of the project are to be applied as a model to other areas. Enzaro is particularly left behind economically and socially, and in the area of family planning practice in the district of Vihiga. Because of this, the Japanese side bore all the costs in establishing the health center, digging wells, and preparing for income-generating activities. More specifically, the Japanese side's expenditure, over the period, on activities in Enzaro totaled 17 million yen , which is quite high for community activities.[17] Substantial amounts of money were spent on constructing the health center, although this was inevitable in order to build one in line with standards set by the Ministry of Health. We now understand that a sub-health center with fewer functions would have been sufficient, considering that it would be possible to work in closer cooperation with health centers in other areas.

In addition, we also regret that too much money was spent on constructing buildings for income-generating activities. Enzaro is an extreme example in the sense that it consumed massive time and capital due to its regional characteristics. Considering Enzaro as a model case, it is necessary to set a limit on capital investment for future projects.

VII Future Prospects

The project in Enzaro is only two years old, excluding the preparation period. It will take at least three to four more years to evaluate the outcome of population education using the improvement of living standards approach (The goal of the project is to increase family planning practice rates among residents and the long term goal is to keep the birth rate low.) A positive attitude towards family planning hasalready been observed in Enzaro. This suggests that the activities to improve living standards which were devised as an entry-point to population education are making steady progress towards this goal.

As activities in Enzaro began producing good results, they came to be placed as one of the projects by the district. The administration recognized their effectiveness, and began preparing to implement similar activities on a smaller scale in other communities. According to the governor, there are inquiries from other districts. Activities which started in one community could be expanded to the district level, and potentially to other areas, which indicates a big step to the devel-

16. A program of improvement of living standards undertaken in San Miguel, the Philippines, registered results similar to this project. They include: (1) women came to be more confident and proud of themselves; (2) women came to be more interested in macro-industrial policies through their activities; and (3) husbands came to show understanding and cooperation towards their wives' activities (JICA, *Kaihatsu to Josei Kokusai Seminar Hokokusyo: Field karano Hokoku ni Manabu Josei no Sanka wo Takameru Kyoryoku* (A Report of International Women in Development Seminar: Cooperation to Increase Participation of Women based on a Report from the Field) (JICA Institute for International Cooperation, 1992), pp. 23-32.
17. A breakdown of expenditure on Japan's side is: 10 million yen for constructing the health center, 1 million yen for digging 3 wells, and 6 million yen for income-generating activities (5 million for constructing a corn mill shop, a general store and a poultry farm, and 1 million for purchasing a grinding machine). The chief of Enzaro held Harambee (which means community members provide money, materials or labor in order to achieve a certain objective of the community, such as the construction of a school) several times to raise money, but the amount raised was as little as 100,000 yen.

opment of such activities in the future.[18]

In closing this article, we would like to express our deepest gratitude to those who gave constant support in promoting this project.

18. The summary of this paper was presented during a seminar convened by University of Nagasaki Tropical Medicine Research Institute in November, 1995, entitled "Education in Sanitation and Health Care as an Effective Method against Tropical Diseases in Tropical Areas. Please refer to: Tokiko Sato, "Kenya niokeru Jinko Taisaku: Sonraku Level no Seikatsu Kaizengata Jinko Kyoiku: Kenya Enzaro Mura deno Katsudo Jirei" (Population Strategies in Sub-Saharan Africa: Population Education at the Community Level with Improvements to the Community in Living Standards : The Case of Enzaro in Kenya), *Nettai Chiiki de Yuko na Nettaibyo Taisaku no Hitotsu toshiteno Eisei Kyoiku/Kenko Kyoiku* (Nagasaki Daigaku Nettai Igaku Kenkyujo Kenkyu Syukai Hokokusyo), (1996), pp. 22-36.

CASE STUDY

The Present Situation of Dairy Farming in Thailand — A Case Study from the Dairy Farming Development Project in the Central Region of Thailand —

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The author was assigned to the Dairy Farming Development Project in the Central Region of Thailand as an expert on dairy cattle feeding management for two years from April 1994. This project has been implemented under a cooperative agreement involving Japan International Cooperation Agency (JICA). During this assignment period, the author conducted an investigation on the present situation of dairy farming in the project area in collaboration with Thai counterpart officers. This paper reports the results of this survey and examines the future of the dairy industry in Thailand.

There have been several reports about the dairy industry in Thailand but most of those were from a macro viewpoint using fairly aggregated statistical data. This survey was carried out and focused on the dairy farming technology of ordinary farmers. The information collected in this survey was as follows; (i) the system of dairy promotion programs used by the Thai Government, (ii) size of cattle herds kept by farmers and the levels of milk production, (iii) the management system followed through a typical year, with attention being paid to seasonal changes in feed materials, (iv) the situation of dairy cattle breeding management and (v) the economic condition of dairy farming.

This paper, which was based upon the survey of dairy farmers, identified some of the problems currently faced by dairy farmers, and those that are likely to arise in the future. The Thai Government has been implementing a number of special programs concerning dairy farming promotion all over the country. This has been done to reduce the trade deficit caused by imports of dairy products, to increase local milk production, as well as to reduce the imbalance of income between the urban and rural areas. Therefore, the results of this paper should be used to examine the problems which are faced by dairy farmers not only in the project area but also over the country.

I Introduction

Thai life styles are changing rapidly as the economic condition of Thailand has shown remarkable development in recent years. Eating customs of the Thai people are also changing - with the "westernization of food". Increased milk and milk products consumption are typical examples of this. However, the milk production system has not been fully established because the dairy industry in Thailand started quite recently. Hence Thailand is importing a great amount of dairy products in order to meet the increasing demand. Besides, the rapid economic growth caused by rapid industrialization in urban areas has brought about a "de-industrialization" in the rural area, and consequently an imbalance of wages between the urban and rural areas.

In such circumstances, the Thai Government has been implementing a number of special programs promoting dairy farming as a way of meeting the demand for dairy products through increasing milk production. The government is using as well the programs as to generate income opportunities in rural areas and alleviate the income gap with urban areas. As part of this program, the Thai Government requested the Japanese Government for technical cooperation on dairy farming. The Dairy Farming Development Project in the Central Region of Thailand was launched in August 1993, for the purpose of contributing to promotion of dairy farming in Thailand.[1] The author was assigned to this project as an expert on dairy cattle feeding management for two years from the first year of the project, and conducted an investigation on the present situation of dairy farming in the project area, using a sample of dairy farmers from a newly established dairy cooperative. The purpose of this paper is to report the results of this survey and examine some of the problems

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1. JICA (Japan International Cooperation Agency), *Report on the Implementation Survey, Dairy Farming Development Project in the Central Region of the Kingdom of Thailand*, (Tokyo, 1993).

which are needed to be solved for the further progress of dairy farming in Thailand.

II History of the Dairy Industry in Thailand

First of all, the history of the dairy industry in Thailand is briefly described to help readers understand the current situation of dairy farming.[2]

Historically, cattle had been used mainly for draft work and partially for meat production, not for dairy farming, as is the case in most Asian countries. Therefore there had been no tradition of consuming dairy products in Thailand. It is recorded that Indian migrants started dairy farming in Thailand in the 18th century. However, it was a strictly limited operation. After World War II, consumption of dairy products started. The Thai Government distributed powdered milk to government health clinics and schools to improve the health of mothers and infants, and school children under a joint program with the United Nations. This program helped the Thai people become familiar with consuming dairy products and provided a foundation for the dairy industry at that time.

In 1956, a Dutch milk company started producing plain and flavored milk in Bangkok. Following this, the "Thai-Danish Dairy Farm" was established at Muak Lek in Sarabri Province in 1962, and the "Thai-German Dairy Farm" was started in Chiang Mai in 1965 under AID programs. These projects contributed to establishing a foundation for the modern dairy industry in Thailand. When the 10 years' cooperation project involving Denmark was over in Muak Lek, the Thai Government established the "Dairy Farming Promotion Organization of Thailand (DFPO)" to take over the project farm. Since then, the DFPO has played an important role in introducing modern dairy technology to Thai farmers and organizing a number of dairy cooperatives in the central region. It was privatized recently but still works as one of the largest producer organizations in the country.

As well as these ventures involving foreign partners, two large dairy cooperatives were established by Thai farmers in the early 1980s. They were the "Nakhon Pathom Dairy Cooperative" and the "Nong Pho Dairy Cooperative". They have also greatly contributed to increasing milk production in the country. The Nong Pho Dairy Cooperative has got strong support from the Thai Royal family and has expanded its management, with its own milk factory and feed plant. The number of members has increased remarkably and the amount of milk production has recently exceeded that of the DFPO.

Besides the operations outlined above, the Thai Government started in the 1970s implementing various programs to promote dairy farming all over the country. This emphasis on the dairy industry by the government is due to the following :

1) to generate income opportunities for small farmers;
2) to reduce the trade deficit caused by increased imports of milk products; and
3) to increase job opportunities concerning milk production and processing.

As a result of those governmental programs, the number of small dairy cooperatives has increased rapidly since the late 1980s due to small farmers beginning dairy farming all over the country. Consequently, milk production by newly established small cooperatives has also increased remarkably, in addition to that by the traditional cooperatives.

Due to the development process explained above, the main producers of raw milk in Thailand can be divided into the four groups as follows :

1) dairy cooperatives under the DFPO;
2) the Nong Pho Dairy Cooperative;
3) small and medium sized dairy cooperatives newly established by governmental programs; and
4) other large commercial farms.

The amount of raw milk production by those groups is shown in Figure 1.

III The Present Situation of Dairy Farming —Results of Investigation—

1. Methodology

As mentioned already, much of the data in this paper came from a survey of farmers. The survey was carried out as one of the project activities in cooperation with Thai counterpart officers.

The "Thaluang Dairy Cooperative" was selected as the target for investigation. It is located in Lopburi Province where a dairy demonstration center was constructed by the project. The cooperative was established with 50 members in June 1990 under the governmental dairy promotion program mentioned above. The number of members increased each year, so that it had 221 members in January 1996. It is a middle-size dairy cooperative.

The study team monitored change in the number of members and the amount of milk produced by the Thaluang Cooperative from August 1994 to July 1995. At the same time, the team selected 12 members from this cooperative and visited them once a month to collect such data as milk production, number of cows, feeding materials, income and cost of dairy management, etc. These 12 farmers could be divided into four groups (A, B, C and D) depending on the starting date of dairy farming. General information on them is shown in Table 1.

The system of the dairy promotion program by the

2. A. Chinwala and S. Umrod "Thailand", in *Dairy Farming in Asia* (Tokyo : Asian Productivity Organization, 1993), pp.355-373; AICAF (Association for International Cooperation of Agriculture and Forestry), *Heisei 6 Nendo Kaigai Chikusan Jijo Chyosa Kenkyu Houkokusyo* (Report of survey and research on overseas' livestock industries ; Thailand), (Tokyo, 1995).

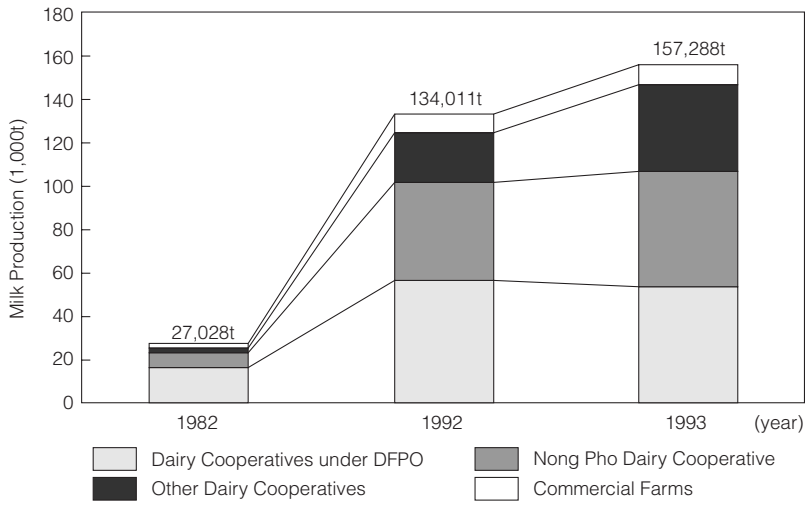

Figure 1 Milk Production in Thailand
Source: Office of Agricultural Economics,
Ministry of Agriculture and Cooperatives, Thailand

Table 1 General Information on Targeted 12 Farms

FARM NO.	GROUP NO.	WHEN STARTED	ORIGIN OF FIRST HEIFER	AVERAGE HERD SIZE		OTHER INCOME
				TOTAL	MILKING	
1	A	6/1990	New Zealand (Imported)	13.0	8.5	Store Management
2	A	6/1990	New Zealand (Imported)	13.8	9.3	Crop Cultivation
3	A	6/1990	New Zealand (Imported)	9.8	6.3	Crop Cultivation
4	A	6/1990	New Zealand (Imported)	10.1	6.3	Day Labor
5	B	11/1990	DFPO (Local)	7.2	4.4	Day Labor
6	B	11/1990	DFPO (Local)	8.2	6.1	Crop Cultivation
7	C	3/1994	Chok Chai Farm (Local)	5.0	4.6	Day Labor
8	C	3/1994	Chok Chai Farm (Local)	5.0	4.7	Beef, Crop
9	C	3/1994	Chok Chai Farm (Local)	5.0	4.2	Crop Cultivation
10	D	9/1994	Chok Chai Farm (Local)	5.0	3.2	Company Employee
11	D	9/1994	Chok Chai Farm (Local)	5.0	3.1	Crop Cultivation
12	D	9/1994	Chok Chai Farm (Local)	5.0	3.1	Crop Cultivation

Note: Chok Chai Farm is one of the large-scale dairy farms run by a private enterprise

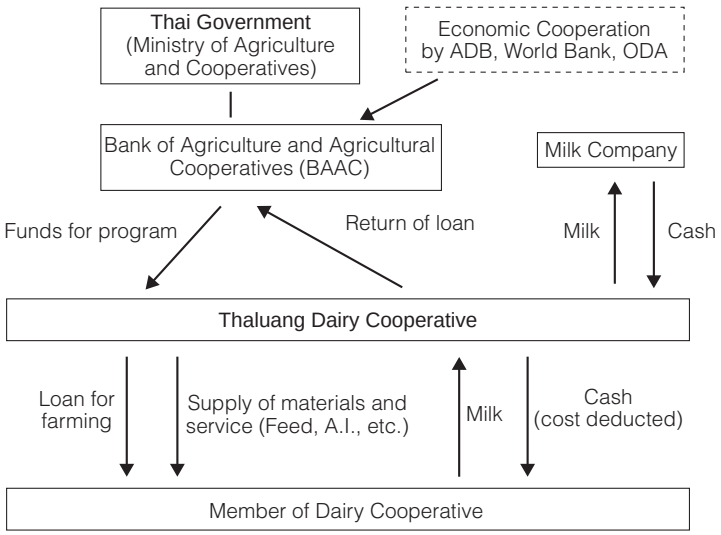

Figure 2 System of Dairy Promotion Program

Table 2 Change in Number of Members and Sold Milk Amount in Thaluang Dairy Cooperative

INVESTIGATED MONTH		NUMBER OF MEMBERS	AMOUNT OF SOLD MILK			
			WHOLE COOPERATIVE		EACH MEMBER	
			MONTHLY AMOUNT (kg/month)	DAILY AMOUNT (kg/day)	MONTHLY AMOUNT (kg/month)	DAILY AMOUNT (kg/day)
1994	8	152	229,187	7,393	1,508	48.6
	9	153	220,921	7,364	1,444	48.1
	10	170	261,827	8,446	1,540	49.7
	11	196	312,332	10,411	1,594	53.1
	12	204	347,526	11,211	1,704	55.0
1995	1	208	394,715	12,733	1,898	61.2
	2	212	366,274	13,081	1,728	61.7
	3	212	369,373	11,915	1,742	56.2
	4	214	340,483	11,349	1,591	53.0
	5	213	367,731	11,862	1,726	55.7
	6	213	374,068	12,469	1,756	58.5
	7	214	372,454	12,015	1,740	56.1
AVERAGE			329,741	10,854	1,664	54.7

Thai Government in this region is briefly shown in Figure 2. Farmers started dairy farming with five pregnant heifers, a new milking shed, feed, etc., all purchased or constructed with a loan from the BAAC (Bank of Agriculture and Agricultural Cooperatives). According to the original plan, the upper limit of the loan was to be 2,400 baht (about 1 million yen) per member and the year of repayment was to be 2007. The first pregnant heifer were introduced to the Cooperative in June 1990 when it was established. After that, heifers were brought into the cooperative three times.

