PROGRAM

9:00~	**Registration**
10:00-10:20	***Opening Session*:** Opening address: Hiroshi Hase, Senior Vice-Minister of Education, Culture, Sports, Science and Technology, Japan Opening address: Katsutoshi Kaneda, Senior Vice-Minister of Foreign Affairs, Japan
10:25-11:10	***Keynote Speech:*** "Educational Cooperation from the Perspective of Japan's ODA Strategy" Dr. Toshio Watanabe President, Takushoku University
11:10-11:55	***Keynote Speech:*** "Issues in Educational Development in Developing Countries and the Role of International Cooperation" Mr. Ato Essuman Chief Director, Ministry of Education and Sports, Republic of Ghana
12:00-13:30	**Break (Lunch)**
13:30-16:15	***Panel Session:*** "Improving the Quality of Education by Enhancing Teachers' Quality" **Moderator:** Prof. Norihiro Kuroda, *Professor, Center for the Study of International Cooperation in Education, Hiroshima University*
13:30-14:00	**Opening Presentation:** "Japanese International Cooperation in Education" Dr. Morikazu Ushiogi, *Graduate School of International Studies, Obirin University*
14:00-15:00	**Panel Presentation:** **Panelists:** Dr. Fasli Jalal, *Director General for Quality Improvement of Teachers and Education Personnel, Ministry of National Education, Republic of Indonesia* Dr. Merle Tan, *Director, National Institute for Science and Mathematics Education Development (NISMED), University of the Philippines* Ms. Françoise Caillods, *Director a.i., International Institute for Educational Planning (IIEP) UNESCO* Mr. Ato Essuman, *Chief Director, Ministry of Education and Sports, Republic of Ghana* Dr. Morikazu Ushiogi, *Graduate School of International Studies, Obirin University*
15:00-15:15	**Break**
15:15-16:15	***Panel Discussion:*** "Improving the Quality of Education by Enhancing Teachers' Quality"

Opening Session

Opening Remarks

by Hiroshi Hase

Senior Vice-Minister for Culture, Sports, Science and Technology of Japan

On the occasion of the Japan Education Forum III

Good morning, ladies and gentlemen,

I am Hiroshi Hase, Senior Vice Minister of Education, Culture, Sports, Science and Technology. On behalf of the Ministry, which serves as one of the organizers, it is my great pleasure to welcome all of you to the Japan Education Forum III.

The underlying theme of this forum is “Education for All.” I believe that competent teachers are indispensable to good education, no matter what country. In order to improve the quality of education, we must consider specific measures to enhance the quality of teaching materials and to achieve high-quality education over all.

“Improving the quality of education” is the main theme of this forum, and in order to make that happen, the Ministry of Education, Culture, Sports, Science and Technology intends to play an active role in close cooperation with the Ministry of Foreign Affairs and donor organizations. In this respect, I have high expectations for today’s discussions, and I would like to express my sincere gratitude to the keynote speakers and panelists who kindly agreed to participate in this forum. I would also like to ask the audience to actively take part in the discussions and to cultivate a deeper understanding of the importance of educational assistance to developing countries.

Thank you very much.

Opening Remarks

by Katsutoshi Kaneda

Senior Vice-Minister for Foreign Affairs of Japan

On the occasion of the Japan Education Forum III

Good Morning, distinguished guests, ladies and gentlemen,

My name is Katsutoshi Kaneda, Senior-Vice Minister for Foreign Affairs. On behalf of the Ministry of Foreign Affairs, it is my great pleasure to welcome all of you to the Third Japan Education Forum. I would particularly like to thank the speakers and panelists from Africa, Asia and UNESCO as well as from Japan for their participation.

Without doubt, education is the engine for national development, by fostering human resources equipped with a high level of learning and ability to flexibly respond to change.

Looking back, Japan has achieved development by promoting human resources development through education as the foundation of nation-building. After the Meiji Restoration about 140 years ago, Japan had managed to achieve modernization in a relatively short time by learning from the technologies and legal system in Europe and the United States. It is said that one of the major factors that contributed to such an achievement was the existence of a popular learning system called "terakoya" before the Meiji Restoration, providing basic skills among the common people such as reading, calculation and abacus. More recently, Japan's successful post-war reconstruction and rapid economic growth since 1945 was possible through investments in education.

Based on such experiences, Japan attaches importance to education in Official Development Assistance (ODA). Japan has actively been contributing to the realization of "Education for All" based on its "Basic Education for Growth Initiative (BEGIN)," which was announced at the G8 Kananaskis Summit in 2002. The three priority areas of BEGIN are access to education, quality of education and management of education. During the period between 2002 and 2004, Japan has provided approximately US$ 928 million in support of basic education in the developing countries.

The goals of "Education for All" include not only access to education but also providing quality education. It is very significant that the focus of this forum is the quality of teachers because, from Japan's own experience, learning outcomes of pupils depend to a large extent on the capacity of teachers.

It is my sincere hope that there will be active and fruitful discussion during the Forum, and moreover, that the participants can learn from each other's experiences.

I thank you for your kind attention.

Executive Summary

Japan Education Forum III

－ Collaboration toward Greater Autonomy in Educational Development －

Outline of the Forum

The importance of achieving universal access to basic education in developing countries is widely recognized in the international community. Not only developing countries but also developed countries and international organizations are making efforts to make "Education for All (EFA)" a reality. Japan has also been actively extending international cooperation in the area of basic education as one of the priority areas of its ODA, recognizing that education is a cornerstone of human security, nation-building and human resources development. The Japan Education Forum (JEF) is an annual forum established in March 2004 by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Ministry of Foreign Affairs (MOFA) as a part of Japan's international cooperation in education for developing countries. With the underlying theme of "Collaboration toward Greater Autonomy in Educational Development," JEF is jointly organized by MEXT, MOFA, Hiroshima University and the University of Tsukuba and supported by the Japan International Cooperation Agency (JICA) and the Japan Bank for International Cooperation (JBIC).

Based on the on-going discussions on international educational cooperation at EFA meetings and other forums, "Improving the Quality of Education: Enhancing Teachers' Quality" was focused on as the theme of this year's forum. JEF III was held in Tokyo on February 9, 2006, and about 250 people (including about 50 foreigners) participated from various organizations, including universities, aid agencies, NGOs, ministries, foreign embassies in Tokyo and students (foreign students as well). The forum started with the addresses of Mr. Hiroshi Hase, Senior Vice-Minister of MEXT, and Mr. Katsutoshi Kaneda, Senior Vice-Minister of MOFA on behalf of the organizers. In the morning, keynote speeches were made by Dr. Toshio Watanabe, President of Takushoku University, from the Japanese side, and Mr. Ato Essuman, Chief Director of the Ministry of Education and Sports of the Republic of Ghana, from the side of developing countries. In the afternoon, a panel session was held with the participation of experts from Japan and abroad under the theme of "Improving the Quality of Education: Enhancing Teachers' Quality." In addition to the active discussion among the keynote speakers and panelists, there were many questions and comments from the floor, contributing to the lively discussion on improving education in developing countries. The summary is as follows:

Keynote Speech (Dr. Toshio Watanabe, President of Takushoku University)

Dr. Toshio Watanabe, President of Takushoku University, made a keynote speech titled "Educational Cooperation from the Perspective of Japan's ODA Strategy" and explained the strategy of Japan's ODA including educational cooperation. At the beginning, he explained three features of Japan's ODA, which has a history of over half a century. First, the geographical regions where Japan's ODA was provided were primarily East Asia. Second, Japan's ODA supported industrial development by building infrastructure. Third, Japan's ODA was provided in the form of loans. Building infrastructure involves private companies both during and after the construction process. Efficient business operations of such private companies were made possible by the developed economic infrastructure in East Asia. Dr. Watanabe explained that Japan's ODA made great contributions to the establishment of the economic infrastructure there. As a result of the development of East Asian countries, they now have sufficient funds and technologies of their own to build infrastructure. Therefore Japan's ODA should gradually shift to the sectors where self-help efforts alone cannot resolve the issues, including cooperation in environmental conservation, human resource development and educational cooperation. Furthermore, Japan should target not only East Asia but also sub-Saharan Africa and the

Middle East for ODA. Then, Dr. Watanabe explained that the most important philosophy of Japan's ODA is to support self-help efforts and that this philosophy is mentioned in both the old and the new ODA Charters. Economic indexes that indicate self-help efforts, such as domestic savings and debt service ratios, clearly show the effectiveness of Japan's ODA that supported the self-help efforts of East Asian countries. Japan, too, was one of the world's major recipients of ODA after the end of World War II. Making effective use of ODA through its own self-help efforts, Japan successfully accomplished post-war reconstruction. Based on this experience, Japan's ODA strategy has been developed, incorporating the philosophy of self-help efforts.

In order to bring about developmental effects of ODA, it is necessary to create a "catalytic effect" brought about through the introduction of private companies. The catalytic effect is enhanced by developing institutional infrastructure as well as physical infrastructure. To help build institutional infrastructure, the weight of intellectual assistance has to be raised in the ODA. In addition to transferring capital and technologies to developing countries, it is important to transfer the entities and abilities of corporate management that efficiently organize the capital and technologies. In this regard, Dr. Watanabe also referred to the necessity of analyzing the mechanism whereby ODA raises the developmental effects brought about by private companies.

At the same time, Japan must consider how it should be involved in the Poverty Reduction Strategy Paper (PRSP) regime. Basically, steady and sustained domestic efforts must be encouraged. The external impact of ODA can elicit self-help efforts but cannot replace them. Finally, Dr. Watanabe emphasized the particular importance of educational infrastructure as a part of institutional infrastructure. He expressed his hope that this forum would provide a good opportunity to investigate how optimally Japan's ODA can be integrated in the self-help efforts of developing countries in the field of education, recognizing that education strongly reflects the cultural tradition of each country.

<u>Keynote Speech</u> (Mr. Ato Essuman, Chief Director of the Ministry of Education and Sports of the Republic of Ghana)

Mr. Ato Essuman, Chief Director of the Ministry of Education and Sports of the Republic of Ghana, made a keynote speech, from the side of the developing countries, titled "Issues in Educational Development in Developing Countries and the Role of International Cooperation." In his speech, he mainly focused on two points: the issues of educational development in developing countries (access, quality, equity, threat of HIV/AIDS) and the role of international cooperation in educational development in developing countries. Mr. Essuman also touched upon the importance of self-help efforts of developing countries.

As for the first point, Mr. Essuman referred to the low school attendance of girls, the issue of opportunity cost, the poor transition rate of children to secondary schools after completing primary education and impartial financial support of secondary and tertiary education. Regarding quality, he mentioned such issues as inadequate teacher training, the low income of teachers, overcrowded classrooms, the lack of basic learning materials, and the issue of many children who are unable to acquire basic skills of literacy or numeracy or life skills even after completing basic education. Regarding equity, Mr. Essuman explained the disparity between the affluent and the poor, gender disparity and the disparity between children with disabilities and without disabilities. He also touched upon the role of education and teachers' roles in addressing the issue of HIV/AIDS, which is having a major impact on sub-Saharan Africa, among other regions.

In relation to the second point, Mr. Essuman discussed what developing countries and developed countries (development partners) can do to promote cooperation in educational development in developing countries. He listed specific items. As for what developing countries can do, he discussed the development of strategic plans, medium-term expenditure frameworks, strengthening accounting and financial management systems, periodic reviews, strengthening donor coordination and education management information systems (EMIS). As for what developed countries can do,

he stressed simplification and harmonization of aid procedures.

Panel Session: "Improving the Quality of Education by Enhancing Teachers' Quality"

A panel discussion was conducted on the theme of "Improving the Quality of Education by Enhancing Teachers' Quality" with five panelists including educational administrators, researchers on education and an expert from an international organization. Professor Norihiro Kuroda of Hiroshima University served as the moderator of this session. At the beginning, he presented the following three sub-themes as the major components of the session: (1) teachers' roles in improving the quality of education and various issues and challenges that teachers face, (2) what policies and measures have been implemented and must be implemented in order to solve these issues and challenges, (3) what educational cooperation has been made and must be made by developed countries called development partners, in order to support such policies and measures.

In line with this general structure, Professor Morikazu Ushiogi of Obirin University made an opening presentation titled "Japanese International Cooperation in Education," which served as a bridge between the two keynote speeches made in the morning and this panel session. This was related to the third sub-theme mentioned above, particularly on Japanese educational cooperation. In his presentation, Professor Ushiogi explained the various forms of Japanese educational cooperation and pointed out its major characteristics: (1) the basic principle of Japanese educational cooperation is that it emphasizes the importance of the commitment and self-help efforts made by the country, and this principle is applied to all areas of Japanese international cooperation, (2) Japanese educational cooperation is based on Japan's own experience of nearly 150 years of its educational development since the Meiji Restoration, (3) at the same time, Japan fully respects local cultures and traditions and promotes cooperation in the spirit of partnership with local people.

This was followed by the presentations of three panelists on the three sub-themes. First, Dr. Fasli Jalal, Director General for Quality Improvement of Teachers and Educational Personnel of the Ministry of National Education of the Republic of Indonesia, reported that it is fully recognized in Indonesia that teachers play a key role in improving the quality of education. Therefore a comprehensive law concerning teachers (the Teachers and Lecturers Law) was stipulated in December 2005. This law raised the minimum requirement of teachers' academic qualifications to a bachelor's degree or a four-year diploma program (D4: four years of training after completing upper secondary education). Dr. Jalal's office, the Directorate General for Quality Improvement of Teachers and Education Personnel, itself was newly established in May 2005. He said that this also indicates that the government has put a special emphasis on the importance of the quality of teachers. As for specific measures to improve teacher quality, he explained that teachers' voluntary initiatives are highly respected and encouraged by such measures as providing grants for so-called action research in classrooms, fostering teachers' associations by subject and promoting teachers' workshops and discussion groups. In this regard, he emphasized the importance of lesson study that was learned through educational cooperation with Japan, as teachers' own initiatives are the key to this activity.

Next, Dr. Merle Tan, Director of the National Institute for Science and Mathematics Education Development (NISMED) at the University of the Philippines, reported on the issues of teachers in the Philippines, focusing on her own field of expertise, science and mathematics education. She pointed out the fundamental problem that the percentage of qualified science and mathematics teachers were low and quality education was not ensured. Teachers do not have adequate knowledge of their subjects. They do not know how students learn science and mathematics. Therefore they do not have sufficient knowledge or skills to teach these subjects. In order to address this issue, various national projects have been implemented, mainly aiming at enhancing the capabilities of in-service teachers. Dr. Tan cited one of the major projects conducted with Japanese cooperation. This project cooperated in building and developing NISMED. The project itself was completed in 1999, but this institution is being sustained and expanded through the efforts of the

Philippines and is playing an important role as a national center of in-service training for science and mathematics teachers. Dr. Tan also reported that the center can now accept the third-country training conducted by the Japan International Cooperation Agency (JICA).

The third speaker was Ms. Françoise Caillods, Director a.i. of the International Institute for Educational Planning (IIEP) of UNESCO. Based on her broad experience in international arena, she clarified various issues concerning teachers. She also highlighted the importance of cost, as one of the most critical issues that many countries face. The following are the points she raised: (1) the method and content of pre-service teacher training must be reviewed, taking into consideration the lessons learned from the conventional teacher training, and the cost involved (alternative methods of training must be studied including distance education); (2) the importance of in-service training and life-long capacity-building must be further emphasized (especially the importance of systematic training that takes into account the entire careers of teachers); (3) in order to ensure the quality of teachers, it is important to train teachers to acquire adequate knowledge and to learn teaching methods for their subjects, but it is also important to improve teachers' salaries and working conditions to boost their motivation. Keeping these in mind, Ms. Caillods explained several points to be noted in carrying out international cooperation for teachers: (1) initial training and in-service training should not be fragmented but fit in with an overall policy that addresses the issues of teachers; (2) the quality of secondary education must be enhanced as it lays the foundation for producing high-quality teachers; (3) pre-service training must be effectively combined with various forms of training; (4) school management is important in order to promote collaboration among teachers.

Then, the floor was opened for discussion. Mr. Ato Essuman from Ghana, who made a keynote speech in the morning, participated again in this panel, and before the open discussion, he made some comments on the issues of teachers as well as the initiatives taken by Ghana. He explained as follows: (1) in order for pre-service training to be effective for actual teaching practice, continual capacity-building including in-service training is necessary, and measures are being taken; (2) inspection is also important for high-quality education, and an independent inspection division is being established; (3) as the number of students enrolled in primary schools is increasing, Ghana needs more schools and more teachers, and therefore quantitative expansion is also necessary; (4) as teachers are not willing to go to rural areas, regional disparity is another major issue, and teacher accommodations are being provided to address this issue. Mr. Essuman gave an example of a certain educational program in which some students learned to read and write in two years, but on the other hand, there are students who cannot read or write adequately even after nine or more years of basic education. Finally, he said that he cannot help wondering what quality of basic education means, and what exactly is basic education.

There were many questions and comments from the floor. One of the questions was, with regard to the limited resources in developing countries, whether priority should be placed on the measures directly related to teachers' capacity-building such as pre-service and in-service training or whether the so-called external conditions such as teachers' salaries should be improved first. One of the panelists, from an educational administration, said that the importance of improving teachers' conditions is well recognized and that many developing countries have been allocating most of their educational budget to improving conditions. On the other hand, it was acknowledged that teachers' conditions are not yet sufficient. Since there is little left in the educational budget for development activities, the support of the development partners on new initiatives including teacher training will be valuable.

Capacity-building of teachers with limited resources was raised as an important issue. It was pointed out that a strategic plan is necessary to address this issue: reducing pre-service training and systematically incorporating in-service training. At the same time, in order to efficiently address the lack of subject knowledge among teachers, learning materials must be actively developed and utilized.

One of the panelists from Asia pointed out again the importance of lesson study, which was transferred through

Japanese educational cooperation. Examples of efforts to integrate lesson study into teacher training were reported from Indonesia and the Philippines.

Finally, Mr. Essuman emphasized the importance of sustainability in international educational cooperation. He concluded by saying that when initiating some sort of cooperation commitment, whether it be a developing country or a development partner, there must be adequate awareness from day one of which activities can be sustained even after cooperation has been concluded.

Future Forum Schedule

Organizers announced that the fourth forum will be held during the next fiscal year, building on the discussions of the preceding forums.

Keynote Speech

Toshio Watanabe
President, Takushoku University

Dr. Watanabe holds a Ph.D. in economics from Keio University. He served as professor at the University of Tsukuba and at Tokyo Institute of Technology. At Takushoku University, he was Dean of the Faculty of International Development and Dean of the Graduate School of Institute for International Cooperation Studies. His specialization includes development economics and the Asian economy. He has written many books, especially on the Asian economy. He has received many awards, including the Yoshino Sakuzo Award, the Masayoshi Ohira Memorial Prize, the Grand Prize of the Asia Pacific Award, the Kaiko Ken Award, and the JICA Presidential Award. He is also Acting Chair of the Board on Comprehensive ODA Strategy, advisor to the Japan Research Institute, president of the Yamanashi Research Institute Foundation. He has been in the current position since April 2005.

Japan's ODA Strategy

- Importance of Supporting Self-Help Efforts -

Toshio Watanabe

President of Takushoku University, Japan

It is a great honor to have been nominated as the keynote speaker for the Third Japan Education Forum. Today, I would like to present my views on the strategy of Japan's ODA as requested.

I. Japanese model of ODA

A review of ODA history in Japan over the past slightly more than half a century reminds me of the following major three features. First, the geographical regions where Japan's ODA was provided were primarily East Asia: NIES, ASEAN countries, and China. Second, Japan's ODA has been used for building large infrastructures constituting the bases of economic development in any given country, in other words, the industrial infrastructure of expressways, railways, bridges, sea ports, electric power stations, power collecting systems, and irrigation facilities. Third, loans requiring the repayment of the capital and interest have been used to finance the infrastructure projects, which is the main characteristic of Japanese model of ODA.

Simply stated, Japan's ODA has been provided for the primary purpose of supporting industrial development in East Asia through infrastructure projects financed by loans. This Japanese model of ODA has had a major impact on the development of East Asia.

The building of infrastructure is indispensable for a country to realize its development. The infrastructure projects produce direct benefits for a number of private companies in the building process. Once completed, there are important indirect benefits, as the infrastructure is put to efficient use by private industry, which in turn helps to reduce manufacturing costs.

The leading players in the market economy are private companies. The energetic activities of private companies have made "the East Asian miracle" possible. These are not just limited to domestic companies. Companies from the East Asian countries, as well as Japanese, American, and European companies, have been actively involved in making direct investments in the East Asian region. In fact, East Asia is one of the world's primary regions for accepting direct foreign investments. China's growth into an economic power was enabled by large-scale investments

by foreign companies in the IT (information technology) and automobile industries.

It is the building of the economic infrastructure that enabled efficient business operations by private companies at home and abroad in East Asia. Japan's ODA has made great contributions to the equipment of the economic infrastructure there.

The philosophy of Japanese model of ODA is to support self-help efforts, as I will elaborate later on. Providing loans naturally means to have the capital and interest paid back. The countries in East Asia continued their efforts, seeking greater economic benefits than the repayment costs of such loans. In that sense,making self-help efforts has been a conditionality of Japan's ODA. Therefore, East Asian countries realized their economic development by fully meeting this conditionality.

As a result of their development, however, East Asian countries now have sufficient funds and technologies of their own to build infrustructure. As such, I believe that Japan's ODA should gradually withdraw from the sectors where East Asia can be self-sufficient and that the focus of Japan's ODA should shift to sectors where their self-help efforts alone cannot resolve the issues, for instance, cooperation in environmental conservation and human resource development, as well as education, which is the theme of this conference.

In addition, Japan should allocate a substantial part of ODA to help the poverty-stricken areas not only in East Asian countries but also in sub-Saharan African countries and contribute to building peace in areas of affected by conflict, such as the Middle East. It is not easy to ask these countries to make self-help efforts. Yet, I sincerely hope Japan will maintain its basic philosophy of providing ODA to support self-help efforts and seek ways to utilize the Japan's ODA for promoting self-help efforts of recipient countries. Keeping such a hope in mind, let me proceed with the following report:

II. Japan's ODA Charter

The ODA Charter can be called the constitution of Japan's ODA. It was approved by the Cabinet in February 1992. As can be seen from its extract shown in Reference Material 1, which the most important philosophy of Japan's ODA is placed on support for self-help efforts. The keyword here is support for self-help efforts.