2. Results

1) Changes in number of members and the quantity of milk sold by the Thaluang Dairy Cooperative

Table 2 shows the change in the number of members and in the quantity of milk sold by the Thaluang Dairy Cooperative during the investigation period. The results shown in this table were based on the report sheets which had been given to the Cooperative for every shipment from the contracted milk factory. (This factory was privately owned.) According to this table, the number of members increased from 152 to 214 (a 40% increase), and the milk sold increased from 229.2 t/month to 372.5 t/month (a 60% increase). From the data, the increase in milk sales in percentage terms was higher than the percentage increase in the number of members. Milk sales per member also increased from 1,500 kg/month to 1,700 kg/month on average (or about 48 kg/day to 56 kg/day on average). It could be considered that the increase of milk sales in the whole cooperative was due to the increase in the number of milking cows per member, in addition to the increase in the members during this one year.

2) Number of cows kept in the investigated farms

The change in the number of cows kept by the farmers participating in the survey during the year studied is shown in Table 1. The number shown here is the average number of cows in each stage - milking, dry and heifers kepts by the 12 farmers at the end of each month during the investigation period. Heifers mean young cows which have already been inseminated more than once, regardless of whether they are pregnant or not. According to this table, the total number of cows kept by the farmers was about 8 head per member on average, and of these the number of milking cows was 5.5 heads. The No. 7 - 12 farmers (C, D groups), all of them had just started dairy farming, had only 5 cows and these were the original ones introduced when they started dairy farming. But all No. 1 - 6 farmers (A, B groups) had more than 5 cows, which means that these farmers had an intention of increasing the number of cows kept on their farms. And as each No. 1 - 6 farmer had a few heifers, it seems that they were making efforts to keep some replacement cows for their own future use. We could confirm that these additional cows were born on their own farms. It was rare for farmers to buy cows from outside farms, according to pedigree records. This is probably because a well developed market for milking cows had not been established in Thailand yet.

3) Comparison of milk production

Table 3 shows the results of comparison of milk production among the investigated farms. The monthly amount of milk production through the year was 1,960 kg on average for the 12 farms, which means it was higher than the average of the whole cooperative (1,664 kg/month, Table 2). Comparing among farmers, it can be seen that the No. 1 - 4 farmers produced

Table 3 Comparison on Milk Production among 12 Farms

FARM NO.	GROUP NO.	AVERAGE NO. OF MILKING COWS	AVERAGE NO. OF MILKING DAYS	TOTAL AMOUNT OF MILK (kg/year)	MONTHLY MILK PRODUCTION (kg/month)			DAILY MILK PRODUCTION / MILKING COW (MONTHLY AVERAGE) (kg/day/head)		
					AVERAGE	MAX.	MIN.	AVERAGE	MAX. (month)	MIN. (month)
1	A	8.5	248	41,146	3,429	4,293	2,626	13.59	15.40 (AUG.)	11.89 (MAR.)
2	A	9.3	265	41,519	3,460	4,229	2,271	12.53	13.98 (JUN.)	10.12 (MAR.)
3	A	6.3	298	31,978	2,665	3,903	1,204	14.42	19.74 (JUN.)	9.37 (APR.)
4	A	6.4	270	23,777	1,982	2,848	498	10.33	12.38 (MAR.)	7.24 (AUG.)
5	B	4.4	309	15,380	1,282	1,865	465	11.08	15.04 (JAN.)	5.71 (SEP.)
6	B	6.1	353	23,225	1,936	2,474	1,342	10.38	12.50 (SEP.)	7.22 (JUN.)
7	C	4.6	346	16,683	1,390	1,659	986	9.82	11.45 (SEP.)	7.63 (JUN.)
8	C	4.5	336	18,029	1,502	2,001	782	10.69	12.90 (JAN.)	6.30 (JUL.)
9	C	4.2	294	12,616	1,051	1,362	204	8.44	9.62 (NOV.)	7.15 (FEB.)
10	D	3.2	227	15,278	1,528	2,145	-	13.63	17.37 (DEC.)	-
11	D	3.1	215	12,806	1,601	1,910	-	12.24	15.01 (JAN.)	-
12	D	3.1	214	15,268	1,697	2,372	-	14.35	18.54 (JAN.)	-
AVERAGE		**5.3**	**281**	**22,309**	**1,960**	**2,588**	**1,153**	**11.79**	**14.49**	**8.07**

much higher amounts than the average of the cooperative. However, other farmers recorded the same amount or lower. And the average daily amount per milking cow (the average of each month) was 11.79 kg/day for the 12 farmers. Production was 14.42 kg/day on the best farm and 8.44 kg/day on the worst farm. Thus, it is clear there was a remarkable difference between them. Furthermore, there was a difference between the highest daily amount and the lowest through one year for each farm.

A number of different reasons could be behind the difference among the farms even though the farmers kept milking cows in the same area and in the same conditions. We can divide them into two broad categories. The first is a difference in the management technique of farmers and the second relates to the productive ability of cows kept by the farmers. As shown in Table 1, the sample farmers had obtained their first heifer from different original farms when they started dairy farming. Although we could not make a firm conclusion because the sample size was not large enough in this investigation, we could see a tendency for the productive ability of cows to differ depending on which original farms they were introduced from. It seemed that the ability of cows which were kept by the A-group farms was higher than that of other groups because both the average amount and the highest amount of daily milk production of the A-group cows showed rather higher yields than those of other groups. The A-group farmers introduced the pregnant heifers from New Zealand (imports) but the other groups obtained their heifers from Thai farms. If the inference mentioned above was correct, one possible reason for the difficulty of obtaining high producing cows from local farms is that an effective breed-improving program had not been established so far in Thailand.

Next, concerning seasonal differences in production, it was thought before starting the investigation that milk production in Thailand would decrease substantially in the dry season, when the roughage to feed milking cows became insufficient. However, there was no evidence of this from the survey. Neither milk sales by the cooperative, nor daily production per milking cow on each farm declined noticeably during the dry season of November to April (Table 2 and Table 3).

4) Feeding management

As mentioned already, the difference in the management technique of farmers and the productive ability of cows kept by farmers are major reasons for the difference of milk production among farmers. Through examining constraints in each farm, possibilities for further development were identified. The preparation of animal feed and the types of feed used affect milk production. Therefore it should be possible for most farmers to increase their production by means of improving their feeding management for cows even if the ability of cows is not substantially improved. The results of investigating feed materials and management follow.

(1) Concentrated Feed

Most farmers used mixed feed as a concentrate. Those were produced by local large private companies and distributed by the cooperative. A few farmers used maize grain meal and rice bran as well but its use was not systematic throughout the year. With regard to the quantity of concentrates used, many farmers gave it according to a standard that is the half amount of daily produced milk per one milking cow. This practice was used by many farmers in Thailand. However, it seems that it was a too unreliable standard for use in feeding milking cows. It was obvious that the nutrition required by milking cows in most farms could not be satisfied because the quality of concentrated feed might

Table 4 Feed Materials and Seasonal Change of Roughage used by Farms

FEEDING TYPE	KIND OF ROUGHAGE	INVESTIGATED MONTH											
		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL
CUT & CARRY	a) Fresh Stems & Leaves of Young Maize	4	4	2	2	3	3	2	2	2	2	3	3
	b) Fresh Stems & Leaves of Young Sorghum	3	3	1					1	1	1	3	3
	c) Fresh Ruzy Grass	1	1	1	2						1	1	1
	d) Fresh Para Grass								1	1	2	1	1
	e) Fresh Natural Grass	2	2	3							1	1	1
	f) Sugarcane Top				3	3	3	2	2	2	1		
	g) Dried Stems and Leaves of Soybean			1	2	1	1	1				1	2
	h) Dried Stems & Leaves of Peanuts	1	1	3	2	2	1						
	i) Rice Straw with Molasses			1	3	5	9	9	9	8	1	1	1
	j) MKANTED Seeds					1	1	1	1				
GRAZING	a) Ruzy Grass	3	4	3	1						2	3	3
	b) Young Sorghum	1	1	1	1	1					1	1	1
	c) Natural Grass	4	3	4	6	8	8	8	8	7	7	4	3

* This table was made on the results of one-year-investigation on 9 farms (A, B, C groups).
* The numbers in the table show how many farmers of 9 gave each kind of roughage in each month.

Table 5 Income and Expenditure by Dairy Farming

FARM NO.	GROUP NO.	ANNUAL INCOME TOTAL	ANNUAL EXPENDITURE TOTAL	DETAILS OF EXPENDITURE (ANNUAL)			ANNUAL PROFIT TOTAL
				FEED	A.I. & MEDICINE	LOAN REPAYMENT	
1	A	342,876	204,528 (60%)	125,196 (37%)	6,624 (2%)	72,708 (21%)	138,348 (40%)
2	A	317,172	187,344 (59%)	113,676 (36%)	3,768 (1%)	69,900 (22%)	129,828 (41%)
3	A	257,148	165,684 (64%)	129,132 (50%)	6,456 (3%)	30,096 (12%)	91,464 (36%)
4	A	195,300	132,048 (68%)	114,540 (59%)	2,688 (1%)	14,820 (8%)	63,252 (32%)
5	B	124,500	74,424 (60%)	62,808 (50%)	3,168 (3%)	8,448 (7%)	50,076 (40%)
6	B	191,640	106,956 (56%)	65,220 (34%)	3,120 (2%)	38,616 (20%)	84,684 (44%)
7	C	119,352	74,114 (62%)	70,404 (59%)	3,480 (3%)	230 (0%)	45,238 (38%)
8	C	150,276	65,472 (44%)	60,636 (40%)	3,636 (2%)	1,200 (1%)	84,804 (56%)
9	C	100,896	51,368 (51%)	48,660 (48%)	2,268 (2%)	440 (0%)	49,528 (49%)
10	D	124,910	77,102 (62%)	73,992 (59%)	1,308 (1%)	1,802 (1%)	47,808 (38%)
11	D	103,760	61,624 (59%)	53,856 (52%)	3,504 (3%)	4,264 (4%)	42,136 (41%)
12	D	125,964	69,426 (55%)	61,569 (49%)	5,157 (4%)	2,700 (2%)	56,538 (45%)
AVERAGE		179,483	105,841 (58%)	81,641 (48%)	3,765 (2%)	20,435 (8%)	73,642 (42%)

* Unit : bahts, 1 baht = 4 Japanese yen
* The ratio in ( ) shows how much % each item occupies among the total income.

be low both in energy and protein. In addition there was the problem of poor quality roughage used by many farmers. Poor nutrition meant that many cows took a long period to recover their body weight after calving and some of them had chronic problems of breeding disorder after parturition.

(2) Roughage

Table 4 shows the results of the investigation into roughage use in each month, for the No. 1 - 9 farmers.

From this, the general pattern of roughage use through the year can be established. Most farmers used fresh stems and leaves of young maize or young sorghum in their early growing stage. This material was used before grain heads had been formed and it was used during the rainy season. Rice straw with molasses or sugarcane tops were used during the dry season. No farmer used a cutter when preparing roughage, so it was fed as unchopped stems. With respect to quantity of roughage, farmers gave 30 - 40 kg of fresh roughage (stems and leaves) per cow during the rainy season and unlimited amounts of rice straw during the dry season.

Only the No. 1 and 3 farmers continued to give fresh stems and leaves of maize even in the dry season, because these two farmers cultivated the forage maize in lower places and the crop could grow even in the dry

season without any irrigation facilities. Of course, as the quantity decreased in the dry season, they used rice straw or sugarcane tops as well. Anyway, it was noticed that their milk production was rather high (Table 3) and profits from dairy farming were comparatively good (Table 5). This was thought to be because they had been supplying fresh roughage through the whole year. The higher production ability of cows was an additional factor as well.

It was common to use rice straw or sugarcane tops for roughage in the dry season but some farmers also used other materials such as dried stems and leaves of harvested peanuts or soybean. Grazing, as well, was a useful method to let cows take roughage, and most farmers let their cows graze to at least some extent. However, sowing grass, which was essential to establishing a good quality of pasture, was not common; many farmers used natural pasture for grazing. There were many farmers who used only rice straw with natural grass grazing. Although it was difficult to estimate how many nutrients could be supplied by grazing on natural grass, it seemed insufficient to meet the roughage requirements for milking cows during the dry season.

5) Income and Expenditure

Table 5 shows the results of the investigation of the economic aspects of dairy farming for each of the farms. These data are based on the monthly sheets which were delivered to each farmer from the cooperative. Table 5 divides expenditures into three main items - (a) feed expense, (b) artificial insemination (A.I.) and medicine fees (including technical charges), (c) loan repayments to the BAAC, which were regarded as major expenditures for running a dairy farm.

The following conclusions may be made from the data in this table;

(1) Expenditure as a proportion of the income earned by selling milk was 50 - 60 %, although it was as high as 70 % on one farm. In other words, farmers could keep 40 - 50 % of the income from milk as profit.

(2) Income and expenditure were higher in the A and B group farms than was the case for the other farms. This is because they had increased the number of milking cows. As the profits that they had earned were higher too, it seems that the more cows the farmers had, the higher the profit became. However, obvious differences in management ability of dairy farming existed among the farmers.

(3) According to the original plan of the program, the amount of loan repayment was prescribed to be 40% of the balance after all other expenses (including unforeseen expenses) were deducted from the income earned by selling milk. However, there was a tendency for the better managed farms such as No. 1, 2, 3, 6, to repay a greater percentage than 40%. Repayments as well became lower in the worst managed farms; some farmers couldn't return any money for the loan in some months because of low income from the selling of milk.

From the situation described above, it seems that whether a dairy farmer will succeed or not should become clear to some extent within several years after starting dairy farming. That is, the farmers with better management can be expected to extend their management and pay off their loan completely. On the other hand, those farmers who have the worst management will find it difficult to continue dairy farming in the near future.

IV Problems for the Future Development

Here some of problems that are needed to be solved for the further development of dairy farming in Thailand will be outlined. It is difficult to generalize the results of this investigation to explain the present situation of dairy farming in the country because the sample size was very limited. However, the Thaluang Dairy Cooperative is typical of the cooperatives which were newly established under the governmental promotion program, and since such cooperatives have increased in number all over the country, the information from the Thaluang Dairy Cooperative permits an examination of some of the problems that would be faced by other cooperatives or dairy farmers.

Before discussing those problems, it is necessary to emphasize the importance of national policy concerning the dairy industry, namely, the national strategy about how to achieve increased milk production. If increasing production were the sole consideration this might be achieved by allowing a small number of large commercial farms to produce milk, as is already occurring in broilers or pork production. Actually such large dairy farms have been already operating in Thailand, but the amount of milk they produce is still low (Figure 1). Another way to increase production is by improving the technology used by small farmers. They should consider milk production as an important opportunity to earn money, instead of regarding it as a profit opportunity for large companies.

In reality, smaller farmers and large commercial farms will progress at the same time, but it is important to help small farmers improve their management in order to develop and stabilize the underdeveloped rural areas. The development of dairy farming must be recognized as one means for rural development. Fortunately, the present dairy development programs seem to be implemented from this point of view and many farmers have started dairy farming with a small number of cows. Nevertheless, it was inferred from the results of our survey that some of those new farms would face difficulty in continuing their dairy management in the future. Therefore it is important "to make an environment" in which as many farmers as possible can continue their farming.

The purpose of dairy farming is to produce good quality raw milk at the lowest cost so that farmers

make a profit. To achieve this goal, the farmers themselves have to make great efforts. However, there are some constraints that cannot be overcome by farmers alone, because dairy farming is based on the integration of many technologies. It is the duty of the government. "To make an environment." means to help the dairy farmers overcome those problems.

Of course, in considering the "environment" of dairy farming, economic factors such as milk price are major concerns. But here the focus will be on technical aspects which have been found in our survey.

1. Improvement of Productive Ability of Milking Cows (breed improvement) and Distribution System

As mentioned above, differences in milk production among farmers are due to differences in the technical skills of farmers and the productive abilities of cows kept by them. If differences of milk production are observed even when cows are kept under the same conditions and management system, these are due to differences in the productive ability of cows. In the survey reported here, it was suggested that whether the introduced heifers difference in milk production levels. This is evidence that breed improvement has not been established within the country. It is essential to accelerate breed improvement so that farmers can obtain highly productive milking cows at local markets. However, it is not necessary for milking cows to produce more than 50kg per day as in industrialized countries. It is important to develop cows that are suitable for the climate and social conditions of the country.

At the same time, it is also necessary to establish a distribution system of milking cattle so that ordinary dairy farmers can obtain good quality cows at local markets. The replacement cows kept by the farmers at present were mostly born on their farms. It is difficult to expect high production from those cows because of the low quality of frozen semen which was used to produce them. The problem concerning the quality of frozen semen will be discussed next.