Reference Material 1:

"It is an important mission for Japan, as a peace-loving nation, to play a role commensurate with its position in the world to maintain world peace and ensure global prosperity.

Bearing these points in mind, Japan attaches central importance to the support for the self-help efforts of developing countries towards economic take-off. It will therefore implement its ODA to help ensure the efficient and fair distribution of resources and "good governance" in developing countries through developing a wide range of human resources and socioeconomic infrastructure, including domestic systems, and through meeting the basic human needs (BHN), thereby promoting the sound economic development of the recipient countries." (Extracted from ***Japan's Official Development Assistance (ODA) Charter June 30, 1992 Ministry of Foreign Affairs Economic Cooperation Bureau)***

Reflecting the changes in the ODA environment, the charter was revised by the Cabinet in August 2003 and published as the new ODA Charter. I was closely involved in formulating the new ODA Charter. What was proposed as the philosophy in the new Charter comprises the following five components: (1) support for self-help efforts; (2) the perspective of human security; (3) assurance of equity; (4) Japan's experience and expertise; and (5) partnership and collaboration with the international community. Support for self-help efforts is at the top of the Charter as the highest priority, as it was in the former charter, and is expressed as shown in Reference Material 2.

Reference Material 2:

"The most important philosophy of Japan's ODA is to support the self-help efforts of developing countries based on good governance, by extending cooperation for their human resource development, institution building including development of legal systems, and economic and social infrastructure building, which constitute the basis for these countries' development. Accordingly, Japan respects the ownership by developing countries, and places priorities on their own development strategies.

In carrying out the above policy, Japan will give priority to assisting developing countries that make active efforts to pursue peace, democratization, and the protection of human rights, as well as structural reform in the economic and social spheres."

(Extracted from ***Japan's Official Development Assistance (ODA) Charter August 29, 2003 Ministry of Foreign Affairs Economic Cooperation Bureau****)*

"Ownership," which is often used today in the community of international aid, effectively means self-help effort.

III. What are self-help efforts?

In the meantime, what constitutes self-help? Although the idea of self-help may sound a little vague, it may be sorted out conceptually in the following way.

I believe an index that most clearly indicates self-efforts made by a given country is domestic savings. Let us assume that a certain country started its economic development, heavily dependent on foreign capital. If such a country continues to sustain a high economic growth rate, replacing the foreign capital with domestic savings in the process of self-development, this fact can be evaluated as a success, which was realized by utilizing foreign capital with excellent self-help efforts. It can be said that East Asia has countries that have followed such a path to success.

To repeat, a straightforward index to show the extent of self-help efforts by a country is the rate of domestic savings. Domestic savings are the part of gross national income (GNI) that is not consumed. Domestic savings are lent to the most efficient companies-hence have the highest returns-by way of the intermediary mechanism of financial institutions, "the system of financial intermediation". Then, companies receiving such loans make investments, which means that domestic savings are source funds for investment.

Through these investments, a country treads the path of expanded reproduction, thereby maximizing future

income and consumption. In other words, domestic savings mean nothing other than dynamic human behavior which minimize present consumption, while maximizing the future income and future consumption.

The rate of domestic savings is high in countries where people sacrifice present consumption for the sake of the future of themselves, their families, their communities, and society, rather than maximize consumption for present pleasure. Generally speaking, the rate of domestic savings in societies with the type of people with the high incentive to work and a strong future-oriented perspective stands high. East Asian countries as recipients of Japan's ODA with such a pattern of behavior have realized a high rate of domestic savings, and they are a group of countries characterized by high level of self-help efforts.

According to a calculation made by a friend of mine, the annual average rate of growth realizable with only domestic savings as the source funds, or potential rate of growth in that sense, was 6.7% in Thailand, 7.5% in Malaysia, 7.2% in Indonesia, and 7.1% in South Korea in the early 1990s. Let me repeat: East Asia has the potential for realizing the world's highest rate of investment-hence the world's highest rate of economic growth by simply relying on its own domestic savings. Herein, you will see East Asia making a high level of self-help efforts.

In this connection, the reason why East Asia plunged sharply into an economic crisis in the summer of 1997 was that the East Asian nations were not satisfied with the high rate of economic growth enabled by their domestic savings, and they employed a too ambitious strategy of growing at the ultra-high rate in order to seek the higher growth rate by depending on foreign funds, particularly easily introduced short-term funds. That will be an important theme for persons who are in charge of economic management to keep in mind.

Another index related to self-help efforts is the debt service ratio, which means the ratio of the repayment of the capital and interest to the total value exported by a given country. The capital and interest on loans have to be repaid in foreign currency, which needs to be earned through exports. Therefore, the foreign debt-service ratio represents the size of the burden from debt repayments by a given country. The foreign debt-service ratio in East Asia showed a slightly abnormal movement due to the economic crisis of 1997. In general terms, however, the East Asian countries, with the exception of Indonesia, entered a steady slowdown phase since the second half of the 1980s.

East Asia paid off the high costs of foreign funds, mainly the loans from Japan, and entered the phase of being able to enjoy the benefits across the board. Herein, we can see how successfully East Asia is making self-help efforts, again.

In summary, East Asia, which received loans from Japan, successfully repaid them with their high level of self-help efforts, thereby transforming into a region of high economic growth.

Incidentally, Japan has its own reasons for adopting the philosophy of supporting self-help efforts as an

ODA donor. In my view, Japan honestly believes the effectiveness of self-help efforts based on its own experience

After the end of World War II, Japan was one of the world's major recipients of ODA. Making effective use of ODA with its excellent self-help efforts, Japan successfully accomplished post-war reconstruction. In particular, the Government Appropriation for Relief in Occupied Areas (GARIOA) and the Economic Rehabilitation in Occupied Areas Fund (EROA) helped Japan jump-start reconstruction after its economy was completely disrupted. Assistance from both funds continued from immediately after the war until 1951 is 2 billion dollars in total. The ratio of imports paid by both funds in those days reached close to 80% of the total imports of Japan during the peak time of 1947. Imports centered on food, but also included cotton, fertilizers, oil, and iron ore. These imports contributed to leading the Japanese economy out of its reproduction on a diminishing scale.

Furthermore, one of the driving forces pushing the high rate of economic growth in postwar Japan was a loan from the World Bank. In fact, Japan in those days was the second largest debtor nation for loans from the World Bank, second to India. Since the World Bank loans were first introduced to build electric power stations in 1953, it has been continued for electric power companies, public highway corporations, national railways, etc. Up to and including the loan received to build the Tokyo-Nagoya Expressway in 1966, the accumulated amount of the loans from the World Bank came to nearly 900 million dollars.

What is surprisingly less known is the fact that it was 1990 when Japan finally paid off both the capital and interest on the loans. As described above, Japan made efficient use of ODA with high level of self-help efforts, thereby building what stands today. In my view, Japan has enough real-life experience to claim that the philosophy of ODA should be based on self-help efforts.

IV. How ODA brings about the developmental effect?

At this time, I would like to discuss how ODA brings about the developmental effect. The most important entity that brings about development in a market economy is a private company. Compared with this, the developmental effect of ODA is not so great in both quantity and quality. The proportion of ODA in the funds flowing to developing countries is not so large in effect. It is overseas direct investment that plays a critical role. It can be said that the visible developmental effect by ODA can be brought about only when ODA is linked to the vitality of emerging private companies.

I am not saying this only from the standpoint of the quantity of ODA and foreign investment. What is transferred to developing countries through direct investment is not just capital and technologies alone. What is more important is the transfer of the initiative and abilities of corporate management for efficiently organizing the capital and technology.

This means that through direct investment, foreign companies bring in not only capital and technology but also overall managerial competence, including entrepreneurship as a "package." It can certainly be said that such

developmental effect is far greater than ODA itself. Faced with the global mega-competition of today, it is increasingly important to be aware that overseas direct investment by companies from advanced countries is of vital importance to the development of developing countries.

That is to say, it should rather be thought that ODA can bring about powerful developmental effect by means of the catalytic effect brought by the introduction of private companies. We often tend to argue about the benefits from developmental effect of ODA itself, the discussion of which, however, is not complete, because it is necessary to analyze the mechanism wherein ODA raises the developmental effect by private companies.

I have so far stated that the infrastructure is most important in helping private companies boost their developmental effect. But the infrastructure is not limited to physical one. The institutional infrastructure is important as well.

In order to raise the catalytic effect of ODA, the function of the market economy should be strengthened by building the institutional infrastructure. It is certainly necessary to have the market for an economy to grow. In order for the market to grow, there should be institutions to effectively operate the market. To make the institutions operate successfully, there has to be the government capability for building such institutions.

To help build institutions, the weight of intellectual assistance has to be raised in the ODA package. Japan's intellectual assistance has been provided by dispatching experts from Japan or by accepting trainees into Japan, covering activities, for example, (1) to introduce the concept of the legal and administrative institutions and provide training to develop the related institutions; (2) to accept trainees for managing a market economy and governmental administration; (3) to dispatch experts from Japan who can provide advice on policymaking; and (4) to provide advice on research and the development of policies. However, Japan has not so far been as enthusiastic about intellectual assistance as the physical infrastructure. It is hoped that intellectual assistance become the frontier for Japan's ODA in the future.

V. Is Japan involved in the Poverty Reduction Strategy Paper (PRSP) regime?

In recent years, the strategies of ODA community in Western countries and international aid agencies, such as the World Bank, are leaning toward the PRSP regime. Japan, as an ODA donor country second to the Unites States, cannot afford to remain indifferent to this global trend. Frankly speaking, this is an issue that is troubling Japan.

The poverty referred to in the PRSP is far more comprehensive than what is expressed in the phrase "people below the poverty line," which is determined by the levels of consumption and income. Therefore, the Comprehensive Development Framework (CDF) is needed to reduce poverty. The CDF is represented by the matrix with the issues for development taken on the horizontal axis, while the entities for development are on the vertical axis. The issues for development that go beyond the ordinary economic and social indexes include governance in a broad sense,

such as the government, judiciary, financial institutions, investment environment, education, health care, and social security.

The entities for development are in such great variety. PRSP is a structure in which a variety of developing entities share information and try to maximize the development outcome as a whole in close collaboration. The scheme calls for the governments of developing countries to clarify the responsibility (i.e. country ownership), involvement, transparency, evaluation, and accountability.

As described above, PRSP tries to being about economic development and social reforms of a given country in a drastic manner by tying in with CDF. PRSP strategy may require capabilities well beyond those of average developing countries. In that sense, it implies a kind of radicalism. I personally view that radicalism is very likely to fail because the approach is too radical.

I believe that for the economic development of a given country, there is neither “miracle” nor “wonder” but only a royal road. By that, I mean that development will get on the right track only after long term and cumulative efforts to build a stock of skilled workers, to nurture entrepreneurs, to train government employees, and so on. Behind the accomplishment of economic growth expressed as ‘miraculous’ or ‘amazing’ must unfailingly lie steady domestic efforts that include technological innovation, productivity improvement, hard work to expand market share, and the pursuit of an advanced industrial structure.