2. Artificial Insemination

– Production of Good Quality Frozen Semen and Improvement of A.I. Technology –

Artificial insemination (A.I.) is one of the essential technologies in the modern dairy industry. Therefore, the improvement of A.I. technology, including the production of frozen semen, should contribute to a large extent to the development of the dairy industry.

The A.I. technology was introduced into Thailand in the 1970s under a technical cooperation program by Holland when a frozen semen production center was established at Pathum Thani which is one of the JICA project sites. A.I. had been used for beef production since that time, but it became more frequently used after the dairy farming programs were launched. Consequently various confusions and inefficiencies can be observed in the usage of A.I. technology in the country. There are possibilities for improving the system in terms of improvement in the technology.

There are two stages where technology can be improved; (i) in the production process of frozen semen and (ii) in the field technology to inseminate cows. The first stage (i) is concerned with the problem of cows ability, which was discussed above. It is necessary to select high quality bulls, combined with breed improvement programs such as progeny tests at a national level. Most frozen semen for milking cows is produced from bulls kept at the national centers in Pathum Thani and Chiang Mai at present. All of the bulls are not necessarily high performing in terms of milk production. In the worst cases, their pedigree is not clear. Besides, the process of producing the semen has various problems. Therefore, technical cooperation in this area has been emphasized in this project. The second stage (ii) is concerned with the technique used by A.I. technicians who are engaged in the actual insemination on the farm. The A.I. system in the field has not been established. For example, technicians employed by the government and dairy cooperatives are engaged in the A.I. separately which means there is no clear responsibility for successful insemination. In the survey discussed here, it was found that a lot of farmers were faced with chronic breeding problems of cows, such as low fertility after calving. The confusion in the A.I. system used considered to be a cause for such problems as well as the low level of farmers' knowledge and skills concerning breeding management. It is necessary to establish a more efficient A.I. system and enhance the skills of A.I. technicians by means of implementing follow-up training for them.

3. Establishment of Support System for Animal Health

A rapid increase in the number of animals would lead to an increase in the number of diseases and accidents involving the cattle. In such a situation, it becomes important to establish a support system for animal health. This system cannot be established by farmers only; it needs to be done at the national level. It was found in the farmers survey that the animal health system has not been established so far. It was observed that if the farmers found some diseases, disorders or accidents in their cows, the A.I. technicians treated them although they may not have had enough technical knowledge, because veterinarians often were not available in the area. It was difficult to expect a high standard of treatment in such a situation.

The Thai Government has been making efforts to establish a system where veterinarian officers are assigned to local offices. However, there is still a shortage in the number of clinical veterinarians who can visit small dairy farmers. For example, in Japan, cooperative systems for animal health are well established in the prefectures and dairy farmers can receive quick service when their cows have some problems. Regular visits to farms by veterinarian officers employed by local governments also are made in order to prevent animal diseases. It is necessary to establish

such systems in Thailand too. To do so, the number of clinical veterinarians will first of all need to be increased.

The "National Animal Health Institute Project (Phase II)" is being implemented under JICA cooperation in the country. The activities of this project are shifting from Bangkok to local areas, which would be expected to help establish the desired system for animal health.

4. Establishment of Extension System for Dairy Technology

Extension centers concerning dairy farming have not been established in local areas in the country. At present, the main organizations in charge of technical extension are dairy cooperatives or the DFPO farms but they are normally very weak in terms of effective extension services. In particular, systematic support of dairy farming technology for ordinary farms has not been established. Therefore it is difficult for farmers to obtain necessary information to improve their management. It was found that farmers relied on other farmers' words of mouth or it was the inseminator who played a role as a source of new knowledge. Such situations could be a constraint in improving dairy farm management.

For example, earlier in this paper, feeding management was mentioned as being very important to improve management. There are some possibilities to increase the current production level with present cows by means of improving feeding management. It was found in the project that only using supplement materials, such as maize grain meal and fresh beer grain which can be obtained easily near the project dairy demonstration center, brought a better result, that is, the average milk production was higher than that of ordinary farmers even though they keep the cows introduced from the same original farm (local). However, such new ideas hardly reach farmers without an effective extension system.

V Conclusion

The Thai Government emphasized such issues as "Correction of income distribution" and "Correction of imbalance of income between the urban and rural areas" in the Eighth National Economic and Social Development Plan which was launched in October 1996. The rapid economic development that emerged in the 1980s brought about a large imbalance of income, between the rich and the poor and between the urban and the rural areas. It was estimated that the rich have incomes 15.8 times the incomes of the poor in 1993. Also, the average income per person in Bangkok was 11.9 times that of the North-East area.[3] In fact, visitors to Thailand can easily recognize a large difference between the prosperity of Bangkok and the underdeveloped situation in rural areas.

On the other hand, economic and technical cooperation for this country by foreign countries will be gradually reduced because the GNP per person has been going up as the national economy has grown. While it is inevitable that aid will be cut, there still remain big problems that have to be solved from now such as the imbalance of income distribution referred to above.

In these circumstances, dairy farming development has the potential to be an income source for the rural areas[4] and to contribute to eliminating the imbalance of income between the urban and rural areas. The Thai Government has been implementing the dairy promotion programs for this purpose. However, the present situation of the Thai dairy industry is facing a lot of problems especially from the viewpoint of the small dairy farmers as this paper has reported.

At this time, the Dairy Farming Development Project being conducted through cooperation with JICA is playing a significant role in the development of the Thai dairy industry. The project is emphasizing improvement of A.I. technology and the current level of dairy management by farmers. Nonetheless, it is necessary for the project to make broad suggestions concerning dairy development in order to contribute to solving those problems faced by the Thai dairy industry.

Acknowledgments

In closing, I should like to emphasize that this survey was carried out as one of the project activities in collaboration with Thai counterpart officers, Ms. Yaowarat Ruangsatra and Mr. Decha Boonto (Cooperatives Promotion Department, Ministry of Agriculture and Cooperatives). I should like also to thank Dr. Kazuo Kanaya, the first expert team leader, Mr. Kiyoshi Takahashi, the second expert team leader and all the Thai officers concerned with the project in the Ministry of Agriculture and Cooperatives of Thailand.

3. A. Bamroong, *Thailand's Development Strategies and Prospects for the Twenty-first Century* (Bangkok : Economic Research and Training Center, Thammasart University, 1996).
4. R. Cassen and Associates, *Does Aid Work?* (New York : Oxford University Press, 1994), p.44.

NOTE

Paddy Production and the Incidence of Malaria

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It is estimated that world population in the year 2025 will be 8.3 billion and the demand for rice will be 758 million tons (a 70% increase over the consumption in 1990). To meet this demand, an enlargement of the area for cultivating rice and especially an enlargement of irrigation areas (paddy fields) are necessary. However, the development of paddy production and the construction of irrigation facilities often creates favorable natural conditions for malaria to spread, introduces malaria in areas where malaria has not previously been reported and worsens the conditions under which epidemics occur. Malaria is a dangerous disease which annually infects 100 million people and kills 1 million people. In these circumstances, the development and extension of paddy production that includes malaria control is important.

The development and extension of paddy production that includes malaria control has been studied by organizations in the United Nations and the IRRI. However, studies have not been done in Japan. It is necessary for Japan to start studying this so that it can establish measures against malaria from the viewpoints of technology and organization.

It would be good if the measures employed against malaria in paddy production development projects could be easily implemented by farmers without any medical knowledge or special equipment. Considering this, the countermeasures which are realistic at present are the control of mosquito larva in paddy fields and the popularization of mosquito nets. To control mosquito larva in paddy fields, implementing intermittent irrigation, utilizing chemical substances which do not have negative effects on paddies and introducing natural enemies such as fish are considered appropriate. To popularize the use of mosquito nets, promoting insecticide-incorporated mosquito nets is considered appropriate. Even more importantly, it is essential to establish a system of cooperation between agricultural and sanitation sectors at the level of technological development and international cooperation.

I Malaria: By-product of paddy production development

According to documents of the Ministerial Conference on Malaria held in Amsterdam in October 1992, half of the world's population is exposed to the danger of malaria infection, 100 million people are infected each year and 1 million people have been lost through epidemics[1] (Figure 1).

Malaria is spread by protozoa of the genus Plasmodium (malaria protozoa). Its symptoms include repeated attacks of fever, anemia and swelling of the spleen. Often an epidemic malaria is fatal. Malaria is classified into approximately 100 different species. Only 4 species, Falciparum Malaria, Vivax Malaria, Quartan Malaria and Ovale Malaria, affect human beings. Among these 4 species, Falciparum Malaria and Vivax Malaria are the most common, and Falciparum Malaria is the most dangerous with the highest mortality.

Malaria protozoa are transmitted by mosquitoes of the genus Anopheles (malaria mosquito). There are approximately 300 species of malaria mosquito and approximately 65 species among the 300 are malarial vectors to human beings. Generally, malaria mosquitoes inhabit rural areas where clean water exists. There are several cases in which construction in agricultural development creates favorable natural conditions for the malarial vector to take hold, introduces malaria in an area where it had not been previously reported or worsens the conditions under which epidemics occur. In particular, paddy production development which includes the construction of irrigation facilities has a tendency to create favorable conditions for malaria.

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1. Ministerial Conference on Malaria, "World Declaration on the Control of Malaria" and "Global Malaria Control Strategy", WHO, (1992).

Figure 1 Malaria – Distribution and Problem Area
Source: WHO, *Global Malaria Control Strategy*, 1992, p6

Russell et al.[2] reported that malaria broke out near Madras in India right after the Cauvery-Mettur Irrigation Project had been completed in 1934. Rao[3] reported that the percent of malaria patients increased from 15.3% to 50% in a village of the Mandya District, Karnataka State, after the completion of the Visvesvaraya Canal. Also in this case, the number of people who died from malaria was 20 times more than the previous number.

In 1925, the Sennar Dam was constructed in the Gezira region in Sudan, and seasonal irrigation for cotton and sorghum production was started. Until then, a heavy infestation of malaria had not been seen in this area; only a few malaria patients were found occasionally in the rainy season. However, since 1960, malaria has become endemic in this region as a result of the introduction of year-round paddy, wheat and vegetable production using a large quantity of irrigation water.[4]

There have been sharp increases in the number of cases of malaria in the Mahaweli Development Project area, which is the largest in Sri Lanka and includes a modern irrigation system. The number of malaria patients is 5 times the number between 1982 and 1985. In particular, the number of patients with falciparum malaria, which has the highest mortality rate, is 10 times the number in the same time period.[5] In the feasibility study for this project, an increased incidence of malaria was predicted and preventive measures for reducing the mosquito vector, such as lining the canal with concrete, were suggested. However, it was argued that the mosquito vector could be controlled chemically and the suggestion got submerged in the cost-benefit debate. As a result, countermeasures were ignored. There are too many other cases to enumerate in which the development of paddy production has triggered the prevailing malaria in the region.

I am a specialist in crop production and am contributing to several studies in agricultural development executed by JICA as a member in charge of environmental impact assessments. Through my experiences in recent years as a study team member, I have been greatly surprised that malaria is responsible for an unexpectedly large proportion of the negative impact of paddy production development. In any case, the purpose of paddy production development should not only be to increase rice production, but also to improve the health and affluence of rural residents through increased rice production increase.

II Action of International Organizations

In 1981, the United Nation established the Joint WHO/FAO/UNEP Panel of Experts on Environmental Management for Vector Control (PEEM). As an activity of this panel, the experts studied methods of controlling vectors including malaria, schistosomiasis, filariasis, Japanese encephalitis from the point of environmental management of paddy production by applying appropriate irrigation and drainage, adjusting the time of planting, utilizing chemicals, and managing reservoirs. The results of this study were published in 1984 as "Environmental Management for Vector Control in Rice Fields".

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2. Y.H. Bang, "Vector-borne diseases associated with rice cultivation and their control in Southeast Asia", *Vector-borne disease control in humans through rice agroecosystem management*, IRRI, (1988), pp.93-100. (hereafter cited as "Vector-borne disease").
3. *Ibid*., pp.93-100.
4. Ahmed Ayoub El Gaddal et al., "Malaria control in the Gezira-Managil irrigated scheme of the Sudan", *J. Trop. Med. & Hyg.* 88, (1985), pp.153-159.
5. K. G. A. Goonasekere & F. P. Amerasinghe, "Planning, design, and operation of rice irrigation schemes; their impact on mosquito-borne diseases", *Vector-borne disease control in humans through rice agroecosystem management*, IRRI, (1988), pp.41-50. (hereafter cited as "Rice irrigation schemes").

The International Rice Research Institute (IRRI) realized the importance of vector control and held a workshop called "Vector-borne Disease Control in Human Through Rice Agroecosystem Management" in March 1987. In this workshop, specialists in paddy production and parasites gathered from all over the world and discussed the necessity of increasing paddy production while reducing problems caused by vectors such as malaria. The topic included basic research in the relation between paddy production practices and vector bionomics, the technology of integrated vector control, etc. Methods to implement technology for controlling vectors were also discussed in the workshop and the following suggestions were made. Unfortunately, this is not widely known agricultural people in Japan.

1) The implementation method should be executed with the cooperation of experts from agriculture, epidemiology, vector entomology, economics and sociology.
2) Information transfer regarding the implementation methods and their effectiveness.

III Environment of Paddies and Malarial Mosquito Reproduction

Up to now, approximately 90 species of the genus Anopheles have been found in paddies worldwide, many of which transmit malaria to human beings. Most of these species reproduce not only in paddies, but also in reservoirs, and irrigation facilities such as canals, small puddles and swamps. In Asia, An. culicifacies, An. jeyporiensis and An. sinensis are the three most common malarial vector mosquitoes. In Africa, An. gambiae is recognized as the worst malarial vector mosquito.[6]

Generally the number of malaria patients increases in the rainy season and decreases in the dry season of the tropics and subtropics where a rainy season and a dry season can be distinguished. On the other hand, malaria patients are observed all year in regions where paddy production is carried out all the year round. The seasonal occurrence of mosquitoes is affected not only by temperature and rainfall, but also by the condition of the water in the paddies. In Korea, where single paddy cropping is the common practice, the peak occurrence of An. sinensis is between July and August. In Taiwan, where double paddy cropping is the common practice, there are two peaks of occurrence: between February and March, and between September and October.[7] There are also two peak occurrences of the malarial vector mosquito between May and July, and between October and December in Tanzania, where double paddy cropping is also the common practice and heavy rainfalls occur from January to June. These peak times of vector occurrence match the time of irrigation in the paddies and are not related to rainfall patterns.[8]

The reproduction of the malarial vector mosquito in paddies is closely related to environmental conditions such as plant height in the paddy, the depth of the water, the method of cultivation, and soil conditions, etc. Generally, the population of mosquito larvae is low right after transplanting but peaks a few weeks after transplanting. As the plant grows to a height between 60 to 100 cm, the population decreasses.[9] it is suspected that this change in population is due to the physical obstruction of ovipositing, an increase in sun shade, and the establishment of predators in the fields, etc.

The introduction of a high yielding variety(HYV)of rice has contributed to increased rice production. It has also increased the presence of malarial mosquitoes as a negative effect.[10] HYV has a short stem and is resistant to lodging with the result that more sunshine reaches the surface of the water and therefore the reproduction of heliophilic species of mosquitoes with decent larval growth is enhanced. Also, HYV matures early, so double cropping is possible. Consequently, water is in paddies for a long period of time, enhancing the reproduction of many mosquito species. In addition, the use of fertilizers in large quantities with the introduction of HYV creates the nutrient supply necessary for the growth of micro plants and contributes to the increase in mosquito reproduction.

Adaptation to the environment differs slightly for each species of malarial vector mosquito. For example, the heliophilic species reproduces vigorously in the early stage of paddy growth and is replaced by a shade-loving species in the later stage of paddy growth. The population of An. culicifacies tends to be high in water-filled paddies before plowing and in paddy nurseries. It is the highest right after transplanting. After the population peaks, it decreases as the paddy grows and the species does not reproduce after the crop reaches a height of 30 cm.[11]

An. fluviatilis, which is a shade-loving species, reproduces more vigorously in paddies with high plant density than in fields with low plant density. In Africa, An. gambiae and An. arabiensis, which have high heliophilicity reproduce in great numbers in the early stage of paddy growth. However, they are succeeded by An. funestus, which is a shade-loving species, in the later stage of growth.[12] Whereas most malarial vector

6. L. T. Cowper, "Malaria vectors associated with rice culture in Southeast Asia and the Western Pacific", *Vector-borne disease control in humans through rice agroecosystem management*, IRRI, (1988), pp.85-92 (hereafter cited as "Malaria vectors").
7. *Ibid.*, pp.85-92.
8. Kazuyo Ichimori, "An agricultural development irrigation project and precautions against disease", *Technology and Developmen*t No. 7, (1994), pp.77 -82.
9. Goonasekere & Amerasinghe, "Rice irrigation schemes", pp.41-50.
10. Bang, "Vector-borne diseases", pp.93-100.
11. Goonasekere & Amerasinghe, "Rice irrigation schemes", pp.41-50.
12. *Ibid.*

mosquitoes prefer to reproduce in clean water, An. gambiae and An. arabiensis, which are commonly seen in Africa, reproduce even in dirty water.[13]

IV Strategies for Malaria Control in Paddy Production Development Projects

The method used to control malaria in a paddy production development project should be easy for farmers to implement without any medical knowledge or special equipment. Taking this into consideration, the methods which are considered realistic at present are listed below. Unfortunately, the technology of these methods is not established yet and further development of each is expected.

1. Control of mosquito larva by implementing intermittent irrigation

This method controls the larvae by drying the surface soil in paddies, utilizing the ecological characteristics of the malarial vector mosquito. Theoretically, drainage is the best approach to controlling paddy-breeding mosquitoes. Intermittent irrigation can also be effective if the irrigation periods are shorter than the larval and pupal stages of the mosquito. According to a report on an 5-year experiment from 1935, the number of malarial mosquitoes was reduced by more than 80% without reducing the yield or quality of the paddy. At the same time, the consumption of water was reduce by adopting this method.[14]

In another experiment, it was found that An. sinensis survives for less than 3 - 4 days in the larval stage and for less than 4 - 5 days in the pupal stage in drained surface soil in paddies when the surface ground temperature is 25C and the soil moisture is 20-30%. Also, the possibility of controlling the larva by commencing intermittent irrigation at 2 weeks after transplanting and irrigating fields in 5-day intervals was confirmed at the alluvial plain of the Yellow River in China. At the same time, it was confirmed that oviposition was disturbed by the repeated drainage of the fields. The effect of intermittent irrigation was increased paddy yield. Lu reported that the number of larvae of malarial vector mosquitoes was reduced and paddy yield was increased by 13% by implementing intermittent irrigation.[15]

In 1982/83, an experiment in a 300 ha paddy in Indonesia implemented intermittent irrigation 2 months after transplanting which included repetitions of filling the paddy with water for 2 days and then keeping it drained for 3 days. The result of this experiment shows that the number of An. aconitus larvae was reduced by 93% compared with the number observed in continuous irrigation area and there was no difference in yield.[16]

Although there are benefits intermittent irrigation are recognized as mentioned above, there are some problems in implementing the method. They are as follows:[17]

- In some cases, draining water from fields in one area at the same time is difficult because of the different situations individual farmers.
- In some cases, draining water completely from fields is difficult because of land characteristics such as soil permeability, groundwater level, and depressions in fields, etc.
- In some cases, the positive effects of drainage treatment are undermined by rainfall.

Intermittent irrigation also causes damage to the natural enemies of the larvae (including fish), so that the reproduction of mosquitoes often becomes more vigorous after fields are refilled.[18] Additionally, successful implementation of the method, it is necessary that the personnel who manage the system be trained and that the farmers be given guidance to recognize the benefits of the method.

2. Controlling mosquito larvae by using chemicals

In many cases, spraying insecticide to protect paddies contributes to controlling mosquito larvae as a side effect. Insecticides exterminate the natural enemies of the mosquito which include fish and negatively affect mosquito larva control in some cases. It is necessary to use chemicals which are only effective against mosquito larvae. It is not the case that all insecticides cause negative effects. For example, the concentration of fenitrothion, an insecticide, necessary to kill mosquito larva is one five-hundredth of that necessary to kill fish. The introduction of this method does not achieve an increase in paddy production and is not directly linked with any increase in profit. The implementation systems which require a lot of labor and expensive equipment are not appropriate.

In addition, long-term residual activities in chemicals are necessary. For example, pyriproxyfen, which is the substance of juvenile hormone mimic was developed recently for malarial larval control. A treatment once a month with this chemical at a dosage of 0.01-0.1 ppm inhibited the emergence of malarial vector mosquito larvae. To use this chemical, special training and equipment are not required, so farmers can imple-

13. *Ibid.*
14. R. B. Hill & F. J. C. Cambourac, "Intermittent irrigation in rice cultivation, and its effect on yield, water consumption and Anopheles production", *Am. J. Trop. Med.*, 21, (1941), pp.123-144.
15. Lu Baolin, "Environmental management for the control of rice field-breeding mosquitoes in China", *Vector-borne disease control in humans through rice agroecosystem management*, IRRI, (1988), pp.111-121. (hereafter cited as "Environment management")
16. Bang, "Vector-borne diseases", pp.93-100.
17. Motoyoshi Mogi, "Water management in rice cultivation and its relation to mosquito production in Japan", *Vector-borne disease control in humans through rice agroecosystem management*, IRRI, (1988), pp.101-109.
18. Motoyoshi Mogi, "Control of rice field vector mosquitoes by water management: Possibilities and difficulties", *Soil and Water Engineering for Paddy Field Management*, Asian Institute of Technology, (1992), pp.199-211.

ment the method by themselves. Also, this method does not affect the natural enemies of the mosquito larvae.[19]

3. Biological control of mosquito larva

The fish useful for controlling mosquito larvae are as follows:[20]
Ctenopharyngodon idella; Aphyocypris chinensis; Gambusia affinis; Poecilia reticulata; Tilapia spp.; and Cyprinus carpio.

It was reported in the United States that a stocking paddy with Gambusia affinis of 750 fish per 1 ha is effective in controlling mosquito larvae.[21] The advantages of introducing Gambusia affinis are shown below.[22]

- It easily penetrates shallow, weedy areas;
- It is primarily carnivorous, but it becomes omnivorous when food is scare;
- It has a dorsal mouth and frequents the water surface;
- It bears live young; and
- It tolerates salinity, high temperatures and moderate organic pollution.

Sasa et al. proved in Bangkok that introducing Poecilia reticulata is highly effective for controlling mosquito larvae.[23] Although this report is not based on any experiment conducted in paddies, it is considered that stocking paddies with the fish does not cause any problems.

Agricultural chemicals which are highly toxic to fish should not be used. In addition, it is necessary to create a survival area for fish if implementing intermittent irrigation at the same time.

Besides fish, parasites are also used to control malarial vectors. They include pathogens such as Bacillus thuringiensis var. israelensis (sometimes designated H-14 or BTI) and Bacillus sphaericus fungi such as Culicinomyces clavisporus, Lagenidium giganteum, Tolypocladium cylindrosporum; the Mermithid nematodes, especially Romanomermis culicivorax; viruses in the baculoviruses; microsporidia including Nosema algae, predator invertebrates such as water bugs and beetles; and Crustaceans including microcrustaceans.[24] In addition, azolla (a free-floating, aquatic fern that lives in symbiotic association with a species of blue alga, Anabaena azolla which fixes atmospheric nitrogen) can also be used as an inhibitor of mosquito larvae.[25] However, to use these organisms, further research is required.

4. Use of insecticide-incorporated mosquito nets

International organizations around the world including the World Health Organization (WHO) pay attention to the use of insecticide-treated mosquito net in malaria control. The use of mosquito nets, which prevent people from coming into contact with mosquitoes while they are asleep, is an effective way of protecting people from bloodsucking malarial mosquitoes are most active when people are sleeping. In using insecticide-treated mosquito nets, mosquitoes are killed on contact with the net as they try reach their sleeping victims. Presently, mosquito nets which are soaked in a pyrethroid solution and dried are commonly used.[26]

Pyrethroid produces an immediate effect. On contact with the chemical, the mosquito is knocked out and later dies. The concentration of chemical necessary to kill the mosquito does not affect humans at all. The effect of the chemical lasts for approximately 6 months but is lost after washing the net. The net must then be retreated with the chemical after washing. Farmers try to avoid re-treating the nets due to its complicated usage. There is also the danger of contaminating the water system and environment by disposing the chemical left over after the treatment.

Taking these concerns into account, a new type of insecticide-incorporated net was recently developed: the net is made from a string of polyethylene resins incorporated with pyrethroid known as permethrin. The effect of this material will last for at least 2 years with occasional washing because the permethrin persists for several washing. Ikeshoji reported that this new net, which lost 76 % of its surface dose of permethrin in one washing with soap, regained the effectiveness of the permethrin by exposing the net to strong sunlight.[27] Therefore, protecting an entire house with window screens made with material is possible.

V The Development of Paddy Production with Malaria Control

The world population in 1990 was 5.3 billion and rice consumption was 447 million tons. It is estimated that the world population in the year 2025 will be 8.3 billion and the demand of rice will be 758 million tons (a 70% increase over the consumption in 1990).[28] To

19. Sumitomo Chemical Co. Ltd., "The juvenile hormone mimicking pyriproxyfen for malaria mosquito control",(1993), 12pp; H. Suzuki et al., "Field evaluation of a new insect growth regulator, pyriproxyfen, against Anopheles farauti, the main vector of malaria in the Solomon Islands", *Japan J. Sanit. Zool.* 40,(1989), pp.253-257.
20. Bang, "Vector-borne diseases", pp.93-100; Cowper "Malaria vectors", pp.85-92: D. A. Dame et al., "Integrated mosquito vector control in large-scale rice production systems", *Vector-borne disease control in humans through rice agroecosystem management,* IRRI, (1988), pp. 185-196.
21. *Ibid.,* pp.185-196.
22. R. Hass & R. Pal, "Mosquito larvivorous fishes", *Bull. Entomol. Soc. Am.*, 30, (1984), pp.17-25.
23. M. Sasa et al., "Studies on a mosquito-eating fish 'Guppy' Lebistes reticulatus, breeding in polluted waters", *Japan J. Exp. Med.* 35(1), (1965), pp.63-80.
24. Cowper, "Malaria vectors", pp.85-92.
25. Lu Baolin, "Environmental management", pp.111-121.
26. Takeshi Kurihara, "Bekutaa Taisaku ni okeru kaya no kenkyuu (Study on mosquito nets in malarial vector control)", *Nettai*, 24, (1991), pp.205-212.
27. Toshiaki Ikeshoji & Barnard Bakotee, "Dynamics of permethrin on mosquito nets used in the malaria control program in Honiara, Solomon Islands", *Med. Entomol. Zool.* 48(1), (1997), pp.25-31.
28. International Rice Research Institute, *IRRI Rice Facts*, (Los Banos: IRRI, 1994).

meet this rice demand, an enlargement of the cultivation area for rice, and especially an enlargement of the irrigation area (paddy) is necessary. Accordingly, the development and extension of paddy production technology with malarial control will be extremely important.

"The World Declaration on the Control of Malaria" at the Ministerial Conference on Malaria includes the following items:[29]

- In implementation of projects for social and economic development, the consideration of human health must be incorporated in such projects in order to prohibit malaria transmission.
- The cooperation between sectors such as education, water resources, sanitation, agriculture, development, etc. is necessary.

Greater understanding of the ecological interactions between paddy environment and vector bionomics is essential to develop new technology which can be adapted to projects for economic development (especially technology compatible with high paddy yield and malaria control). Therefore, interdisciplinary research with the cooperation of rice scientists, medical entomologists and epidemiologists is necessary.

In addition, it is necessary for projects in paddy production development to be implemented in close cooperation between ministries related to agriculture and health/sanitation. It is difficult to realize this cooperation under the present conditions of assisting countries and the countries receiving the assistance. However, malaria control will not be achieved without overcoming these difficulties. In chapter IV, I discussed possible methods of malaria control which farmers can implement without special knowledge or technology. To implement these methods, education and training provided in cooperation with the agricultural and sanitary sectors are still necessary.

It is delightful that a trend of valuing integrated rural development which focuses not only on production increases, but also on maintaining environmental conditions, and improving the living standard of farmers and the roles of women in development is prevailing in recent agricultural development projects executed by the Japanese government. By acting to enhance this trend, it is expected that interdisciplinary and interministry collaboration (mutual collaboration between ministries such as the Ministry of Sanitation, and the Ministry of Agriculture, etc.) will be achieved naturally in international cooperation.

Reference

1. FAO, "Environmental management for vector control in rice fields", *FAO Irrigation and Drainage Paper* 41, (1984),152pp,.
2. International Rice Research Institute, "Vector-borne disease control in humans through rice agroecosystem management", *Proceedings of the Workshop,* (1988), 237pp.
3. Mogi, M. and T. Sota, "Towards integrated control of mosquitoes and mosquito-borne diseases in ricelands", *Advances in Disease Vector Research* Vol. 8, (Springer-Verlag, 1991), pp.47-75.

29. See footnote 1.

NOTE

A New Approach in Providing Assistance to Kenya – By Focusing It on the Informal (Jua Kali) Manufacturing Sector –

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It was not until the mid-1980s that assistance to the informal sector of the national economy was provided by the Kenya government and by international aid organizations. Aid was then focused on the manufacturing sector, known locally as Jua Kali. It involved the development of infrastructure, provision of equipment, extending small scale loans and a variety of training programs. However results achieved from this aid have not been satisfactory because the underlying concept of Jua Kali had been both undefined and misunderstood at the time when aid programs to the informal sector were formulated and implemented.

Donors have regarded the Jua Kali sector as the target activity which is the foundation of the country's industrial sector. Measures taken have aimed to transform micro-scale enterprises into small-scale businesses to prepare them for serving as sub-contractors in a modern industrial sector. However this approach failed to recognize that production activity in the informal sector had first started as a survival strategy with none of the workers in it having a strong economic base. They lacked entrepreneurial skills, capital and basic knowledge. Jua Kali in the sense of it being a manufacturing sector is at present not mature enough to be thought of as an industry.

This Paper therefore argues that Jua Kali assistance should be primarily regarded as social assistance and not primarily as a means to achieve economic development. A new form of Jua Kali assistance should be provided through the promotion of resident-oriented rural development. This would expand cooperative endeavours with a greater reliance placed on self-help activities. It would enhance people's latent abilities and achieve greater sustainability. By taking such measures, it is believed that the constraints of conventional aid programs could be avoided and a greater emphasis placed on poverty alleviation and the economic participation of women in the nation's life.

I Introduction

The urban population in Kenya has expanded rapidly because of natural birth increases and because of people migrating from rural areas where there are land shortages, into the cities in the hope of finding work. But there have been few job opportunities. The urban industrial sector has stagnated and the unemployment problem has worsened. People therefore, who have been unable to get work in the formal sector have in order to survive, gone into all sorts of businesses in what is called the 'informal sector' where a high level of education, skills, qualifications, and experience are not required and in which only a little amount of capital is needed. Typical jobs include selling from street stalls such as foods, drinks and cigarettes, tailoring, working as tinsmiths, mending bicycles, selling newspapers, roasting maize, running cheap lodging houses, construction laborers.

As of 1994, there were 1.8 million[1] workers engaged in the informal sector, 67.1% of whom were people working under the statutory minimum wage of K.Shs. 1,700 per month which is approximately ¥3,400 (yen) per month.[2]

This Paper will focus on the 'informal sector' especially manufacturing. It will examine the problems facing conventional aid programs and suggest the direction which should be taken in assisting the informal sector in the future by both the Kenyan government itself and through Japanese assistance. It will refer to specific matters that need to be addressed as part of this approach.

II Manufacturing in the Informal Sector - Jua Kali

Looking at activities in the informal sector, we can distinguish four different types of businesses: trade, manufacturing, transportation /construction and lastly

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1. *Economic Survey* (Republic of Kenya 1995), p 59.
2. *Ibid.*, p 61. Statutory monthly basic mimimum wage in Nairobi as of May 1995.

services. Of these, manufacturing accounts for 27.8 percent of the total with about 500,000 workers employed in it. Major characteristics of the informal sector are seen to be :

- low standards of income
- micro-scale employment (less than ten people)
- low levels of education and qualifications
- little capital needed
- it takes place everywhere

1. The Meaning of Jua Kali

In Kenya, aid to the informal sector, with the exception of small-scale credit services, is primarily targeted at manufacturing including repair services. Manufacturing is known locally as Jua Kali in Kenya. People are familiar with Jua Kali as a means for supplying domestic goods and some services at low prices even though the quality of goods is sub-standard.

Jua Kali is a compound of the Swahili words - 'jua' meaning 'the sun' and 'kali' meaning 'hot'. Together they refer to manufacturing and repair services in the informal sector that require some artisan skills in such as tinsmithing, blacksmithing, wood working, tailoring, printing and so on. In the repair sector, it includes such as repairs to electrical products, bicycles and shoes. Jua Kali does not encompass wholesale and retail workers and those such as stall keepers, hawkers, workers in food stalls, services in bars and hotels, maids, drivers and construction workers.

2. Characteristics of Jua Kali

In this section, five characteristics of Jua Kali's manufacturing activities are pointed out.