Built upon such efforts, the economic development of Japan, South Korea, and China has come into bloom. The external impact of ODA is certainly an important factor in facilitating the development of a country. However, it cannot displace self-help efforts. The external impact of ODA is important, as it becomes a force to induce domestic self-help efforts. Let me repeat that the essence of ODA is to support self-help efforts.

VI. Conclusion

In my assessment, Japan has made considerable achievement in helping developing countries with the building of the physical infrastructure, but not enough in producing good results in the development of the institutional infrastructure. As I described earlier, I am quite certain that institutional infrastructure that fosters a market economy should assume increasing importance from now on. Above all, educational infrastructure will be especially important.

Japan announced the Basic Education for Growth Initiative (BEGIN) in 2002, when the Kananaskis Summit was held, and it will embark on cooperation in education for developing countries in earnest. The keywords herein are the following: ensuring access to education, improving quality of education, and improvement of management of education.

Developing countries are faced with a variety of issues that include a shortage of trained teachers, underdevelopment of textbooks and teaching materials, shortage of schools, underdeveloped education administration,

and so on. There are many problems that have to be overcome with respect to advanced education and technical training.

Education is a field that clearly reflects the cultural tradition of each country. Japan has diverse expertise and ideas for cooperation in education. There are difficulties in applying expertise and ideas to actual cooperation in education which are quite different from that in physical infrastructure. It is the reason why self-help efforts by individual developing countries are critically important.

I am told that the basic theme of the Japan Education Forum is “Collaboration toward Greater Autonomy in Educational Development” and this year's principal theme is “Improving the Quality of Education by Enhancing Teachers’ Quality.” I expect that the forum will be a perfect occasion to prove how optimally self-help efforts by the developing countries can collaborate with Japan’s ODA based on the philosophy of supporting selfhelp.

I would like to conclude my speech, with a sincere wish that this conference will produce a fruitful result at the end of the day. Thank you for your kind attention.

Keynote Speech

Ato Essuman
Chief Director, Ministry of Education and Sports, Republic of Ghana

Mr. Essuman holds an MBA with specialization in Management. After offering his services for over twenty-seven years to reputable companies like Coopers and Lybrand, Techno serve Incorporated and Nestle Ghana Limited, he worked for the Ministry of Education and Sports as the Director of Funds and Procurement Management Unit and the Co-ordination of the Ministry's Development Partners, before becoming Chief Director in June 2003. With a relevant mix of experience from both the private and the public sector, he has developed competencies and skills in the execution and management of organizational development, restructuring, general and strategic management, financial management, business advisory services. He serves on many Boards and Councils. He is a member of the Council of State, a body that counsels the President of the Republic of Ghana. He has presented on various educational issues at many international conferences.

Issues in Educational Development in Developing Countries and the Role of International Cooperation

Ato Essuman

Chief Director, Ministry of Education and Sports, Republic of Ghana

Introduction

It is indeed a great honour to deliver the keynote address on such a distinguished occasion as this. May I, on behalf of the people of the Developing World express our sincerest gratitude to the organizers of the Japan Education Forum III for granting us the opportunity to participate in the forum and to present our views on the issues confronting our educational development and the role international cooperation can play in the creation of greater autonomy in our education development. It is said that "He who wears the shoes knows where it pinches". Hence our active participation in this forum is a step in the right direction. I also wish to commend the Japanese government for choosing focus on international cooperation in the education sector as one of the priority areas of its Overseas Development Assistance (ODA).

When I first received the invitation to speak, I was very much touched by the basic theme of the forum - Collaboration toward Greater Autonomy in Education Development. This theme is not only appropriate but also a timely one for all stakeholders in education to address. It is high time those of us in the developing world realized that our destiny rests in our own hands. Yes, we need the support and cooperation of the developed countries, but I believe our efforts must be directed at using such cooperation and support to develop greater autonomy in our educational development.

Mr. Chairman, the topic for my address is "Issues in Educational Development in Developing Countries and the role of International Cooperation". This topic naturally falls into two parts, namely:

o The issues in educational development in developing countries and
o The role of international cooperation in educational development in developing countries.

Recognising the right of the child to a free, quality basic education, world leaders have adopted the achievement of universal primary education by the year 2015 as one of the Millennium Development Goals. Unfortunately for most developing countries, the stark reality is that this goal appears to be out of reach within the time frame set.

Despite the considerable progress made over the years, the problems of access, quality, equity, threat of HIV/AIDS, education management and relevance of educational programmes to economic aspirations and development agenda still remain the key issues confronting educational development at all levels (from pre-school to tertiary level) in most developing countries.

As we have gathered here to deliberate on these issues, permit me, Mr. Chairman to highlight some of the key issues in order to set the underlying tone for our discussion.

ACCESS

School attendance, especially for girls, is far from universal, and many children drop out of school before completing their primary education. According to the United Nations Development Programme, about 113 million children worldwide were not enrolled in school at the end of 2003. The bulk of these children live in the poor countries of East Asia and the Pacific, South Asia, and sub-Saharan Africa.

The cause of inadequate access to education for children in the developing countries can be attributed to both demand and supply factors.

On the demand side, the following factors are worth noting.

Notwithstanding the fact that many countries have adopted the concept of capitation grants to eliminate the payments of all forms of fees and levies at the basic education level, demand for education is still low in some developing countries. Many poor parents in developing countries are unable to add the cost of transportation and clothing of their children of school going age to the cost of meeting their essential needs of food and shelter. Therefore, the question we need to ask ourselves is to what extent the policy of free basic education should be stretched.

Again the opportunity cost of educating children may be too high for most poor families to bear. Poor parents may prefer that their children work to supplement family incomes and do household chores instead of going to school. Free schooling, therefore, even becomes unaffordable for some poor families with competing economic interests.

Growing evidence also suggests that the poor transition rate of children to higher levels of education is a key deterrent to parents considering sending more children to primary school. The poor quality of education within the rural deprived areas creates an uneven playing field for children aspiring to enter secondary and tertiary levels of education in most developing countries.

For example, a recent study by Addae Mensah (2000) suggests that only 18 out of the 476 senior secondary schools provide over 60% of entrants in the five publicly funded Universities in Ghana. These 18 schools, mostly patronised by the urban elite are considered to be the “elite” public boarding schools. They receive special subvention funds from the Ministry of Education and Sports just as the other less endowed schools.

Mr. Chairman, low demand for education in developing countries may also be due to the perceived value of education. Most parents may not have adequate information to make accurate assessments of the return on investments

in their children's education in the long run. The perception is further deepened in countries where graduate unemployment is high. Education programmes and curricula have not placed much emphasis on Science, Technical and Vocational Education and Training (TVET), which could equip graduates with skills needed by industry and commerce to promote economic development.

At this juncture, I wish to commend the government of Japan for its consistent and regular support in the promotion and extension of science and technology education and training in most developing countries.

Lack of requisite financial resources to provide educational facilities and the limited administrative capacity to efficiently manage the scarce resources in education delivery are the key problems confronting developing countries on the supply side. In most developing countries, government spending on education is skewed in favour of secondary and tertiary level education (which seems to benefit the privileged few) to the detriment of the masses that are denied the opportunity of quality basic education. In such situations of underfinanced budgets and weak administrative capacity in educational management, basic school enrolment and completion rates tend to be very low.

QUALITY

The quality of education in most developing countries is miserably low because of inadequately trained and underpaid teachers, lack of effective supervision, overcrowded classrooms, and a lack of basic teaching and learning tools such as textbooks, blackboards, pens and paper.

The developing world have had several interventions at the basic education level, yet the reality on the ground is that, many children do not adequately acquire the basic literacy, numeracy and life skills even after completing basic school. Consequently, many adults in most developing countries who have received some schooling (basic education) are functionally illiterate and innumerate.

Mr. Chairman, I believe the time has come for us (policy makers of developing countries and our development partners) to have a second look at our definition of basic education in the light of these stark realities. Merely passing through a primary educational system for six to eleven years does not make one basically literate. Our definition of basic education, therefore, must be outcomes-focused. We must do whatever it takes to develop basic educational systems that can help pupils acquire the basic skills of literacy or numeracy after six to eleven years of basic schooling.

The teacher has always been central to every education development process around the world. The role of teachers in the provision of quality education cannot be over-emphasised. The pursuit of quality education will continue to remain an illusion for developing countries if the issue of teacher quality is not taken seriously. Fortunately, the title for today's forum is “Improving the Quality of Education by Enhancing Teacher Quality”.

Mr. Chairman, the absence and/or neglect of comprehensive policy frameworks establishing the critical

linkages between teacher recruitment, adequate preparation, deployment, retention and improvement of the professional conditions and status of teachers is to my mind the key issue affecting education quality in developing countries.

The teaching profession in most developing countries, over the past two decades, has become so unattractive that the very good materials are often lost to other well-paying professions. As a result, people with low academic standards are often recruited into the teaching profession. The problem is further compounded when the few good ones among them leave for other professions not long after their initial training, thereby, making retention very difficult.

It is, therefore, necessary to continue our efforts at developing comprehensive teacher education through Pre-Service and In-Service training that would produce competent, committed and dedicated teachers to improve the quality of teaching and learning at the basic level.

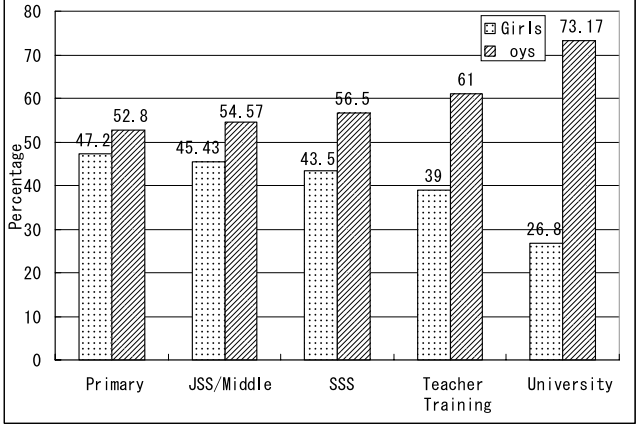
EQUITY

Disparity in educational attainment between different groups within a country is another key challenge facing the education sectors of most developing countries. Sadly, but not surprisingly, in most low-income countries, children from poor families are much less likely to be in school than children from more affluent families. In Pakistan, in the early 1990s, 86 percent of rich children aged 6 - 14 were in school, compared with 37 percent of poor children, making for a rich-poor gap of 49 percentage points; the gap was 52 percentage points in Senegal, and 63 percentage points in Morocco. These wide gaps are common with many developing countries.

Education policies of most developing countries do not discriminate against any section of the community. Boys and girls, men and women are all entitled to equal educational opportunities under the laws of the various countries. However, cultural beliefs and practices as well as inadequate educational facilities have hindered the full participation of girls in formal education. Girls figure disproportionately among the children who do not attend school in all developing countries. The bias against girls is especially marked in South Asia and Africa.

Disparities also exist in the retention rates of boys and girls. A situation analysis of girls' and boys' education in Ghana (Casely-Hayford et al, 2004) revealed that for every 1000 girls that were admitted into Primary One in 1991/2 only 526 remained in school by the time the cohort reached the last stage of JSS in 1999/2000, compared to 606 boys.