1) Size or Scale

More than half of Jua Kali enterprises are being operated by a single person - a worker- owner. In cases where workers are 'hired', they are mostly family members and apprentices working without pay - usually less than five in number.

2) Worksite

In most cases, Jua Kali products are made in the employers' own home or in rented sheds on empty plots of land by the roadside. The finished goods are displayed in front of the shed and are sold directly to consumers. In big cities, there are some cases in which Jua Kali of the same type, gather, manufacture and sell products in an open air market (although sometimes crudely covered), which is permanently set up in a particular area leased from the municipal or local government. In addition, production activity also takes place in commercial areas as well as on empty land often without the permission of the owner.

3) Products

Products manufactured by Jua Kali enterprises include such items as pots, frying pans, kettles, buckets, jikos or portable clay cooking stoves, oil lamps, window frames, gate doors, gutters, chisels, knives, pincers, hoes and sickles, suitcases, furniture, rubber sandals, clothes, leather goods, baskets, ornaments and carvings. Most metal processed goods are made of scrap metal from recovered factories. The quality of goods made by Jua Kali is often poor since most Jua Kali do not own machine equipment and therefore manufacture by hand processes using simple types of equipment. However there is a high demand for Jua Kali products because of their low prices that fit the low budgets of the poor.

4) Skill Training

Most of those engaged in Jua Kali work acquire their skills through on-the-job training and apprenticeships. The level of skills is relatively low.

5) Jua Kali Registration

When a person registers with a Jua Kali Association, he/she is given an identification card by the Ministry of Research, Technical Training and Technology which certifies that the registrant is a Jua Kali artisan. However for the time being there is no connection between registering with the Association and being given an authorisation for production activities. Therefore not all Jua Kali workers are registered.

3. The Jua Kali Association

The Department of Applied Technology in the Ministry of Research, Technical Training and Technology is in charge of the registration and supervision of the Jua Kali Association. The Ministry's intention has been to give priority in providing registered workers - but not non-registered workers - with places to work such as land and sheds, to provide various training courses, information services, property and accident insurance and make credit (loans) available. However, to date the Ministry only takes care of registration. As of 1995, there were 440 Jua Kali Associations registered with the Ministry with a total membership of about 80,000.[3]

The Jua Kali Association was established in an attempt to develop and improve Jua Kali work and to resolve problems facing the workers by promoting solidarity among them. Local Associations are approved by the Ministry but are not institutionalised by them and therefore do not have any legal standing. Conditions for registration are:

- Organizations must have been approved by the Attorney General.[4]
- Each must have more than 25 members.
- All members must be engaged in work activities that require skills.

The Ministry investigates these conditions but details of actual activities, their management and rules of the organization are not investigated. Therefore the Jua Kali Associations may be regarded more as Jua Kali 'communities' being an extension of traditional

3. Based on interviews with senior officers in the Ministry of Research, Technical Training and Technology.
4. When registering a private group in Kenya, one has to file an application to the Attorney-General seeking their approval.

mutual help, rather than associations.

III Aid Assistance to Jua Kali

Assistance was directed to Jua Kali in the mid 1980s at the time it was rapidly developing. This aid came mostly in packaged form which combined several programs to include small-scale credit loans, entrepreneurial and technical training, infrastructure building, provision of equipment and staff training. However aid programs when implemented did not result in the sought-for development of Jua Kali activities. Reasons for this are outlined as follows:

1. Intended Aid Has Had Limited Scope

Only seven percent of all Jua Kali workers have benefited from aid contributions such as technical training that had been available in the past.[5] This is because aid was formerly aimed at individual Jua Kali workers rather than at the 500,000 Jua Kali workers as a whole in their associations.

International aid organizations usually commence an aid program by implementing pilot projects in one area, extend it to other areas and later to neighbouring countries. However original pilot projects rarely proceed as planned; their expected outcomes are not as envisaged; and therefore the pilot projects are often suspended before being extended to other areas.[6]

It is recommended that a different approach should be taken in place of the past conventional approach through small pilot projects aimed at individual Jua Kali workers. In its place, assistance projects should be targeted or directed at all 500,000 Jua Kali workers as a whole at the outset of the program.

2. Accurate Grasp of Real Needs is Necessary

An example of what occurs when inadequate consideration is given to what is required is seen in the 'Jua Kali Infrastructure Project' which was implemented in 1991 by the German Agency for Technical Cooperation (GTZ). It involved construction of Jua Kali sheds in five locations nationwide as an infrastructure component of a Jua Kali aid project.[7] However the sheds have been without tenants to this day. Their locations were badly sited being in inconvenient places with poor transportation links.[8] Customers have been reluctant to come because the sheds are far from the town center involving excessive commuting distances and there was poor access for importing and transporting raw materials easily.

It is necessary to examine the reality of the Jua Kali through the eyes of those involved in it. Their real needs must be understood and reflected upon when implementing assistance and short-sighted and hurried judgements should be avoided. The example above illustrates what can go wrong. It was no way to improve the working environment of the Jua Kali. Of course, information obtained from Jua Kali workers does not always itself reveal their real attitudes or feelings at first. In order to grasp their real needs, it is vital to ascertain their true intentions by a careful and sensitive evaluation of their environment and the situation they are placed in.

3. Technical Training Needs

Knowledge about production techniques among Jua Kali workers is limited and at a relatively low level. Techniques from 20 to 30 years ago are still being used not having been improved over the intervening years. Therefore much production technique training has been extended to the Jua Kali sector. Despite this, according to the survey GEMINI conducted on Jua Kali,[9] the issue of production techniques was not among 'Current Business Problems Facing Entrepreneurs'.[10] This indicated that Jua Kali workers saw nothing wrong with their level of techniques in manufacturing and selling products and believed it to be appropriate.[11]

Although the level of techniques and the quality of products in Jua Kali appear to be low to the outsider, it is the low cost of their products which stimulates consumers' interest in them and ensures a market for them. It is necessary for aid providers to realise that the manufacturers and consumers are well in balance.

4. Sustainability

It is often found in cases of aid undertaken by international organizations that as soon as the project implementation period is over, the project is discontinued. Properly speaking, the recipient country's government is supposed to take over after the completion of the initial project. However recipient countries for aid are not well prepared to do this and moreover often lack financial resources to continue them. They are therefore forced to give up the continuation of the project unless they can find a new donor. In short, the reality is such that unless a project is financially self-sufficient, the project cannot be sustained. As a consequence, thorough analysis, evaluation and screening are needed when

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5. GEMINI (Growth and Equity through Micro-Enterprises and Institutions), *Technical Report 92 - Micro and Small-Scale Enterprises in Kenya - Results of a Survey*, p.32. This study was carried out by Development Alternatives Inc. and the Kenya Rural Enterprise Programme of Nairobi under USAID funding.
6. Some of the reasons why pilot projects did not proceed as planned are explained in III-4 - 'Sustainability' in this Paper.
7. A Jua Kali industrial estate is called a Jua Kali shed which is a workshop-undertaking in Jua Kali. There are five Jua Kali sheds nationwide - in Meru, Karatina, Nakuru, Voi and Kisii. In the shed in Nakuru, there are four buildings constructed on ten acres of land which house 122 Jua Kali. There are two sizes of workshops; the 31 big ones are 66 m2 and the 91 smaller workshops are 36m2. All 31 large workshops are for mechanics and have no roof. Thirty-one out of the 91 smaller workshops are also without rooves. The other 60 small workshops have rooves and are provided to businesses other than mechanics. Water, sewerage and electricity are fully provided. Rents vary from between Kshs.1,500 and 2,000 per month equivalent to about ¥3,000 -¥5,000 (yen) per month.
8. Based on interviews conducted in Nakuru.
9. Refer to footnote 5 for details.
10. GEMIMI, *Technical Report* No.75 (1993), pp33-34 and *Technical Report* No.92 (1995), pp.27-28.
11. When conducting field research, the author of this Paper, encountered similar thinking among those interviewed.

extending aid to Jua Kali in coming years.

5. Status of Jua Kali in the National Economy Needs to Be Clarified

Understanding the position of Jua Kali in the economy is one of the challenges in extending development assistance. Jua Kali businesses are thought of as being first level small-scale enterprises - a stepping stone to being sub-contractors to the modern industrial sector.[12] Assistance in the past was concerned with how to transform micro-scale Jua Kali activities into small-scale businesses in their role as part of national economic development.

However, the production activities of Jua Kali started as a way of survival. There is no background experience of the Jua Kali having ever been an 'industry'. In addition, most Jua Kali artisans do not even understand production techniques or have any knowledge of entrepreneurship.[13] Hence it is highly doubtful whether it was ever appropriate to think of Jua Kali as an 'industry' in the current situation or to promote the development of Jua Kali in conjunction with industrial development in a modern national economy.

IV A New Approach to Jua Kali Assistance

As has been noted, assistance given to Jua Kali in the past was directed to establishing it as an 'industry' and resolving its problems and amending inappropriate regulations all of which were believed to be hampering production. It aimed to transform their activities from micro-size enterprises into small-scale businesses. The aid approach was top-down led by government and aid organizations. Even though the needs of the people involved in Jua Kali were taken into account to some extent, the concept of self-help in the Jua Kali context and its sustainability were not recognised. Aid organizations conducted all the planning, implementation and monitoring paternalistically and the problems outlined in Section II inevitably arose.

What is needed now is to look at Jua Kali in its local context as a manufacturing activity which is locally developed, enhancing cash income and improving local standards of living, promoting local industry, alleviating poverty, with an important side-effect of improving women's participation in the work force and their social emancipation. It needs to be participant-oriented or participatory development in a context of the comprehensive rural development - a 'bottom-up' approach with aid directed to assist people to pursue their own goals of self-help and rural development. Those involved in Jua Kali need to decide what their problems are and then be given help to plan and implement the programs, and monitor and evaluate the outcomes in order to solve the problems. What is important to remember is that it is the Jua Kali which actually carries out programs while aid organizations only extend supplementary assistance.

If one is to achieve participant-oriented development based on self-help in the local community, then increased reliance must be placed on Jua Kali Associations in the planning and production activities of the small businesses so as to generate new cash income and overcome some of the difficulties and hindrances they have had to contend with. The role of aid organizations should be to give management guidance to the Jua Kali Associations and provide capital assistance along the lines suggested below:

1. Development of Jua Kali Associations

There are 440 Jua Kali Associations currently approved by the Ministry of Research, Technical Training and Technology and it is these which should be the direct participants of assistance through advice given to help create organized management systems through the formation of steering committees within each Association with elected members. The Associations could be first classified between those that are productive bringing in cash income and those that are still having difficulty in getting established. The steering committees would examine the problems of both types - in improving those that are productive and suggesting how the non-productive ones can overcome their difficulties.

Specific businesses designed by Associations would include both newly created ones and the expansion of those now productive. As for problem solving, if a proposal were made within an Association to implement a loan project, the steering committee would review it and if they found it to be viable and appropriate, would lay out a plan of activity. The aid organization would serve as an observer and provide guidance in planning and designing the project, providing information as required. After the plan is approved, the aid organization would extend a loan for it and furnish the guidance necessary to manage the project financially and by providing training through seminars and workshops. What is important here is that projects should be established that would lead to expansion and sustainability and enable the people engaged in Jua Kali to fully utilise their latent knowledge, experience and abilities.

2. Financial Assistance

Financial intermediary loans of the two-step type[14] would be provided by aid organizations. Loans taken out by those implementing the projects, that is, the

12. Republic of Kenya, *National Development Plan 1994-96,* p.150.
13. In most cases, people have little knowledge about selling, the procurement of raw materials and how to maintain inventories which is necessary knowledge for corporate management. Most do not differentiate between cash for business and money for living.
14. This is a loan system directed at providing the capital necessary for enhancing and strengthening manufacturing and agriculture, utilising the services of financial institutions which provide aid in emerging countries; *OECF Newsletter* 32 (1995).

Associations or end users, would be repaid through a group guarantee system.[15] The sense of collective liability would be facilitated by obliging each member to make daily or weekly repayments. However, the Associations would bear ultimate liability for repayment. The obligation of having to make daily or weekly loan repayments and make deposits in a savings account is aimed at creating savings for Association members to make them realise the importance and effectiveness of having savings. Increased savings will lead to the expansion and continuation of Jua Kali businesses.

Issues of interest rates, security or collateral for a loan, the terms of the deposits and limits on the amount to be loaned still need to be discussed. However the current idea is that the interest rate should be about 25 percent and Association members should be obliged to make deposits with the term of the deposits being from one to three years.[16]

V Important Issues in Jua Kali Assistance

In implementing local society developments, the following issues need to be considered:

1. Collection of Information, Surveys and Research

In order to implement assistance to Jua Kali from the perspective of rural development, it is necessary not only to conduct surveys on their production activities, but also to conduct surveys, research and analysis on the lives of the workers in their local setting. Particular attention should be given in the case of women workers because they tend to be engaged in production activities alone at home and it is difficult to understand the realities of their conditions. In this sense, it is necessary that project teams be formed to conduct surveys prior to giving assistance. The information gathered would serve as a basis for the assistance. The project team should include experts despatched to conduct long term surveys, project researchers as core members and private specialists from outside - local NGOs, universities, consultants and researchers from research institutions. This project team would construct a system for field research and would survey and analyse the trends of government, international organizations, donor countries and NGOs. It would also survey and analyse the current situation and the reality of people's lives; and as well, study measures for assistance and development of Jua Kali.

In addition to the survey, it would be a good idea to conduct a preliminary survey with field research by several Japan Overseas Cooperation Volunteers (JOCV) under the supervision of experts on rural society developments so that more accurate information is available.

JOCV volunteers would be expected to visit their assigned area often to deepen their exchange with Jua Kali workers and local residents and to examine and analyse socio-economic structures as well as their rural life-style including the division of power within the family, income sources, living standard and the division of labour between the genders. It is vital to include local communities in this process as much as possible rather than having the survey conducted only by JOCV volunteers. It is also important to collect information on the true needs for effective and efficient assistance, on the ability for self-help programs, on sustainability in the context of the implementation of projects. All the information gathered will fuel the preparation of project proposals.

2. Strengthening the Implementation System

Aid organizations need to lay a foundation for strengthening the system for implementing Jua Kali projects before they are approved. It is clear that without establishing an assistance process within the aid organizations, neither the smooth implementation of projects nor the expected outcomes can be achieved. Therefore it is necessary for aid organizations to undertake broad measures that will achieve their objectives such as, extending training to staff, strengthening departments in charge within the government, establishing support systems, writing regulations, forming a loan investigation committee and clarifying areas of responsibility on the donor side and those on the recipient side. These issues are further examined as follows:

1) Training Officials in the Recipient Country: This project should be a software-focused project, that is, not taking the typical form of cooperation which combines technical training with the hardware-side of building infrastructure and providing equipment. This approach has never before been used in Kenya so there is expected to be a lack of awareness and experience on the recipient side. A positive cooperative attitude is necessary from both the donor and recipient in order to extend development assistance to local societies. Therefore it is necessary to enlighten officials in charge in central government departments as well as their counterparts in local or municipal government; to provide practical training to staff; to strengthen government departments by extending training to their staff; and to increase people's awareness of the need for local development.

2) Training within the Jua Kali Association: The Jua Kali Association is touched upon Sections I and III. It is emphasised that the organization is more like a Jua Kali community than a true association. It is clear that most people do not understand what an association is. Therefore the first step is to make association leaders

15. The size of each Association varies. The largest one has 1,800 members. In big Associations, it is necessary to examine whether the responsibility should be assumed by all the members or only by those engaged in the subject business.
16. These criteria are recommended by the author based on material gathered about small-scale assistance which was extended to Kenya from 1994 onwards.

understand what an association is and what its role should be. There is also a need to provide guidance in association management, to strengthen the organization and to enhance human resources. It is equally important for the Jua Kali to clarify the objectives and functions of the association, to set rules and standards and to facilitate registration by introducing the association to non-registered Jua Kali workers.

3) Creating Support Systems: What the donor organization has to do in this project is to support the projects planned by the Jua Kali. It is necessary to anticipate possible problems in Jua Kali's planning and implementation of each project and to prepare solutions for them beforehand. However, no matter what preventive measures are taken, problems will arise in how assistance is given and the measures needed to be taken because several ministries and departments will be involved. Establishing support systems on the donor side is important. It is also essential to establish close ties with the government departments in charge, with counterparts, with local NGOs and consultants and to exchange information. In addition, it will be necessary to include those with financial knowledge and experience as well as experts from private sector management. Projects which cover finance, technology and materials, education and women often require loan and corporate management skills.

4) Establishing Responsibility: Kenya does not have much experience with participant-oriented projects in assisting the Jua Kali. Moreover they have a 'dependence mentality' being overly used to being given aid with an attitude that someone will grant it and do the job for them without much effort on their part. Accordingly, it will be necessary to give a full explanation of the purpose of participant-oriented projects to both government departments and to the steering committees of each project - the Jua Kali Associations - and to obtain their understanding of the concept. Areas of responsibility as they apply to the donor sides, the recipient government organizations and the steering committees of each project need to be clarified and set out in writing. In addition, it is essential to discuss what measures will be taken if any of the parties fail to fulfil their responsibilities. By defining the areas of responsibility in advance, it would be easier to clarify the objectives of each project.

5) Implementation of Projects: Based on the outcome of prior research, projects should be prioritised and one at a time should be implemented as each becomes feasible. In principle, the screening of projects should be done by the loan investigation committee with donor countries and the recipient government organization supporting the screening. Top priority should be given to those projects which receive the most favourable screenings. In addition to extending support through a variety of participant-oriented measures, donors need to build up their own overall experience and know-how in the projects and their management and as well, establish close communications between donors, recipient government organizations and the steering committees for each project in order to ensure that they run smoothly.

6) Life Span of Projects: The term of project implementation must be for a minimum of five years after completion of the initial survey and feasibility study and after conducting talks with the recipient countries. The first year should be spent, firstly, conducting surveys and research in the areas of specialisation of the experts despatched to the field and secondly, laying the foundation for the projects. The second year should be used to approve each project proposed by the Association. In principle, assistance should be continued to the stage of actual implementation, application and assessment. Flexibility will be needed to cope with long delays, keeping in mind that the sense of timing and slowness in project progress in Africa is quite different in Africa from that in Asia.

7) Other Concerns: In addition to the separate issues discussed above, there is a need to examine other issues such as:[17]

- preparing a legal system involving Association law
- arranging a Jua Kali Federation to consolidate associations
- provide guidance to associations on how to access capital
- how to jointly procure raw materials
- marketing the finished products
- improving technology and quality control
- collecting information

VI Future Directions for Jua Kali

In previous sections, specific measures for assistance to Jua Kali were dealt with. In this section, a look is taken at the directions that Jua Kali should be taking. Two alternative paths are examined:

1. Jua Kali as an Industry

Jua Kali is now the concept of local societal manufacturing but not mature enough to be regarded as an industry. It is premature to think of it as the base for the industrial sector of the national economy. However if Jua Kali progresses from a survival strategy in the local community to an industrial sector that is big enough to play a part in the country's economic development, then the future challenge to donors will be to not only contribute to resolving Jua Kali's current difficulties but also then to study assistance to Jua Kali in a

17. Such requirements were established in a financial aid program given by Friendrich Ebert Stiftung from Germany under the supervision of Kenya's Ministry of Research, Technical Training and Technology. After the financial aid ended in 1994, autonomous management within the Association became impossible and its functions ceased. The official name is, 'The Kenya National Federation of Jua Kali Associations".

more mature environment involving finance, the taxation system, deregulation, standardisation, quality control, development incentives for local industry, cultivation of markets and market share and economic development generally.

2. Jua Kali as Part of Comprehensive Local Development

The major industry or occupation in Kenya is agriculture accounting for 75 percent of total employment.[18] More than two thirds of the people, especially in rural areas, are engaged in farming in some way. When implementing local development projects under such circumstances, farmers cannot be overlooked even though the target of the projects are Jua Kali. In fact many farmers are busy in other economic activities during the off-season and provided the activity requires some kind of skill, they technically fit into the category of Jua Kali.

As mentioned, life at the local level involves various factors which interact both in positive and negative directions. Based on this, a project which focuses on the promotion of Jua Kali in a local setting, should at the beginning of its implementation phase, be part of a comprehensive rural development plan which includes village development programs.

It is desirable for comprehensive rural development to create productive employment opportunities and to expand broad and comprehensive local development covering both basic needs (education, health/sanitation/medicare, family planning, life improvement) and social infrastructure (roads, electricity, water supply, medicare/health centres). The ultimate goal of this is to improve the livelihood and living environment of all local residents - not only the Jua Kali workers but also the socially weak such as women and children, the disabled and the economically deprived - and to maintain and enhance a stable life for them.

VII Conclusion

In Gikomba, an open air market place in the heart of Nairobi, there are as many as 2,000 Jua Kali workers busy in metal processing activities. One stands to watch a man energetically working a bellow and repeatedly hammering on a chunk of red iron. On another side, there is a group hammering scrap iron plates continuously to make them into works. One sees another man making a frying pan by cutting a one centimetre thick iron plate with a chisel. All the men are working with their hands just using simple tools. Piled up next to the people working, there are untold numbers of products such as tin buckets, funnels, kettles, pots, oil lamps, made from empty cans, portable cooking stoves, suitcases and other bags. There is bustle in the air and noise everywhere. Under the blue sky and burning sun, sweat pours from the bodies of the Jua Kali workers as they toil with energy. As 'jua kali' - strong sunshine - literally means, it is a place full of life and hard work and alive with people.

The government of Kenya and aid organizations have long searched for Jua Kali promotion projects which can utilise the vigour of the Jua Kali people as momentum for economic development. Up to now appropriate measures have not yet been found. This is why this Paper has looked at donor assistance to Jua Kali from a different point of view - that is, proposing the development of Jua Kali in a purely local setting in which aid programs would be encouraged to go beyond conventional assistance projects. They would assist self-help schemes, seek cooperatioon through associations, promote autonomy at the local level, create potential among the local people and lastly have as a target, sustainability in the projects.

At the same time, it would enable aid programs to be focused on the poor in society who have been left behind in conventional development schemes of market economy. In particular it would be a means for helping women in their role in society. And overall, it would be directed at the grass roots of the nation's economy - a goal often given concerns about but seldom acted effectively upon in the past. Now perhaps one can see the opportunity to do something that can be realised successfully, that is, to develop a new form of assistance based on the local people's participation in a nation-wide progress.

Bibliography

1. ECFA Kaihatsu Kenkyujo, *Hatten Tojokoku no Syakai Kaihatsu Handbook* (Handbook on Social Development in Development Countries), (Kaigai Consulting Kigyo Kyokai, 1995).
2. Honda, Eri –'Informal Sector to Kaihats Enjo nitsuite' (Informal Sector and Development Assistance), *Kokusai Kyoryoku Kenkyu* 8(2) (1992).
3. Inukai, Ichiro, *Africa Keizairon* (African Economics), (Daimeido, 1979).
4. Kaigai Consulting Kigyo Kyokai, *Kaihatsu Frontier eno Chosen* (Challenge to Development Frontier) (1995).
5. King, K., *Jua Kali Kenya, Change and Development in an Informal Economy 1970-1995.*
6. The Ministry of Research, Kenya, *Technical Training and Technology: Draft Paper on Jua Kali Sector Development in Kenya* (1995).
7. Nakanishi, Tooru, *Suramu no Keizaigaku, Philippine niokeru Toshi Informal Bumon* (Slum Economics: Urban Informal Sector in the Philippines) (Tokyo Daigaku Shuppankai, 1991).
8. Shakai Kaiatsu Kenkyukai, *Nyumon Shakai*

18. Republic of Kenya, *National Development Plan 1994-96,* p.113.

Kaihatsu, Jumin ga Syuyaku no Tojokoku Enjo (An Introduction to Social Development: Local Resident-Oriented Assistance to Developing Countries) (Kokusai Kaihatsu Journal Sha, 1995).

9. WAA (Women's Activities Association), *Seikatsu Kojo Guidebook, Nihon no Keiken/WID no Siten yori* (Life Improvement Guidebook: Japan's Experience and WID Perspective) (1993).

NOTE

A Study on a Relationship between the Expenditure on Teaching and Learning Materials for Secondary Schools in Nepal

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The Nepalese Government regards education as an important factor in national development and gives it the highest priority. The major activity of the Ministry of Education is to train primary school teachers, which it has been doing for a long time, to revise the curriculum and textbooks for secondary education and to train secondary school teachers. Revision of the curriculum and textbooks, and training for primary and secondary teachers include the promotion of teaching and learning materials as well as supplementary materials. The Ministry intends to transform the conventional teaching style, which is based on teachers verbally transmitting the knowledge from textbooks to students, into a teaching style largely based on the use of teaching and learning materials.

Little, however, is known about how the budget is being spent on the ground or how much money is allocated for expenditures on teaching and learning materials. There is also a concern about whether there is a connection between the amount of money spent on teaching and learning materials and the academic performance of students. Based on this background, there was a need to examine the way the budget is spent in schools, especially on expenditures for teaching and learning. Moreover, in the Nepalese educational system, primary school teachers are educated in the secondary schools, so secondary education outcomes directly relate to the quality of primary school teachers.

An analysis of the quality of primary school teachers and the results of training for incumbent teachers would contribute much to the development of primary education.

To that end, a part of research conducted in 1994 was revised. Based on the data collected during the research, budget expenditures in schools and expenditures on teaching and learning materials were analyzed. In addition, the author analyzed the relationship between science and mathematics test results and how much was spent on teaching and learning materials. From the results, the amount of money spent on teaching and learning materials per student is surprisingly low. The relation between expenditure on material per student in each school and the test results were recurrent-analyzed using SPSS. The science and math results for both 8th and 10th graders were found to be statistically meaningful ($P<0.05$), and a connection was confirmed between the expenditure on materials and test results.

I Introduction

The teaching style found in schools in Nepal is described as "telling stories".[1] This goes a long way toward explaining the emphasis placed on the knowledge of teachers and knowledge transmitted verbally from teachers to students. Self-learning by students is not given serious consideration. In the classroom, emphasis is given to listening to the teacher. Too much importance is attached to this aspect of learning. Textbooks are also produced with this learning strategy in mind.[2] In addition, exams contain questions based more on knowledge, rather than skill, or scientific and mathematical aptitude. Because greater value is given to teachers' story telling, teaching and learning materials other than textbooks are seldom used in the classroom. They, as well as supplementary materials, are neglected. There have been criticisms of this style of teaching, even in the Ministry of Education, and vari-

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1. L. B. Shrestha, D. Regmi, *Report on Science Education in Nepal* (Kathmandu, CTSDC, 1984), pp. 50-57.
2. K. Tanaka, *The Role of Primary School Science and Mathematics Education in Nepal* (Master's Thesis) (University of California Los Angeles, 1992).

ous measures have been taken to resolve the situation. Especially in the area of teacher training programs, which the Nepalese government sees as an important challenge, the development and use of teaching, learning and supplementary materials are included in the training of teachers. However, despite these measures, the tradition remains unchanged both in primary and secondary schools.

II Objectives and Data

The purpose of this paper is to examine the way the budget is spent in secondary schools and on teaching and learning materials, as well as to analyze the relationship between the expenditure on materials and the academic performance of students. There are two reasons why such a study is necessary.

The first is from the perspective of curriculum and textbooks. The secondary school curriculum and textbooks in Nepal are currently being revised. The intention of the Ministry of Education in conducting this revision is to include more student activities in the curriculum and textbooks. If such a revision is accomplished, there will be more materials and supplementary materials used. The question is whether schools are capable of coping with such a change.

The second reason for this study is in relation to primary school teachers. The government believes in the importance of teacher training to improve the quality of their teachers and has implemented extensive on-site training for teachers. In the educational system in Nepal, primary school teachers are trained in secondary schools. Students qualify to become primary school teachers upon completing secondary education and passing the School Leaving Certificate examination (SLC). The vast majority of primary school teachers are SLC qualified teachers. As a result, the outcome of secondary education closely relates to the quality of elementary school teachers. Based on these two reasons, the author believes it is necessary to analyze the expenditure on the teaching materials used in secondary schools. Moreover, this kind of research both in primary and secondary education has never been conducted in Nepal.

This study has been revised from part of a survey[3] conducted in April 1994 by myself and my counterpart in the Curriculum Development Center, Ministry of Education while I was working there as a JICA expert. The purpose of the survey was to examine the level of academic achievement of students in secondary schools,[4] as well as to analyze whether there was any relation between the academic performance of students, schools, teachers or the background of the students. A committee was established to design the overall survey, make tests and questionnaires, and to analyze research samples.

Tests in science and math were conducted on 8th graders, who are at the lower end of secondary education and 10th graders, who are in the final year of secondary education. The Center for Education Research, Innovation Development, which is a research institute of Tribhuvan University was in charge of making the questionnaires. With regard to sampling, 53 secondary schools[5] in 18 districts out of 75 districts in the country were visited over 3 months, beginning in April 1997. The choice of schools was made as randomly as possible. There were difficulties which included inaccessibility by car because of geography. I visited schools located within about a 3 hour walk from roads accessible by cars.

This article first presents a general view of the budget for education, then examines the expenditures on schools and teaching and learning materials, and finally analyzes the relationship between expenditure on teaching and learning materials per student and test results. Analysis of the questions in the tests and test results[6] were excluded from this article.

III Outline of Budget Expenditures on Education

The budget for education accounts for a high percentage of the overall national budget. It accounted for about 13.43% in fiscal 1992/93, and about 13.58% in fiscal 1993/94. These percentages were the highest of all expenditures.[7] This is because the Nepalese government regards education as an important factor in national development. Figure 1 shows the budget allocated to primary, secondary, and higher education, each as a percentage of the overall educational budget, between fiscal 1977/78 and 1994/95, for which data was available to me.

In recent years, about 40-50% of the education budget has been spent on primary education. A huge amount of the budget has been spent on development because the government puts top priority on increasing the number of schools, and improving the literacy rate and the internal efficiency rate in primary education as well as guaranteeing full school enrollment of children between the ages of 6 and 10.

The budget for secondary education accounts for about 15.6% of the total budget for education. The government's goal is to make secondary education free. Enrolling 45% of 11 to 15 year old children in secondary education is also one of the objectives. As for

3. As to subject survey, see a report by K. Tanaka, *Secondary Science & Mathematics Tests with Relation to Some Significant Factors : Research & Study Report on Science & Math Education in Nepal* (CDC/SEDP, 1996).
4. Primary education is from the 1st to 5th grade, and secondary education is from the 6th to 10th grade. In most cases, secondary schools have grades 1 to 5 as an annex.
5. In April 1994, there were 2309 secondary schools, out of the 2482 secondary schools which existed at the time, which had data up to 1992.
6. For test questions and the analytical results of the test questions, see the report in footnote 3.
7. National Planning Commission, Central Bureau of Statistics, *Statistical Pocket Book* (Nepal, 1996), pp. 228-238.

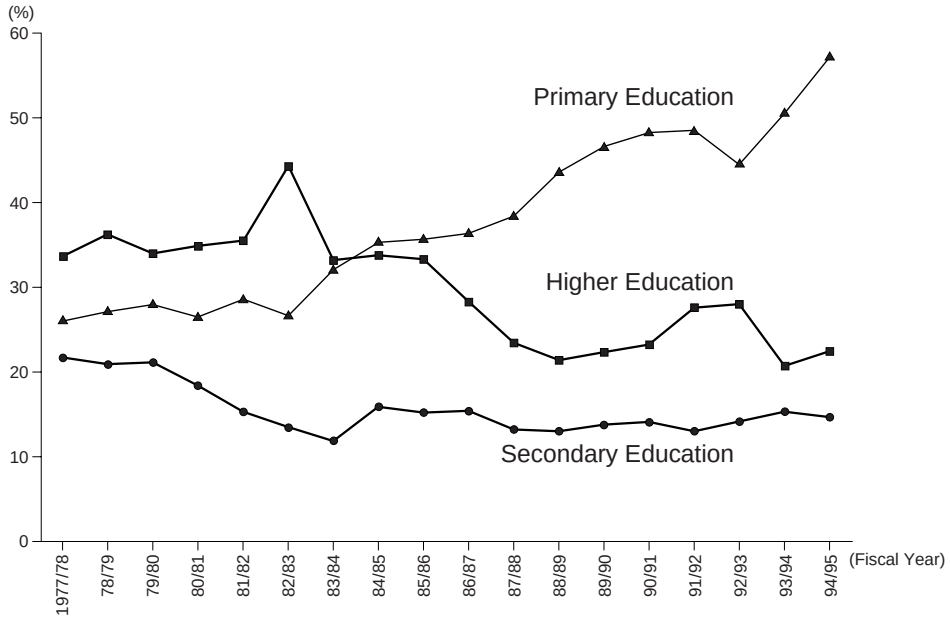

Figure 1 Changes in Budget Allocated to Primary, Secondary and Higher Education as a Percentage of the Overall Educational Budget

Source: Statistics of the Ministry of Education and the Department of Computers.

higher education, increasing the number of enrolled students is desirable, but there is a need to decrease the burden on the government. As a result, an increase in the number of private universities and campuses is expected.[8] For this level of education, 22% of the total budget for education is allocated. Secondary education has received the smallest amount of the budget for the last 18 years. This is because the government only bears the expense of secondary school teachers' salaries. It is assumed that the problem in the quality of primary school teachers has emerged because of the small amount of money being allocated to secondary schools where primary school teachers were being trained.