Figure 1: Participation Rates by Gender at Various Educational levels in Ghana (2000/01)



Transition data in various countries also reveal growing gender disparities as one moves

from the primary to the tertiary levels of education. For instance, in Ghana, as is shown in Figure 1, less than 27% of the university population is female in the five publicly funded universities. Less than 40% of the entrants to teacher training colleges are women and less than 44% of those entering senior secondary school are girls.

Mr. Chairman, we cannot talk of equity without mentioning the plight of disabled children in developing countries. Children with disabilities are particularly disadvantaged. It is estimated that only 5 percent of learning-disabled African children who need special education go to school, whereas 70 percent of them could attend if the schools had the right facilities.

Governments in developing countries have paid very little attention to the provision of educational facilities for disabled children. For example, the amounts spent on special education in Ghana for the years 2003, 2004 and 2005 represented 0.4%, 0.6% and 0.6% respectively of the total government expenditure on education. This is mainly due to the fact that the disabled are the least to be considered when it comes to the allocation of educational resource (both from governmental and DP sources).

Even with better facilities, parents may either hide their disabled children due to the social stigma attached to families having such children, or send the disabled children out to beg for alms rather than enrol them in school.

The time has come for us as policy makers to take a second look at our commitment to the education of the disabled persons in the developing world.

THREAT OF HIV/AIDS

Despite the increasing commitment to promoting the health and learning of school children, progress on these fronts is seriously threatened by HIV/AIDS. As the pandemic grips the developing world, HIV/AIDS is debilitating not only health, but social, economic and cultural systems. Symptoms of this are clearly manifested through the education sector, particularly in sub-Saharan Africa.

For instance, the quality of education has been jeopardised where teachers are affected by family trauma or AIDS-related illness themselves, where families lose purchasing power, and where fewer resources are available to support services and infrastructure.

Achieving Education for All will require making HIV/AIDS one of the highest priorities in the most affected countries. The Dakar Declaration demands of all educational systems a responsibility for ensuring the right of every child to a good quality education. Thus education on HIV/AIDS prevention must be considered an integral part of quality education.

In the absence of a cure for HIV, **Education becomes the social vaccine** to limit the spread of HIV/AIDS

infection. Education is seen as one of the key defences against the spread and impact of AIDS. The evidence for this is growing. Young people with higher levels of education are more likely to use condoms and less likely to engage in casual sex than their peers with lower education.

Teachers playing their role as opinion leaders and role models in many rural communities can be used as a channel to introduce correct awareness, behaviour and attitudinal change towards sex. They thus have the potential role as agents for dissemination and change in the fight against HIV/AIDS cannot be overstated.

We therefore, need to provide Education sector personnel, teachers, students and pupils with relevant knowledge, desire and means to protect themselves from infection and from infecting others.

ROLE OF INTERNATIONAL COOPERATION

Michael Treadway in the IMF's Economic Issue Number 33 titled “Educating Children in Poor Countries” observed that “the problem in many developing countries is that governments lack either the financial resources or the political will to meet their citizens’ educational needs”. It is in this respect that the role of international cooperation becomes critical in educational development in low-income countries.

International cooperation efforts are extensive in most developing countries. The government of Japan and other bilateral and multilateral donors are doing their very best in the area of educational development in low-income countries.

OUR SIDE OF THE EQUATION (WHAT DEVELOPING COUNTRIES NEED TO DO)

Ladies and gentlemen, I however, believe that this international cooperation will produce the desired effects only when developing countries take the necessary steps to get themselves in readiness for such cooperation.

Uncoordinated international cooperation and interventions in many developing countries have led to ineffective and inefficient use of resources coming from such international cooperation and interventions. Consequently, very little is gained from such interventions in the development of education. There is the need for us in the developing world to adopt harmonised procedures and requirements of monitoring, reporting and evaluation that will facilitate the efficient and effective implementation of our overall education strategic plans.

1. DEVELOPMENT OF STRATEGIC PLANS

The first step is the renewal and revision of our education development plans, together with the prioritised strategies chosen for their achievement. This entails comprehensive data collection, situational analysis and needs assessment, stakeholder consultation and policy dialogue.

These plans will provide the strategic framework and guide to education development and also create the critical link between education and Poverty Reduction Strategies, international commitments such as the Millennium Development Goals (MDG) and the Education for All (EFA) for the attainment of a Universal Primary Completion (UPC) by 2015.

These Education Strategic Plans, therefore, become the policy documents that will guide developing countries in our dealings with the international cooperation partners.

2. MEDIUM TERM EXPENDITURE FRAMEWORKS

Directly linked to the above is the preparation of Medium-Term Expenditure Frameworks (MTEF) for our education sectors. These entail needs assessments, disparity analyses between different regions or population groups, flow rates, measures of effectiveness and efficiency. The MTEFs through the Annual Education Sector Operational Plans (AESOP) capture the whole of educational finance and the basis for resource allocation decision making that accords with the sector's policy objectives. Thus, it lays out the utilisation within the sector of the available resources, covering the various levels and types of education, and the proposed expenditure on teachers, infrastructure, capacity development, teaching and learning materials, etc.

3. OTHER NECESSARY STEPS

Our capacity as developing countries to fully utilise the assistance from international cooperation will be further enhanced by pursuing the following steps in addition to the one already mentioned.

i. STRONG ACCOUNTING AND FINACIAL MANAGEMENT SYSTEMS

Development of accounting and financial management systems that incorporate the external funds supporting education. This is a necessary step towards the fund pooling concept to encourage donor coordination and information sharing on what each partner is doing/contributing.

The main purpose of this approach is to achieve the comprehensive costing of the strategies for the sector and to identify the total resource envelope available for education. Any finance gaps can then be highlighted and International Cooperation Partners invited to participate in the ESP.

ii. PERIODIC REVIEWS

Organisation of periodic reviews (preferably annually) with the various stakeholders including the development partners (both bilateral and multilateral development agencies), NGOs, Civil Society Organisations. At such reviews, not only the support of the sector strategic plan by the international cooperation partners is achieved, but also the financial commitments to it, the modalities of support, and the identification of remaining data gaps.

iii. STRENGTHENING DONOR COORDINATION

Strengthening the structures within the government administrative set up to see to the harmonisation of all International Cooperation interventions and activities in relation to educational development.

iv. EDUCATION MANAGEMENT INFORMATION SYSTEMS (EMIS)

Considering the importance of data and information in educational management, planning and decision making, efficient Education Management Information Systems (EMIS) have to be put in place by developing countries.

The main objective is to collect educational data/information from institutions and provide time by time computer based first hand information to the planners, policy makers, researchers, donor agencies and others in the various desired formats.

WHAT DEVELOPED COUNTRIES CAN DO TO HELP

Development Partners (DPs) are already providing various forms of support to developing countries. A number of such interventions in the Ghanaian education sector are mentioned below as examples:

JICA

Construction of schools, classrooms and accommodation; National Computer and Science Resource Centre; Science, Technology and Mathematics project (STM); HIV/AIDS/STD counselling; Training Courses; School Health Education, screening and de-worming; Quality Formal Primary and Pre-school Education

European Union

Technical Assistance (TA) support to the Planning Budgeting, Monitoring and Evaluation Unit of MOES; Construction: schools, teacher's quarters, day care centres.

UNESCO

Teacher Training Institutions, Community Learning Centres; EMIS support via the Education Sector Project (EdSeP).

The African Development Bank

Primary Education Rehabilitation Project; Development of Senior Secondary Education Project; Poverty Reduction Project

The World Bank

Education Sector Project (EdSeP) with support to the ESP through:

- Sector Capacity Building,
- Pilot Programmatic Scheme (PPS) in 53 most deprived districts,

o Teaching and Learning Innovation Fund (TALIF)

However, the level coordination among DPs in international cooperation and interventions still needs to be improved despite all the efforts made after the Rome Declaration on Harmonisation.

Mr. Chairman, may I submit for the consideration of the house the following recommendations by F. Ross and S. Mizrahi (2003) in their article ***Harmonising Donor Practices for Effective Aid Delivery: Good Practice Papers.***

"The message for donors is that they should simplify and harmonise their procedures, while attempting to align them in the medium-term with systems in partner countries. Donors should also aim to be more transparent. Suggested improvements include:

- Setting an effective institutional framework with partner governments that should lead to greater sharing of objectives, clearer expectations, lower costs and more predictable and transparent aid flows.

- Rationalising the development and application of diagnostic tools, including country analytic work, and the preparation of specific donor operations.

- Planning and executing diagnostic reviews of public financial management in the context of a government-led strategy for improvement. This should be integrated with performance measurement and capacity building efforts.

- Designing reporting and monitoring systems that avoid duplication and support the priorities of partner countries.

- Working towards the delivery of common financial reports that reflect all project funds, as well as independent audits. Donors should co-ordinate their requirements and align them with strengthened national processes.

- Increasing delegated co-operation, whereby one donor acts on behalf of one or more others. This should benefit all parties and be done in a way that supports partner.

May, I also suggest to DPs to strengthen their resolve in holding governments of developing countries to their commitments in various project or programme documents. Most developing country governments either totally renege on their commitments or meets them half-way, which does not auger well for the total realisation of objectives of such interventions.

CONCLUSION

Mr. Chairman, Ladies and Gentlemen, I am confident that this forum will be an important step forward in strengthening the role that international cooperation can play in the development of education in developing countries. I very much look forward to the results of this forum.

Thank you.

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ACRONYMS

AESOP	Annual Education Sector Operational Plan
DPs	Development Partners
EdSeP	Education Sector Project
EFA	Education For All
ESP	Education Strategic Plan
HIV/AIDS	Human Immuno-deficiency Virus/Acquired Immune Deficiency Syndrome

IMF	International Monetary Fund
MDGs	Millennium Development Goals
MOES	Ministry of Education and Sports
MOEYS	Ministry of Education, Youth and Sports
MTEF	Medium Term Expenditure Framework
NER	Net Enrolment Ratio
NGO	Non-Government Organisation
ODA	Overseas Development Assistance
PPS	Pilot Programmatic Scheme
STM	Science, Technology and Mathematics Project

Panel Session

“Improving the Quality of Education by Enhancing Teachers’ Quality”

Moderators:

Norihiro Kuroda

Opening Presentation:

Morikazu Ushiogi

“Japanese International Cooperation in Education”

Panelists:

Fasli Jalal

Merle Tan

Françoise Caillods

Ato Essuman

Morikazu Ushiogi

Moderators

Norihiro Kuroda

Professor, Center for the Study of International Cooperation in Education (CICE) and Graduate School for International Development and Cooperation (IDEC), Hiroshima University, Deputy Director, CICE

Prof. Kuroda holds an MA in Education from Tokyo University. He worked for the Ministry of Education, Culture, Sports, Science and Technology, Japan for about twenty years, including periods of secondment to UNESCO and OECD. He has been a professor of CICE and IDEC since August 1997 and became a Deputy Director of CICE in April 2003. His specialization is international cooperation and exchange in education and he has first hand experiences as a specialist in educational cooperation for Ghana and Indonesia

Panelists

Morikazu Ushiogi

Professor, Graduate School of International Studies, Obirin University

Dr. Ushiogi holds a Ph.D. in education from Tokyo University. He had been with Nagoya University for many years and taught at its Faculty of Education and Graduate School of International Development. He held the office of the Dean of Education and Director of university library, and became a professor emeritus at Nagoya University. His areas of specialization are higher education and educational development, on which he has published many books and articles. He is also a former member of the National Commission for UNESCO. He has been in the current position since April 2003.