IV Schools' Budget Expenditures

School budgets are made up of teachers' salaries and allowances, which the government bears; a certain amount for school supplies which the government also bears, school fees from students, and donations from local residents and influential persons. Teachers' salaries and allowances are calculated based on regional characteristics, hiring the number of teachers in accordance with the number of students, and a teacher's rank. If a school hires more teachers than provisions allow, the school has to cover the extra expenses for the teachers' salaries.

Starting fiscal year 1997/98, teaching fees[9] will be free of charge at both the primary and secondary school level. This means that students will not be charged for teaching fees because the government will pay teachers' salaries. Schools currently collect school fees under various names. For instance, Adarsha Secondary School in the city of Bhaktapur collects school fees under 14 items including chair, desk, examination, sports, books, and medicine. For those in the 1st to 3rd grades, the fee is 318 rupees[10] annually, while for 8th and 9th graders, it is 363 rupees. Pragathi Shikchhya Secondary School in Patan City collects 1635 rupees from 10th graders. However, only a small portion of these school fees is spent on teaching and learning materials, as neither school owns books nor libraries. Instruments for scientific experiments, and other equipment and chemicals were old and dusty.

In order to examine how the budget is spent in the 53 schools surveyed, data on the total annual spending has been broken down according to: (1) salary and allowances for teachers: salary and allowances such as travel allowance; (2) teaching and learning materials: expenditure on chalk, erasers, paper used in the classroom and for exams, equipment and school supplies for science class, balls for physical education, and books; and (3) others: spending on chairs, desks, and maintenance fees for school buildings. Seven schools out of 53 did not return the questionnaire on budget and number of students. Data was collected from 46 schools.

First, per student expenditure was calculated based on the total annual expenditure and total number of students, and compiled in Table 1. The highest per student expenditure was 6,088.71 rupees at a school in the

8. National Planning Commission, *Eighthplan (1992-1997) Summary* (Unofficial Translation) (Department of Printing, HMG/NPC, Kathmandu, 1992).
9. In this article, kyoju ryo was translated into teaching fee, and jugyo ryo was translated into school fee.
10. The exchange rate of Nepalese rupees/yen was 1.6 to 2 yen/rupees. As an indicator, the monthly salary for local civil servants is 1,600 to 2,000 rupees for a typist and 4,500 to 5,000 rupees for a section chief.

Table 1 Per Student Expenditure (Fiscal Year 1993/94) Currency: Rupees

1	—	12	1892.80	23	5862.80	34	1324.65	45	1194.81
2	844.71	13	1022.42	24	6088.71	35	4454.77	46	1667.99
3	440.47	14	—	25	—	36	4651.83	47	2316.36
4	—	15	1393.66	26	—	37	907.67	48	4571.43
5	501.34	16	1816.65	27	1492.60	38	1190.36	49	—
6	1403.72	17	1592.55	28	1072.64	39	1401.07	50	2259.33
7	1004.00	18	920.16	29	1319.84	40	1040.73	51	2099.78
8	1189.67	19	542.39	30	1027.34	41	4010.19	52	2716.93
9	967.42	20	1672.37	31	1156.37	42	1519.10	53	2337.80
10	834.32	21	2030.23	32	700.18	43	—		
11	1258.39	22	797.44	33	1055.18	44	1177.36		

Mustang District in the central Himalayas (with a total expenditure of 730,645.00 rupees for 120 students). The lowest was 440.47 rupees at a school in the town of Nepalganj which is on the border with India (total expenditure 660,712.40 rupees for 1500 students). The average amount spent was 1,798.74 rupees per student (SD=1,355.91).

Based on the answers to question (1) on salary and allowances for teachers, the vast majority of school budgets is spent on salaries and allowances for teachers. These expenditures accounted, on average, for 84.13% (SD=16.86) of budgets. The highest expenditure was 99.49%of the budget for a school in the village of Chandrakot in the western hill country. The lowest was 21.91% for a private school in Jhapa District, on the border with eastern India. For 24 schools out of 51, the percentage was over 90%. Only 2 schools fell below 50%.

V Per Student Expenditure on Teaching and Learning Materials

Next, expenditure on teaching and learning materials per student was calculated by dividing the total expenditure of each school by the total number of students. In addition, the ratio of expenditure on materials per student against total expenditure per student was calculated and is given in parenthesis in Table 2. The average expenditure on materials per student among the 46 schools was 32.60 rupees (SD=65.82). The highest was 428.571 rupees for a school in Kathmandu. This school was founded in the early 1970s with aid from the United States and was originally attached to the Faculty of Education of Tribhuvan University. At present, this school has become a regular public school and accepts visually handicapped students.

There were 3 schools which spent nothing on materials. Of these three schools, School no. 23 in Table-2 is located in the western Himalayas, along a trade route to Tibet. School no. 31 is in a village in the western part of the country and has been only recently become a secondary school. School no. 36 is located in a village of economically deprived farmers of the Tamang tribe in Rasuwa District in the Himalayas. In general, the expenditure on materials per student is very small, considering a cup of milk tea costs 3 to 4 rupees in Kathmandu.

The ratio of expenditure on materials per student against the total expenditure per student varied from 9.74% (the highest) to 0.00% (the lowest). The average was 1.77% (SD=2.20). The ratio was below 1% in 21 schools out of 46 schools, which accounts of 46% of the total sample.

School no. 24 has the highest ratio and spends 50 rupees per student on materials. School no. 3 has the lowest ratio and spends 23.33 rupees per student. It is of interest that School no. 24 spends only twice as much on materials as school no. 3 but its total expenditure per student is 13.8 times more than that of school no. 3.

VI Results of Data Analysis and Observation

This section deals with the relationship between the science and math exams conducted on students of each school and the expenditure on materials per student. For this purpose, correlation and recurrence analysis were used. The recurrence equation used expenditure on materials per student as an independent variable, and the school's average mark on exams as the dependent variable.

A math exam for 8th graders was conducted on 809 students from 44 schools. The correlation coefficient was 0.28689, and R2 was 0.08230. The recurrence equation was Y=8.68037 (SE=0.16441) + 0.02194 (SE=0.00258) X. These were statistically significant ($P<0.05$). In addition, from the value of R2, about 8.23% was explained with the equation. As to the math exam for 10th graders, data was collected from 732 students in 44 schools. The correlation coefficient was 0.33782, and R2 was 0.11412. The equation was Y=7.17864 (SE=0.17459) + 0.02366 (SE=0.00244) X. Because the value of P was 0.000, the correlation coefficient and equation were statistically significant ($P<0.05$). Based on the value of R2, about 11.4% were explained with the equation. Data for the science test for 8th graders was collected from 804 students of 44 schools. The correlation coefficient was 0.17138 and R2 was 0.0297. This showed a weak correlation. The recurrence equation was Y=9.65030 (SE=0.13853) +

Table 2 Expenditure on Materials per Student (Rupees) and its Ratio against Total Expenditure per Student (%)

1	—	12	48.00 (2.54)	23	0.00 (0.00)	34	34.05 (2.57)	45	7.42 (0.62)
2	6.26 (0.74)	13	9.53 (0.93)	24	50.00 (0.82)	35	87.00 (1.95)	46	0.53 (0.03)
3	23.33 (5.30)	14	—	25	—	36	0.00 (0.00)	47	30.04 (1.30)
4	—	15	6.61 (0.47)	26	—	37	13.02 (1.43)	48	428.57 (9.37)
5	48.81 (9.74)	16	28.54 (1.57)	27	4.46 (0.30)	38	14.22 (1.19)	49	—
6	91.58 (6.52)	17	9.34 (0.59)	28	2.99 (0.28)	39	26.74 (1.91)	50	117.63 (5.21)
7	24.00 (2.39)	18	2.52 (0.27)	29	3.57 (0.27)	40	14.58 (1.40)	51	17.50 (0.83)
8	12.00 (1.01)	19	9.60 (1.77)	30	15.74 (1.53)	41	17.55 (0.44)	52	93.12 (3.43)
9	5.23 (0.54)	20	31.58 (1.89)	31	0.00 (0.00)	42	26.04 (1.71)	53	28.93 (1.24)
10	8.14 (0.98)	21	69.77 (3.44)	32	7.58 (1.08)	43	—		
11	7.05 (0.56)	22	0.33 (0.04)	33	1.82 (0.17)	44	14.41 (1.22)		

0.0105 (SE=0.00213) X. The value of P was 0.0000, and the relation was statistically significant (P<0.05). From the value of R2, about 2.94% was explained with this equation. For the 10th grade math test, data from 741 students from 44 schools was used. The correlation coefficient was 0.18707, R2 was 0.03499. It showed weak correlation. The equation was Y=6.75293 (SE=0.11719) + 0.00847 (SE=0.00164) X. The value of P was 0.0000, and the relation was statistically significant (P<0.05). Based on the value of R2, about 3.5% was explained by the equation.

As mentioned above, all cases showed statistically significant relationships and all these relationships can be explained by the ratio (%) described in each equation. A positive correlation in both shows that the greater the expenditure on materials, the better the marks of exams; the less the expenditure on materials, the worse the marks on exams. We expected the science exam results to show a stronger relation to the expenditure on materials. However, in this case, math showed a stronger relationship. We proved, however, that there was a connection between expenditure on materials per student and academic ability in both math and science. The fewer the number of students with satisfactory academic ability, the less the expenditure on materials per student; the greater the number of students with good academic ability, the greater the expenditure on materials per student.

As to the direct influence of expenditure on materials per student, we estimated that an increase in expenditure on materials per student results in an improvement in the academic ability of students based on the equation Y=AX+B. However, other studies are needed; for example, the background of students, taking into account caste,and the economic situation of each family; the quality of teachers, including their qualifications and length of experience as well as the number of students in a class; and regional characteristics. The findings here are that there is a positive correlation between marks on tests and the expenditure on teaching and learning materials per student.

VII Conclusion

This article examined the expenditure on materials per student and analyzed its relationship to test results in science and math. The findings are that overall expenditures on materials per student are very small, and that there is a positive correlation between these expenditures and the academic performance of students. Because expenditure on materials is very small, (1) it may be difficult for curriculum and textbooks currently being designed to be used properly in schools; (2) the training for primary school teachers may in practice have been undertaken with a focus that is different from that which the Ministry of Education intended in the area of designing curriculum and textbooks; and(3) the small amount of the money being spent on teaching and learning materials which support teachers in the classroom may be one of the reasons why training for incumbent teachers does not spread.

Based on the positive correlation between marks on tests and the expenditure on materials per student, it is necessary to study school management and administration by school masters. In Nepal, school masters are more influential in allocating budget in schools than the teachers who are in charge of each subject. In other words, the correlation between marks and the spending on materials explains the trend that school masters whose schools show a concentration of students with good academic performance spend more money on materials per student. School which have many students who show poor academic performance spend less on materials. If this is the case, a solution may be to discuss the issue of spendingon teaching and learning materials during the management and administrative training of school masters.

In conclusion, I would like to take this opportunity to thank my counterpart, Mr. Bal Krishna Man Singh, who is the chief of the Science and Mathematics Section at the Curriculum Development Center.

INFORMATION

1 The Second Country Study for Japan's Official Development Assistance to the Kingdom of Thailand

1. Development situation in Thailand and assistance of Japan

The Thai economy is presently continuing to grow steadily, stimulated by advancing industrialization that has been fueled by foreign capital inflows. Achieving such rapid economic growth in Thailand has, however, brought with it a number of challenges that the country currently faces; growing regional disparities between the rural villages and urban areas, the shortage of middle-level engineers who will be needed in the drive for further economic growth, environmental degradation accompanying the country's rapid industrialization and increasing urbanization, and the AIDS problem, which is being tackled as part of the joint US-Japan Global Issues Initiative Program.

Furthermore, Thailand has begun to cooperate with its close neighbors, particularly those in Indochina. Through its support for the Thailand International Training Center-plan and the Japan-Thailand Partnership Program agreed upon two years ago in August, 1994, Japan is working to encourage Thai cooperation in neighboring countries through a bilateral framework.

The economic and social situation confronting Thailand both at home and abroad has thus arrived at a new juncture. Against such a background, and aware of Japan's stance as the world's leading donor, the Second Thailand Country Study Committee begun its investigation of strategies to provide the assistance required for Thailand, one of the major countries in the region to make a smooth transition to a middle-income country.

2. Progress of the study committee

The study committee held a total of 8 meetings from the first on June, 1995 to the last (which was held in an open style). In the course of the study, it reviewed the economic, political and social situation in Thailand, the tendencies of assistance policies of major donor counties and multilateral agencies, and the progress of the ongoing Seventh Development Plan, as well as analyzing the possible direction the eighth Development Plan, which is now under the formulation. In addition, it examined selected main development issues now facing Thailand based on detailed awareness of the present situation mentioned above. Thus it prepared a report on the possible assistance to Thailand based on the following outcomes.

It also carried out two field surveys in June and October, 1995 respectively, in order to collect the necessary information and to exchange the development dialogue with the government of Thailand and its principle aid agencies concerned.

3. Outline of the report

With the understanding that the Economic growth in Thailand would bring about economic development and social stability in East Asia, and based on the awareness of the great significance for Japan, too, our country has provided ODA on a priority basis to Thailand, and has actively supported economic development in the arenas of developing economic and social infrastructure, and human development.

On the other hand, the Thai economy changed its focus from import-substitution to export-orientation as it industrialized in the mid-1970s. As a result of Thailand having actively encouraged foreign investment, direct investment from Japan, favored by the appreciation of the yen, and other countries providing the impetus for economic growth in the late 1980s, the inflation rate was kept below 2.5 percent for three years running, and the country achieved a dramatic double-digit economic growth between 1988 to 1990. Accompanying this rapid economic growth, Thailand is demonstrating solid progress in the wake of the Asian NIEs, and Japanese aid to Thailand is also in a period of transition, as anticipated by the in-principle termination of grant aid from Japan in 1993, etc.

Signs of this transition period can be also perceived from the fact that Thailand has itself begun to provide economic and technical cooperation to Indochina and has set out on the path to becoming a donor country.

However, Thailand's economic success is mirrored by considerable development problems facing the country; social and economic disparities such as income gaps and pollution problems.

In this aspect, Thailand, now at a juncture after having achieved rapid growth levels, is required to step up its efforts to cope with the transition period by maintaining its steady pace of economic growth in view of achieving a higher quality of life for the country. Meanwhile our country's aid policy to Thailand takes the perspective of supporting Thailand as a middle-income country. In such circumstances, There is a need to examine possible future aid to Thailand, focusing on the "human development and sustainable growth", and "Aid policy to Thailand in transition".

In considering these aspects, the study group deals with the following four perspectives: "Normalization of social disparities and distortions induced by the

rapid growth", "Support to sustainable development", "Intellectual contribution for effective administration", and "Support for regional cooperation".

The study group has identified six essential priorities of aid based on the above mentioned direction and perspectives by further analyzing the development issues Thailand faces:

1) Support for human resource development.
2) Development of basic social infrastructure.
3) Environmental conservation.
4) Promotion of local and rural development.
5) Industry promotion and infrastructure development.
6) Support for regional cooperation through Japan-Thailand collaboration.

4. Committee members

Fumio NISHINO (Chairperson)
Professor, International Development Graduate School of Policy Science, Saitama University

Izumi ARAI
Director First Division, Operations Department I, The Overseas Economic Cooperation Fund

Syujirou URATA
Professor of Economics, School of Social Sciences, Waseda University

Akira KASAI
Technical Special Assistant to the President, Japan International Cooperation Agency

Atsushi KITAHARA
Professor, Department of Philosophy, Faculty of Letters, Kobe University

Kouki NAKAJIMA
Chief Researcher, Regional Environmental Division Center of Global Environmental Research, The National Institute for Environmental Studies, Environment Agency

Hiroshi YAMAMOTO
Executive Director, Cooperative Research Institute

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2 Country Study for Japan's Official Development Assistance to the Hashemite Kingdom of Jordan

1. The background and process of the committee establishment

The Middle East peace process has been in progress since the Peace Conference held in Madrid in 1991. Among others, Jordan, being closely involved as a party to the Middle East peace making effort and intimately concerned by the Palestinian problem, is in a very crucial position in the peace making process in the Middle East.

The committee has started its activities in November, 1995, under the circumstances in which Japan's role in the international community is becoming increasingly important, and the peace process in the region in the critical situation. The committee bears two objectives; the first is to answer the question, "Why should Japan give assistance to Jordan?", and the other is to seek the pertinent assistance forms and project arenas of Japan's aid to Jordan.

2. Progress of the committee

The committee lead by Ryoji Tateyama, chief economist, of the Japanese Institute of Middle Eastern Economies, with 6 other members, held a total of 5 meetings from November 1995 to February 1996 to review the possible direction and forms of the assistance to Jordan. In the course of the review, a 10-day field work was carried out to gather necessary information and related materials, and held aid policy dialogues with the government of Jordan and its principle aid agencies. The report was compiled from the manuscripts written by the members of the committee and took shape as recommendations based on the outcomes

3. Outline of the report

In the report, the reason of the assistance is described as, "For the peace process in the Middle East to continue it is essential to give foreign assistance to Jordan as a part of international support," with the following considerations in its implementation: 1) concordant Japan's assistance with its ODA Charter, 2) emphasis on Jordan's self-help efforts, 3) compatibility with multilateral support frameworks for the Middle East peace process, 4) consideration for the socially vulnerable people, and 5) promoting participation by ordinary citizens and local people. Based on the above perspectives, the report cites the following focal roles and fields Japan's ODA should cover:

1. Laying the foundations for economic stability and development.
   1) Support for macroeconomics stability and structural adjustments.
   2) Reform and increased efficiency in both the government and the public sector.
2. Supporting the stability and sustainable development of Jordan's local communities.
   1) Improvement of environmental sanitation in urban areas.
   2) Improvement of basic medical services, especially in rural areas.
   3) Development of basic information infrastructure to facilitate social policy implementation.
3. Assisting the Jordanian economy to become more active in order to facilitate the regional economy's take-off.
   1) Improvement of the economic infrastructure including electric power and transportation
   2) Effective use of water resources - cooperation in management improvement, appropriate technology transfer, rehabilitation of water supply and sewage systems, etc.
   3) Industry promotion - activities directed to fostering small-scale businesses and tourism, and development of the south, with Aqaba and its vicinities in a regional hub.
   4) Effective human resource development - training of government and public sector personnel, and training of staff to foster and promote private sector industry.

4. Committee members

Ryoji TATEYAMA (Chairperson)
Chief Economist, The Japanese Institute of Middle Eastern Economies

Yoshinari OSHIMA
Director, Third Regional Division, Planning Dept., Japan International Cooperation Agency

Naoyuki KANEKO
Researcher, Institute for World Politics and Economy

Manabu SHIMIZU
Director, Development Studies Department, Institute of Developing Economies

Kohei HASHIMOTO
General Manager, PHP Research Institute, Inc.

Hiroshi HARUTA
Deputy Managing Director, Operations Department III, The Overseas Economic Cooperation Fund

Haruo IWAHORI
Development Specialist, Japan International Cooperation Agency

3 The Study Committee for Japan's Official Development Assistance on "Participation in the Activities of the International Year of Disabled Persons"

1. Background of the study and process of the committee establishment

The United Nations' support to disabled people has been marked by steady and continued steps toward the enhanced consideration for persons with disabilities. The United Nations designated the year 1981 as "The International Year of Disabled Persons" in view of the "perfect participation and equality" of the disabled. After the International Year of Disabled Persons had been concluded, the UN adopted the "World Action Plan for Disabled Persons" in 1982 aiming at continued challenges for this issue, and subsequently declared a ten-year period between 1983 and 1992 as the "United Nations International Decade of Disabled Persons", and formulated specific action plans corresponding to each county's situation.

Our country has also striven to take actions in response to the UN commitment. "Long-term Plan concerning Disabled People" was formulated in 1982 by the International Year of Disabled Persons Promotion Bureau (established in 1981), then "the New Long-term Plan concerning Disabled People" was adopted in 1992 by the Disability Services Promotion Bureau (established in 1982) in order to identify basic perspectives and specific measures anticipating our country's ten year policy for disabled people from 1993. The new long-term plan focused on international cooperation, with recommendations of close communication between associations of disabled persons, relevant know-how for developing countries, and international exchanges of welfare policy information .

In considering these circumstances, JICA has started research in order to examine possible measures to be taken in Japan' s ODA with due consideration for persons with disabilities as vulnerable people in the society and further participation in activities concerned.

In FY 1996, JICA carried out a survey to study local demands under the name of the Field Survey Phase II in order to grasp the desired activities and conditions for disability services of the recipient countries. The outcome of the study is to be compiled together with the findings of the Field Survey Phase I, and further practical recommendations will be announced in order to incorporate local disabled persons into the international cooperation.

2. Progress of the study committee

The study committee, embarked inviting outside specialists, held a total of 7 meetings from August 1995. The committee was formed by the following committee members:

Yasuhiro HATSUYAMA (Chairperson)
President, National Rehabilitation Center for the Disabled
Kazutoshi IWANAMI
Managing Director, Institute of International Cooperation, JICA
Etsuko UENO
Director, International Department, Japanese Society for Rehabilitation of Disabled Persons
Hideharu UEMURA
Chief Psychologist, Division of Psychology and Rehabilitation Management, National Rehabilitation Center for the Disabled
Yoshiko OTSUKI
Director of JFD Headquarters, Japanese Federation of the Deaf
Akiko KOBAYASHI
Lecturer, Chubu Women's Junior College
Hisao SATO
Dean, Faculty of Social Welfare, Japan College of Social Work
Tetsuji TANAKA
Chief Librarian, Japan Braille Library
Masatsugu NARUSE
Director, International Cooperation, Japan Council on Disability
Ryosuke MATSUI
Director, Japan Association for Employment of the Disabled

3 Outline of the report

The study report was composed of 7 chapters:
Chapter 1: Outline of the study; Chapter 2: Actual status and social participation of disabled persons in Japan; Chapter 3: Services for the Disabled of other countries after the International Year of the Disabled Person; Chapter 4: Outline of international cooperation programs for disabled persons in developing countries and their participation; Chapter 5: Questionnaire for selected associations for disabled persons; Chapter 6: Cooperation needs for disabled persons in developing countries and future cooperation; Chapter 7: Recommendations to encourage the disabled persons' participation in the international cooperation programs.

The result of the questionnaire is shown in Chapter 5. To examine the measures to facilitate disabled persons to take part in the international cooperation programs,

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the study committee gathered opinions of welfare associations as well as Japanese NGOs which are involved in activities with associations for the disabled and persons with disabilities in developing countries. From December 1995 to February 1996 the committee conducted the survey by using questionnaires with the understanding that the organizations might have an elevated interest in the international cooperation activities. (The response rate: 52.3% , targeted associations: 185); More than 50% of the associations replied, demonstrating interest in the activity, that they were anticipating future cooperation with the disabled in developing countries. About 70% out of those are actually engaged in some international cooperation program / programs and of the rest some 20% replied that they haven't had experience so far but had interest in the activity.

Concerning Japanese disabled people's cooperation with those in developing countries, more than 50% of the organizations replied that "it should be promoted", while only few associations expressed their reluctance replying that "it is not necessary" or " it should not be promoted"

Among the reasons mentioned by those replying affirmatively, the most common explanation is, "participation of the disabled would give great impact and effective cooperation could be expected", and the answer "through cooperating with those in developing countries, Japanese disabled persons could empower themselves, achieving self reform and further social participation" comes next. When asked whether they wanted to engage in cooperation programs under Japanese ODA activities in the disability field, nearly 40% of the association replied "they don't know." And nearly 30% answered, "they would like to participate". Some of them have been engaged in the past or are now involved in the programs, and many of them want to participate in the activities in the future. These answers showed that those NGOs are not fully aware of the ODA system or specific cooperation principles but they have an interest in cooperation programs under Japanese ODA.

Concerning the constraints which prevent the disabled from participating in ODA international cooperation programs, many blamed "insufficient provision of information in regard to ODA programs". "Difficulty in recruiting human resources with sufficient language and technical capabilities" and "inadequate system to facilitate easy participation of the disabled", etc. are the explanations which followed the first.

For the solutions of the above difficulties, "provision of related materials and information, and extension of public service", "sufficient financing" were mentioned among others.

The questionnaire reveals their positive attitude toward international cooperation activities. Many of the associations for the disabled want to participate in international cooperation programs and more than half of those questioned answered that "participation in international cooperation activities by disabled persons should be enhanced"

In Chapter 7, recommendations to facilitate the disabled persons' involvement in the international cooperation programs were outlined.

Based on the questionnaire conducted, the study committee has prepared the following recommendations. They are aimed at facilitating Japanese disabled persons' participation in the disability field of the international aid programs under Japan's ODA and others. The final recommendations were reviewed considering also the findings of a survey carried out in recipient countries to grasp the local needs as partly a field study implemented in 1996.

(1) Cooperation strategy

Cooperation by Japanese disabled persons with those in developing countries is expected to have an enormous cooperation effect. This also enables the disabled people in Japan to achieve their empowerment and self-reform by learning from the status of the disabled in developing countries.

Considering the dimension of the possible impact, it is desirable that disabled people in our country cooperate with those in developing countries who could basically share the common experience. This, however, does not limit their possibility to cooperate in other areas and when any activity in a new field is required, it should be positively considered.

(2) Measures for accelerated participation

In order to encourage disabled persons to engage in ODA programs, it is necessary to elaborate specific and appropriate projects which would invite the participation of disabled persons, by enhancing cooperation with persons with disabilities in developing countries. The study committee, thus, has identified seven necessary measures for disabled persons to take part in ODA activities:

1) Formulation of cooperation principles to support

disabled persons in developing countries.
2) Establishment of an information exchange system for cooperation programs directed for disabled persons.
3) Formation of an advisory group to cooperate with disabled persons in developing countries.
4) Participation promotion of disabled persons in language training programs, etc.
5) Provision of basic information concerning the disabled in developing countries.
6) Better understanding of the disabled among personnel of ODA related agencies.
7) Formulation of a specific and practical action plan and establishment of follow-up system.

(3) Necessary considerations in participation

Various considerations are required when disabled people participate in international cooperation activities. In the report most attention was paid to the requirements of securing the safety of the dispatched personnel.

The report also touched on the necessity of special consideration in facility preparations such as training centers, and possible obstacles in the course of training programs in Japan. Special considerations required abroad are also specified in the report as follows:

1) Sufficient field research and well understanding by governments of recipient countries are required;
2) The first cooperation should be taken with an East Asian country which already has had cooperation experience in the disability field.
3) Dispatch a person as a member of the JOCV team or dispatch a person paired with an assistant in the framework of project-type technical cooperation should be facilitated when the disabled person needs an assistant.

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4 Study on "Promoting Good Governance in War-torn Countries"

Increasing attention has come to be placed on the concept of "good governance" in response to evolving discussions and debated over aid strategies from various aspects. It has become ever more important to understand the concept from a systematic viewpoint and analyze its framework in order to study its future role in development assistance, in the circumstances in which essential social values such as democracy, human rights and peace, have come to be widely attained in the international community.

JICA set up the Aid Study Committee on Participatory Development and Good Governance to seek how to link the concepts of "participatory development" and "good governance" into our country's assistance strategies.

In this light, the Institute for International Cooperation of JICA has commissioned the study to the Overseas Development Council, one of the Development Cooperation Institutes in the United States through the arrangement of JICA's office in the United States. The study includes the analysis of assistance needs and examination of specific cooperation projects entailing "good governance" in such countries as Cambodia, El Salvador, Nicaragua, Mozambique, which are striving for their countries' rehabilitation after long-lasting civil wars.

In the study report, the following points were examined:

1) Four conceptual elements (accountability, legitimacy, participatory and decentralized decision-making, transparency) of good governance and how they contribute to economic development.
2) Focal points and crucial areas of good governance defined in the recommendations by the JICA's aid study committee was reviewed in comparison with those defined in the "Principles of Participatory Development of Good Governance" by DAC (Development Assistance Committee) of OECD, and the World Bank's publications. The comparative review revealed that the priorities (legislative institutional building, enhancement of supportive environment for market economy, ensuring effective and efficient administrative function, transparency and accountability, decentralization, securing human rights, freedom of speech and the press) recommended by JICA's study committee are almost identical to those defined by DAC and the World Bank, with only minor difference in their interpretation and focus.
3) Political and economic environment of the countries which have lived a long period of civil war and conflict were outlined, and reviews of priorities and the analysis of assistance needs related to good governance were made.

Eight issues of priorities are suggested for the countries which have to tackle such issues as democratization, market reconstruction, political reconciliation and peace building under the circumstances in which they are suffering from a disrupted infrastructure, and an extremely precarious organizational system and human resources:

1) Recovery and reinforcement of local security.
2) Provision of basic sustenance including food and drinking water, and shelter.
3) Response to the needs of refugees and wartime veterans.
4) Vitalization of the economy.
5) Establishment of a dispute settlement mechanism.
6) Settlement of the problems related to the justification of the government.
7) Capacity building of the government.
8) Consolidation of a civilian society.

The study report proposes the following recommendations, as part of our country's development aid, to support the establishment of good governance in war-torn countries:

1) Japan's aid (traditionally directed to technical cooperation and support for infrastructure building) should be oriented to the areas which cannot be achieved without ensuring good governance and which contribute to a civilian control system, judicial and punitive entities, hospitals and welfare facilities, protection of human rights, surveillance system, a central bank, etc.
2) New methods of technology transfer and technical training should be developed seriously taking into consideration insufficient human resources and people's hostile relations in the past.
3) A non-traditional form of financial assistance should be implemented to supplement current expenditure.
4) Assistance adjustment should be executed.
5) Policy dialogues and conditions should be effectively performed.

The aid study report consists of the text and data written both in English and Japanese.

5 Study on "the Measures on Population and AIDS undertaken by Donor Aid Agencies and International Organizations"

1. Background of the study and its objectives

Rapid increase in population and HIV infected people in developing countries have become crucial global issues which could affect the existence of humans in a long-run. The issue is identified as one of the highest priority fields in the Global Issues Initiative on Population and AIDS agreed on in the US-Japan Framework Task on Bilateral Trade. Our country has expressed its commitment in cooperation with the US to contribute three billion dollars, over a period of seven years starting from 1994 for assistance in the Population and AIDS programs.

In the circumstances in which accelerated aid implementation in population and AIDS problems has become an urgent task, JICA has formulated aid principles, strategies, and orientations in view of further enhanced cooperation in the related arenas: in the principles adopted in July 1994, JICA recognized the needs of assistance extended in an integrated manner by linking directly-related cooperation in maternal/child health and family planning, family planning education, and demographic statistics, with such indirect cooperation as primary health care (PHC), and primary and women's education.

The objective of the study is to prepare basic information and data which enable reviews and commitment in order to facilitate appropriate aid measures in population/AIDS problems and public health by seeking possible forms of cooperation with other donors and development of new assistance strategies.

2. Outline of the report

In making the report, the committee has consigned the surveys with the help of JICA offices in those countries where principle official development assistance agencies are located (the United States, England, France and Sweden) to collect information on specific common items such as aid policies, performance and cooperation methods. The information was basically taken from agencies' annual and project reports and other materials open to the public. In some countries like France and Sweden, where the latest information has not yet been publicized, data were supplemented by the information gained through interviewing officers in charge of each agency.

Items studied in the report are:

- Policies/principles of aid in population and their implementation strategies.
- Policies/principles of aid in AIDS and their implementation strategies.
- Aid-targeted countries;
- Budget for population assistance and aid performance.
- Organization and system of the aid implementation.
- Cooperation with other aid organizations and NGOs.
- Some cases of implemented projects.

Reports were made in English by the local consultants based on information collected along with the above points, and translated into Japanese at the Institute for International Cooperation of JICA. When supplementary explanation was required for completing the final study report, information was taken from various reports and literature on population/AIDS assistance published by the United Nations and private research institutions.

The study report consists of several chapters, each of which is an independent report on each of aid agencies, therefore even though we made efforts to standardize the headings of all the chapters, the structure in each chapter is not completely identical due to the difference in development aid strategy by countries and agencies, organizational structure and scope of works by aid agencies, and standard project operation methods.

In the process of producing the study report, it was learned that in population and AIDS problems each agency performs specific aid activities by region and project. The knowledge of diversified activities as well as characteristics of the principle aid agencies is expected to be utilized in reviewing JICA's future assistance orientations.

JICA Japan International Cooperation Agency	was established on 1 August 1974 as an official aid agency of Japan under the supervision of the Ministry of Foreign Affairs. In order to help promote the ecomonic and social development of the developing world, JICA extends various kinds of cooperation including technical cooperation, grant aid, dispatch of Japan Overseas Cooperation Volunteers (JOCV).
IFIC Institute For International Cooperation	was established on 1 October 1983 as one of JICA's affiliated organs. Its pupose is undertaking recruitment of development specialists, training qualified Japanese experts, research and study, and collection and dissemination of information of technical cooperation.