Fasli Jalal

Director General for Quality Improvement of Teachers and Education Personnel, Ministry of National Education, Republic of Indonesia

Dr. Jalal holds a Ph.D. from Cornell University and Medical Doctor from Andalas University. He worked as a medical doctor and became Director General of Non-Formal Education and Youth, Ministry of National Education. He is the coordinator of Indonesia's National Forum of Education for All. He is also the Vice Chairman of National Commission on Education. He is a member of the Eminent Group of Intellectuals of ASEAN + 3 and also a member of the Indonesia-Japan Forum. Dr. Jalal has been the author and editor of several books and a great number of academic papers presented in national and international forums. He has been in the current position since May 2005.

Merle Tan

Director, National Institute for Science and Mathematics Education Development, University of the Philippines (UP NISMED)

Dr. Tan holds a Ph.D. in Environmental Science and a Master of Arts in Teaching Chemistry from the University of the Philippines. She was a visiting professor in Hiroshima University (2001) and still is a professorial lecturer at the College of the Science and College of Education in UP. She has been a plenary speaker in many international and national conferences in Science and Environmental Education and has been a consultant in international projects in the same fields. She has been with UP NISMED for the last 38 years holding varied academic and administrative positions.

Françoise Caillods

Director a.i., International Institute for Educational Planning (IIEP), UNESCO

Ms. Caillods holds a post-graduate degree in Economics of the Faculty of Law and Economics of Paris and of Columbia University. She has worked in the International Institute for Educational Planning of UNESCO for 35 years holding various academic and administrative positions. She has published widely on several topics such as school mapping and micro-planning; prospects of educational planning; financing of secondary education in developing countries, and education and employment. She is Editor of the "Fundamentals of Educational Planning" series published by IIEP. She is the Secretary of the International Working Group on Education (IWGE) and represents IIEP in the Association of Education for Africa.

Moderator's Opening Remarks

Norihiro Kuroda

Professor, Center for the Study of International Cooperation in Education,Hiroshima University

I am Norihiro Kuroda with the Center for the Study of International Cooperation in Education at Hiroshima University. With your cooperation, I will serve as moderator for the panel session this afternoon.

First of all, please allow me to briefly explain the purpose of this session before we begin. Although the overall theme for the session is "Improving the Quality of Education by Enhancing Teachers' Quality," I propose to approach the main theme under three roughly divided sub-themes. The first sub-theme is the role teachers play in improving the quality of education, as has been presented during the morning session, over a wide range of problems and issues involving teachers in developing countries. The second sub-theme is what policies and measures have been implemented to address such problems and issues or that will be implemented in the future. The third sub-theme is, as was presented by President Watanabe of Takushoku University and Mr. Essuman during the morning session, how developed countries, which are the so-called development partners, should promote or have so far promoted cooperation in education in relation to the various issues faced by developing countries involving teachers. I hope that the panelists will actively discuss these three sub-themes.

Second, I will explain the method for conducting discussions in the afternoon session, which will comprise of three parts as well. In the first part, Professor Ushiogi of Obirin University will have an opening presentation on "Japanese International Cooperation in Education." I believe that Professor Ushiogi's presentation will serve to link the morning session with this session. In particular, I assume that Professor Ushiogi will make his presentation on the modality of international cooperation in education involving education in general, which is related to the third sub-theme I described at the beginning. As for the second part, after Professor Ushiogi's presentation, we will have three panelists who will present their views for about 20 minutes each from the three perspectives I have proposed. Then, after having a 15-minute break, we will have an open discussion, which is the last but probably the most important part of today's conference. We would appreciate having the participants express candid opinions or ask questions, which will be exchanged between the panelists and the floor, and about one hour will be taken for this discussion.

Now, we would like to ask Professor Ushiogi to begin his presentation. While Professor Ushiogi will make his presentation with projected slides in Japanese, let me remind you that the English version is also available in your folders. Professor Ushiogi, please begin.

Opening Presentation

Japanese international cooperation in education

Morikazu Ushiogi

Professor, Graduate School of International Studies, Obirin University

Thank you for your introduction; I am Morikazu Ushiogi. I will discuss the theme “Characteristics of Japan’s Assistance in Education.” Because of the limited time of the presentation, in organizing my viewpoints, I will focus my presentation on the following three points: the scale of Japan’s assistance in education; what are the basic policies of Japan’s assistance in education; and in what areas of education Japan has so far provided assistance, with an introduction to some actual examples.

To begin with general information, Japan presently provides the second largest ODA next to the United States among the DAC countries(Chart 1). Japan accounts for 11% of the total amount of ODA offered by DAC countries(Chart 2). With respect to the geographical regions in the world where Japan provides ODA, most of it is bound for Asia as shown in Chart 3. Meanwhile, there is a new trend emerging in recent times. This is the percentage of funds directed towards Africa is gradually increasing. Thus, Japan will develop policies in line with this overall trend in the world.

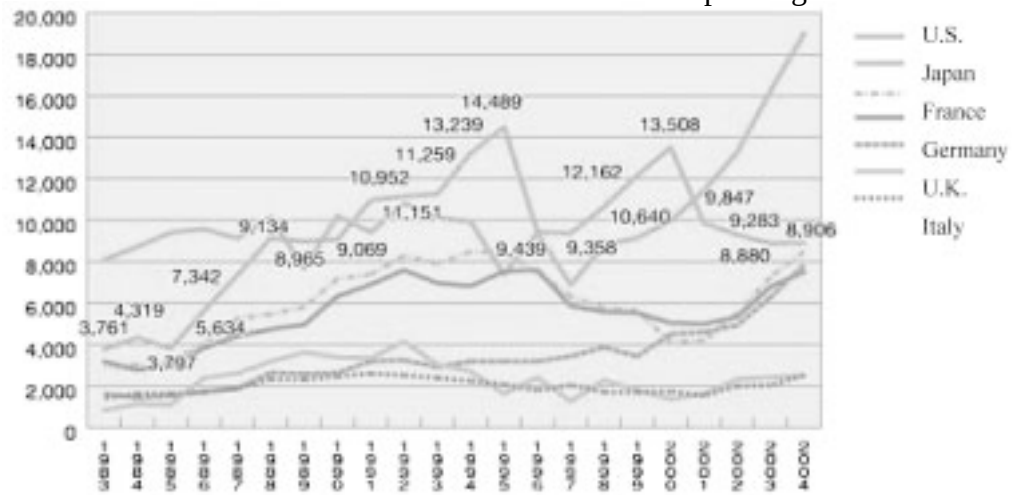
Trends in Major DAC Countries’ ODA

(NET Disbursement Basis)

(Chart 1)

Total Spending

Units: Million Dollars



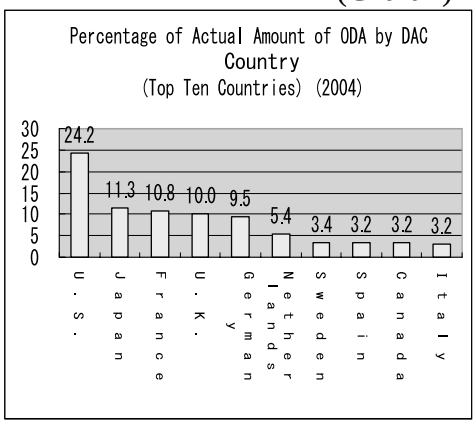
Source: 2005 DAC Press Release, 2004 Report by the DAC Chair

Note: (1) This does not include assistance to Eastern Europe or to graduated countries.

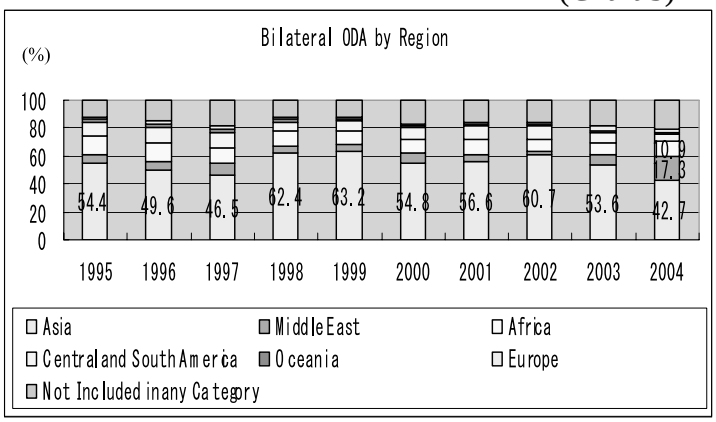
(2) Military debt relief is not included in the amount of U.S.ODA for 1991 and 1992.

(3) Except for Japan, figures for 2004 are provisional.

(Chart 2)

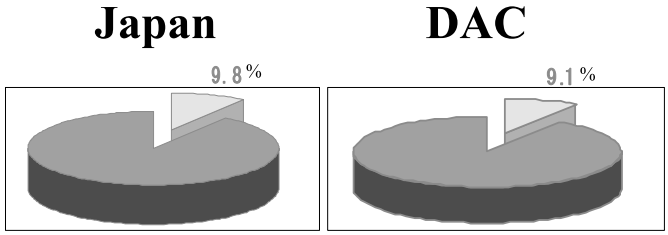


(Chart 3)



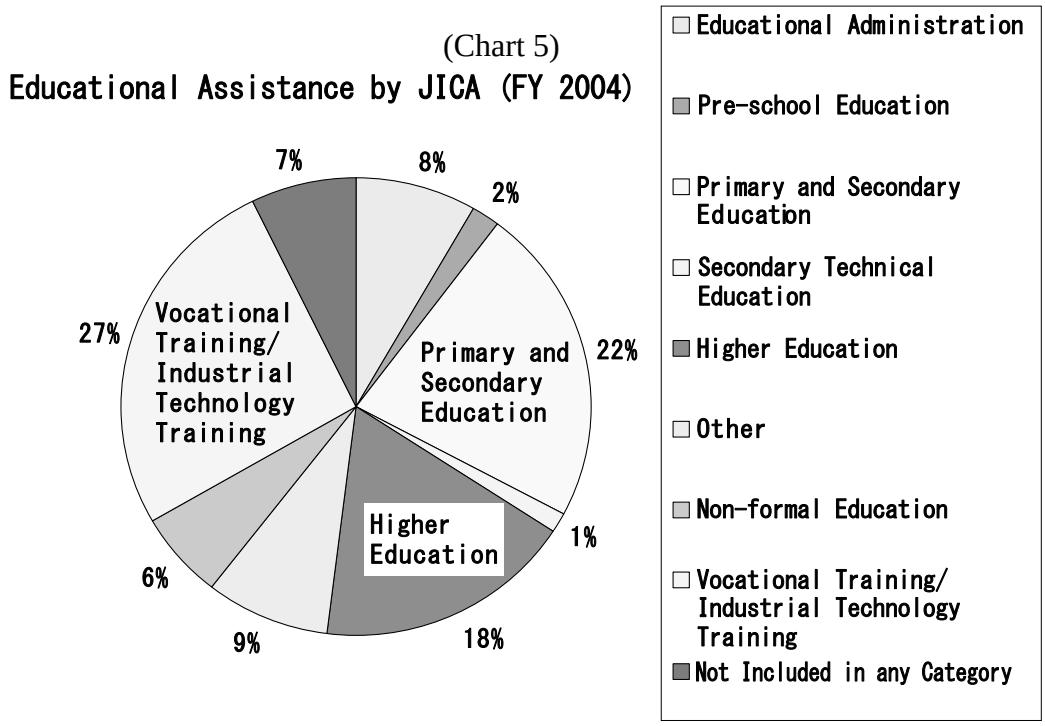
Next, we will see how much of the ODA is being allocated by Japan to the field of education. Chart 4 highlights the average of the overall DAC member countries and that of Japan. You will see 9.1% being directed to the field of education within DAC as a whole. On the other hand, Japan allocates 9.8% of its total ODA, setting aside for education a slightly higher percentage than the DAC average.

Share of Education (2004) (Chart 4)



There is a variety of fields in education. You may wonder in which field of education Japan provides international assistance, and the answer can be seen in Chart 5. The largest share is accounted for by occupational and industrial technology education at 27% of the total, followed by elementary and secondary general education at 22%. Third is higher education with 18% of the total earmarked.

(Chart 5)



Next, I will briefly explain the basic philosophies under which Japan provides cooperation in education. Japan values most the commitments made by the governments of developing countries, followed by their self-help efforts, after which Japan provides assistance. These are the basic principles of Japan's ODA, which is not only limited to the field of education, but also apply to all other fields.

However, individual countries have their own cultures and traditions, and Japan places importance on the diversity of cultures. This constitutes a large part of the characteristics in the field of education. Another point I would like to emphasize is that the educational experience of Japan is put to the maximum possible use, more than anything else, as the basic characteristic of Japan's assistance in education. I will explain how Japan takes advantage of its experience as I move on to the introduction of specific examples of assistance.

Let me go into a little more discussion about the basic principles. I assume the participants at this conference may already be aware that a certain direction was shown when the World Education for All Conference was held in 1990. Then in 2000, the Millennium Development Goals were established in which the complete diffusion of elementary education until 2015 was internationally agreed. Following these two events, Japan advocated its initiative for the Basic Education for Growth called BEGIN for short in 2002. It is Japan's basic position today that Japan will put its assistance programs for education into action from now on in accordance with the basic principles of BEGIN.

Example of Japanese Education

Next, I will explain why Japan attaches so much importance to education. Please look at this photo, which shows an elementary school building in a certain village in Japan in the 1870s.The school building still remains and looks fine even today. The village that built the school building was not wealthy but in fact rather poor. The village people despite their poverty donated their money and built this fine elementary school through voluntarily offering labor. Please direct your attention to the high tower in the center. They thought that by building this high tower when standing at the top of the tower, their children could command a wide view of the world. They thought that schools are important bases for children to see the wide world. Such a thought became the driving force for them when building the school. This is the very basis of elementary education in Japan. I hope that you will first understand why Japan emphasizes education so much, and the point of reference is right here.

Desks provided for Cambodia by Japan

Therefore, Japan extends assistance in the field of basic education in other parts of the world. This photo shows such an example: Japan sent desks and chairs to a school in Cambodia, and children there are using them to study at school.

In addition, Japan is currently developing plans to build elementary schools in every country of the world. In Laos, 195

classrooms are being built as the second phase of a plan, and a plan for building 1,048 classrooms is being implemented in Nepal. In Malawi, a plan for improving teacher-training schools is being implemented. As Kenya is planning to strengthen science and mathematics education in secondary schools, Japan is assisting Kenya with both the training for incumbent teachers and developing school curriculum. Assistance is not limited to building schools alone. When it comes to how basic education is disseminated, the development of plans becomes an issue. Japan is therefore providing cooperation in this aspect as well. Presently, Japan is assisting in the formulation of plans for educational development in Tanzania, Malawi, Myanmar, Cambodia, and Vietnam.

Furthermore, Japan not only provides assistance for formal education, but provides other types of cooperation in the area of non-formal education. Let me introduce just a single example, although there are many. Currently, JICA and the National Federation of UNESCO Associations in Japan are working together to build a learning center in a mountainous area of the northern part of Vietnam. These are activities to build models for learning centers in each village, in which adults who are illiterate are taught to read and write. Such activities are offered to children, as well, because many countries have children that have not finished elementary education. This photo shows a building used as part of such activities.

Activities of Terakoya in the Northern Uplands of Viet Nam

Activities of Terakoya in the Northern Uplands of Viet Nam

The participants in this conference may be already aware that “Terakoya” (a temple school in Japanese) has become an international word. And the one in the photo is a Terakoya built in a mountainous area of Vietnam, where not only children but also adults are learning to read and write. This photo was taken to show children of the mountain tribes learning to read and write. I hope that you will become aware that Japan assists in these non-formal areas of education as well.

I would like you to become well aware of another example of the activities performed by the Japan Overseas Cooperation Volunteers (JOCV). Their activities are seldom recognized by people in general because the volunteers act outside of Japan. However, their activities are very highly evaluated overseas. What is expected of JOCV is that the energy of young people from 20 to 39 years old is utilized for the good of the world. Their activities extend to a very wide range and in the field of education, persons qualified for teaching science and mathematics account for the largest number of volunteers going abroad. As of 2004, 3,653 members of JOCV were working in more than 70 countries throughout the world. This is a snapshot of a JOCV member working as a science and mathematics teacher dispatched to Micronesia.

Another example is that Japan sponsors activities in the field of higher education. Considering a limited amount of time, I select some of them from among the many examples. The first example is the building of a network linked with the engineering-related higher educational institutions in ASEAN. Nineteen colleges/universities

in 10 countries of ASEAN and 11 counterparts of Japan are collaborating to mutually provide research support, to mutually develop curriculum, and to help young teachers earn their degrees. This is another kind of activity highly evaluated by ASEAN countries.

JOCV working as a science and mathematics teacher in Micronesia

On the other hand, an assistance project is being implemented for the economics and management faculty of a state-run university in Laos. As you may be aware, Laos is in the process of shifting to a market economy, and therefore, it needs human resources to support that market economy. In order for this country to develop human resources that will actively work in a market economy, the enhancement of the economics and management courses at colleges/universities is an important issue. Such being the case, personnel from the Graduate School of International Cooperation Studies and the Department of Business Administration at Kobe University are helping the Faculty of Economics and Management of the National University of Laos to develop curricula, textbooks, and syllabi. During the course of conducting these activities, a variety of materials and reference books have begun to accumulate. Then, in order to preserve and organize such materials, Japan is helping them learn how to preserve and maintain materials by asking for cooperation from library staffs. According to the latest information, the graduates from the Faculty of Economics and Management are enthusiastically welcomed by various companies in Laos, and they began playing active roles in that country.

In addition to helping young teachers at the National University of Laos earn masters' or doctoral degrees, Japan is providing assistance by working together with Kobe University.

I will give another example from Africa, where Japan is helping to set up a Centre for Sustainable Rural Development in an agricultural university in Tanzania. The center is intended to strengthen farming communities by mutually cooperating with the local people. For this activity, experts in this discipline are dispatched from Japan and work with the local people to build the village. This photo was taken by the expert sent from Japan, who said that they have to drive over rough roads to get to the university, as seen in the photo. Even under this difficult environment, activities are being performed by Japan.

Experts drive over rough roads to set up a Centre for Sustainable Rural Development in an agricultural university in Tanzania

Last, the main theme of today's conference is improving the quality of education, which includes the very difficult theme of how to enhance the quality of basic education. Among the activities Japan is conducting in this field is to help strengthen teacher training. When the third Tokyo International Conference on African Development (TICADIII) was

held in 2003, Prime Minister Junichiro Koizumi expressed the Japanese basic aid principle for Africa, emphasizing the importance on basic education. Since then, Japan has launched and implemented programs to strengthen teacher training in African countries. Activities to strengthen teacher training are getting underway in Mozambique, Senegal, Lesotho, Malawi, and Ghana.

In Ghana, Japan has implemented a project for the Improvement of Educational Achievement in Science, Technology and Mathematics in Basic Education (STM) to improve science and mathematics education with the goal of improving the quality of science and mathematics education conducted by elementary and secondary school teachers. The project has been implemented over the past five years from 2000 to 2005 with about 700 million yen spent. During the morning session, we heard from Mr. Essuman, and we are further looking forward to hearing more comments later on about the effectiveness of Japan's present assistance and how Japanese assistance can further enhance its effectiveness. As part of this project, a lodging facility was built for teachers receiving training. In addition, there used to be a tradition in Japan that teachers developed teaching materials on their own. This was also taught in Ghana, and as a result, schoolteachers are conducting classes with teaching materials that they have created. A teacher in Ghana is seen in this photo holding in hand materials he/she developed.

Teaching Materials Made by the Teachers who Received Training

Teacher training is also emphasized in Cambodia. The goal for this training is to improve the quality of the home economics education. In order to enhance the quality of home economics education, the diet and standard of living of pupils themselves must be improved; therefore, the school cafeteria was built first. Before it was built, pupils lived in a very difficult environment.

Thus far, I have introduced, in a rather quick manner, activities in which Japan has been involved. I hope this helps you understand that Japan has provided a variety of types of assistance, while making efforts to provide an effective contribution based on the past experiences of Japan and consulting with the local people.

Behind these activities, Japan's own experiences are put to the best use. Over the past 150 years or so since the modern educational system was started, Japan has undergone a great variety of experiences. I hope that this presentation helps you understand that Japanese international cooperation in education is based on our long history as has been described.

However, the basic stance of Japan is not to force a particular way of doing things on other countries. As I said at the beginning, each country has its own traditions and cultures. Japan is aiming to develop activities by creating programs, taking into full consideration the distinctive features of each country. I believe that these are the characteristics of Japan's assistance in the field of education. Thank you for your attention.

Panel Presentation

Fasli Jalal

Director General for Quality Improvement of Teachers and Education Personnel, Ministry of National Education, Republic of Indonesia

Teachers' Quality Improvement in Indonesia: New Paradigm and Milestones

Introduction

Indonesia is a large country with about 17,000 islands spread over 5,000 kilometers east to west across the seas that separate Asia and Australia. The population of Indonesia is widely dispersed and many of the people are located in remote and isolated areas. The main islands of the Indonesian archipelago are Sumatera, Java, Kalimantan, Sulawesi, and West Irian.

In 2005, the population of Indonesia is estimated about 220 million. Indonesia is the fourth most populous country in the world after the Peoples Republic of China, India, and the United States of America. The country is divided into 32 provinces and each province is governed by a governor. There are more than 300 different languages and ethnic groups in the country. The national language is 'Bahasa Indonesia' or Indonesian language and it is the medium of instruction in schools from primary up to higher education. In several areas, local languages are also used as the medium of instruction in the first two years of primary education.

The Government of Indonesia made political commitments for achieving basic education for all. In this broader context, national level reflections were engaged for developing a new vision of education, as part of the reform in Indonesia, which emphasize the implementation of the principles of democracy, autonomy, decentralization, and public accountability. The reforms in education system have given prominence to enhance its performance in the framework of even distribution of educational opportunities. This reform process has fundamental impact on national education system and its mission to meet various challenges in the present day world.

Guided by the mission of education and educational strategies, the Republic of Indonesia enacted a new Law on National Education System in July 2003, resulting from national wide consultation. The Law creates a legal framework for the major educational goal, policies and plans. The key targets include the expansion and equity, the improvement of quality and relevance, and the implementation of autonomy in higher education. The Law sets forth aims and functions of education, and national standards and the principles of the education system. It applies to all educational institutions that exist or may be created in the Republic of Indonesia. Its underlying philosophy is that education is a national movement in order that different stakeholders participate in the development of education as a life-long process. As such, the Law recognizes active partnership with local government and other local authorities in the process of education decentralization.

The Government recognizes the importance of education as an investment in human capital formation that lays the foundation for future economic growth and development in Indonesia. In that spirit, the Law provides, in compliance with constitutional amendment of 2002 that 20 percent national budget shall be allocated for education. The Government has thus taken a major decision. Keeping in mind that due to the economic crisis, the resources available for the implementation of universal basic education are limited, the role of the community and parents for the completion of 9-year basic education program is becoming critically important.

The education development strategies developed by Indonesia in the new centuries is based on this law and the vision developed for future Indonesia. The Ministry's long term vision is that all Indonesia's children and young people will have equal opportunity to quality education at all levels, irrespective of economic status, gender, geography, ethnicity and physical disability consistent with the Government's commitment to the U.N. Convention on the Rights of the Child. The Ministry envisages a time when graduates from all its institutions will meet the highest international and regional standards and will be competitive in global and regional job markets and be the impetus for broad-based, political, social and economic development in Indonesia.

The long-term mission of the Ministry is to ensure that there are no barriers to accessing education opportunities and that the very highest standards of education and training are assured. Another part of the Ministry's mission is to ensure that progression through the system is based on merit. Another mission is to inform parents, students and other stakeholders of the opportunities available, the basis for accessing these opportunities and sharing responsibility for optimising these opportunities. Part of this mission is that the Ministry will provide a teaching and learning environment that promotes a culture of excellence and strengthens the confidence of Government, parents, children and other stakeholders in the value of education and training provided.

Issues, Problems and Challenges for Teachers in Indonesia

Indonesia's population of school-age children is also one of the largest in the world, consisting of more than 25 million for primary schools and about 13 million for junior secondary schools and senior secondary schools. For this large population, the number of schools available for each level is respectively around 150 thousands for primary level, 20 thousands for junior secondary level, and 13 thousands for senior secondary level. With respect to teachers, the population within each level is more than 1.2 million teachers for primary school, more than 460 thousand teachers for junior secondary school, and more than 370 thousand teachers for senior secondary school. This number is still inadequate as a consequence of the large number of teacher attrition for various reasons: retirement, quit working, relocation, and death. The exact figure of school-age children, schools and

Apendix 1: School-age Population

Level	Age	Number	Net Enrollment
Primary	7 - 12	25,857,117	24,434,976
Junior Secondary	13 - 15	13,095,083	7,293,961
Senior Secondary	16 - 18	13,466,700	4,352,759
University	19 - 24	25,784,500	3,688,794
Total		78,203,400	39,770,490
Early Childhood	0 - 6	26,172,763	7,159,200
Total		104,376,163	46,929,690

teachers can be seen in Appendix 1 and 2.

Apendix 2: Number of Schools and Teachers

		Public	%	Private	%	Total
Primary Schools	# schools	135,821	92,99	10,231	7,01	146,052
	# teachers	1,143,070	92,56	91,857	7,44	1,234,927
Junior Secondary Schools	# schools	10,953	52,36	,965	47,64	20,918
	# teachers	311,531	66,75	155,217	33,25	466,748
Senior Secondary Schools	1. SSS # schools	3,120		4,916		8,036
	# teachers					230,114
	2.VSS # schools	838	30,50	4,105	69,50	4,943
	# teachers	3,958		9,021		147,559
	Subtotal (# schools)					12,979
	Subtotal (#teachers)	171,448	45,40	206,225	54,60	377,673
Total # Schools						179,949
Total # Teachers						2,079,348

In terms of qualification, less than 10% of teachers in primary schools possess Bachelor degree above. Almost 50% of teachers at this level hold less than Diploma I (D-I) degree as they are junior and senior secondary education graduates. The academic qualification of teachers at junior secondary level seems to be better where more than 40% of them hold Bachelor or S1 degree. The same situation is found for teachers at senior secondary level (see Appendix 3). It is important to note that the new Law No. 14/2005 on Teacher and Lecturer stipulates the minimum requirement for a professional teacher. Section 8 of this Law states that "*teachers must have academic qualifications, competencies and educator certificates and be physically and spiritually healthy to realize the national education goals.*" And section 9 explains that "*the academic qualifications as referred to in Section 8 are acquired through higher education in a bachelor's degree (S1) or a four-year diploma program (D4).*"

Apendix 3: Teachers' Qualification

No	Education Level	Total	Qualification (%)				
			< D1	D2	D3	Bachelor	Master/ Doctor
1	Kindergarten	137,069	90.57	5.55	-	3.88	-
2	PS	1,234,927	49.33	40.14	2.17	8.30	0.05
3	JSS	466,748	11.23	21.33	25.10	42.03	0.31
4	SSS	230,114	1.10	1.89	23.92	72.75	0.33
5	VS	147,559	354.00	1.79	30.18	64.16	0.33

Another problem of teachers relates to mismatched in expertise and teaching background. There remains a great deal of teachers who do not teach according to their academic background.

Unqualified and mismatched teachers assumed to have resulted to the low rank achieved by Indonesia on TIMMS (see Appendix 4). In terms of Mathematics, Indonesia ranked 34 out of 38 participating countries. The rank

is better in Science which was 32. For these two subject results, Japan ranked 5 in Mathematics and 4 in Science.

Apendix 4: Indonesia Achievement on Mathematics and Science during TIMMS.

No.	Matematika		IPA	
	Negara	Skor	Negara	Skor
1.	Singapura	604	Taiwan	569
2.	Korea Selatan	587	Singapura	568
3.	Taiwan	585	Hongaria	552
4.	Hongkong	582	Jepang	550
5.	Jepang	579	Korea Selatan	549
6.	Belgia	558	Belanda	545
7.	Belanda	540	Autralia	539
8.	Slovakia	534	Ceko	538
9.	Hongaria	532	Inggris	535
10	Kanada	531	Finlandia	535
11.	Slovenia	530	Slovakia	535
12.	Rusia	526	Belgia	533
13.	Australia	525	Slovenia	533
14.	Finlandia	520	Kanada	530
15.	Ceko	520	Hongkong	530
16.	Malaysia	519	Rusia	529
17.	Bulgaria	511	Bulgaria	518
18.	Latvia	505	Amerika Serikat	515
19.	Amerika Serikat	502	Selandia Baru	510
20.	Inggris	496	Latvia	503
21.	Selandia Baru	491	Italia	493
	rata-rata internasional	487	Malaysia	492
22.	Lithuania	482	Lithuania	488
23.	Italia	479	rata-rata internasional	488
24.	Siprus	476	Thailand	482
25.	Romania	472	Romania	472
26.	Moldova	469	Israel	468
27.	Thailand	467	Siprus	460
28.	Israel	466	Moldova	459
29.	Tunisia	448	Makadonia	458
30.	Makadonia	447	Jordania	450
31.	Turki	429	Iran	448
32.	Jordania	428	Indonesia	435
33.	Iran	422	Turki	433
34.	Indonesia	403	Tunisia	430
35.	Chili	392	Chili	420
36.	Philipina	345	Philipina	345
37.	Maroko	337	Maroko	323
38.	Afrika Selatan	275	Afrika Selatan	243

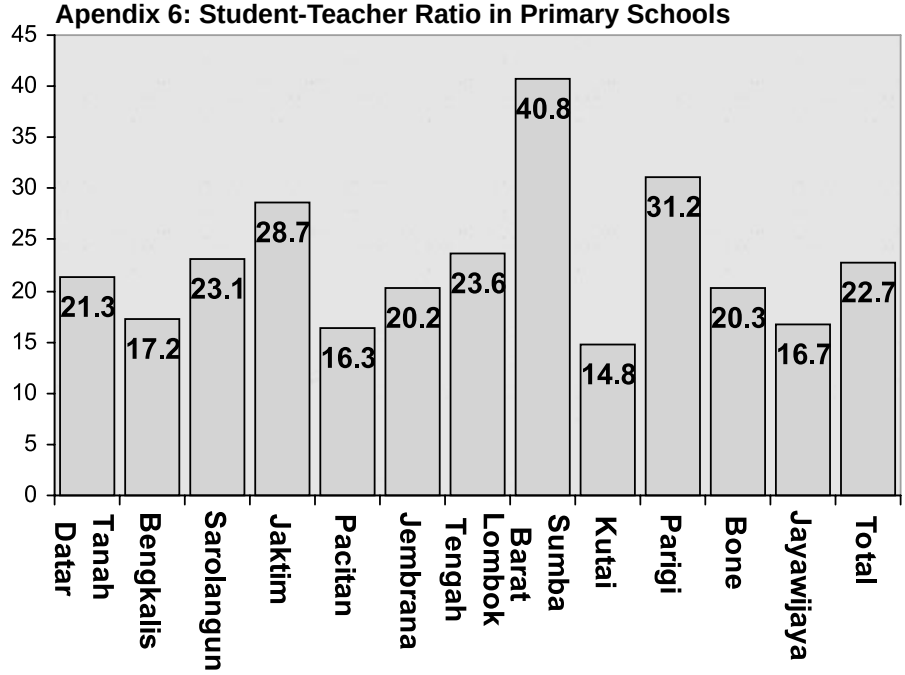
From the perspective of teacher-pupil ratio, an interesting contrast emerges. The ratio of teacher to pupils at the levels of *SD* (primary), *SMP* (junior secondary), and *SMA* (senior secondary) in 2003 is respectively 21, 17, and 14 (*see Appendix 5*). Another evidence was shown by the ratio in the 12 sampled districts/municipalities on the study on "teacher employment and deployment" (2005) conducted by the Directorate General for Quality

Improvement of Teacher and Education Personnel, Ministry of National Education, Indonesia with theassistance of the World Bank, the Government of Netherlands and AusAID (see Appendix 6).

Apendix 5: Education Ratio, 2002 / 2003

No	Education Level	Pupil / School	Pupil / Teacher	Pupil / Classroom	Classroom / Learning Group	Teacher / School
1	**Kindergarten**	**39**	**13**	**20**	**0.97**	**3**
2	**Special School**	**45**	**4**	**4**	**1.78**	**10**
3	**PS + MI**	**172**	**20**	**26**	**1.14**	**8**
	a. PS	177	21	26	1.13	8
	b. MI	136	16	22	1.15	9
4	**JSS + MTs**	**307**	**15**	**39**	**1.00**	**21**
	a. JSS	376	17	40	1.02	22
	b. MTs	181	11	35	0.94	17
5	**SSS + MA**	**354**	**13**	**36**	**1.07**	**27**
	a. JSS	391	14	38	1.02	29
	b. MA	184	9	30	0.99	20
	c. VS	425	14	36	1.19	30
6	**Univ. & Islamic Univ.**	**1,278**	**15**	**-**	**-**	**88**
	a. Univ.	1,267	14	-	-	91
	b. Islamic Univ.	1,518	20	-	-	78
	c. Teacher Training Colleges	690	18	-	-	38

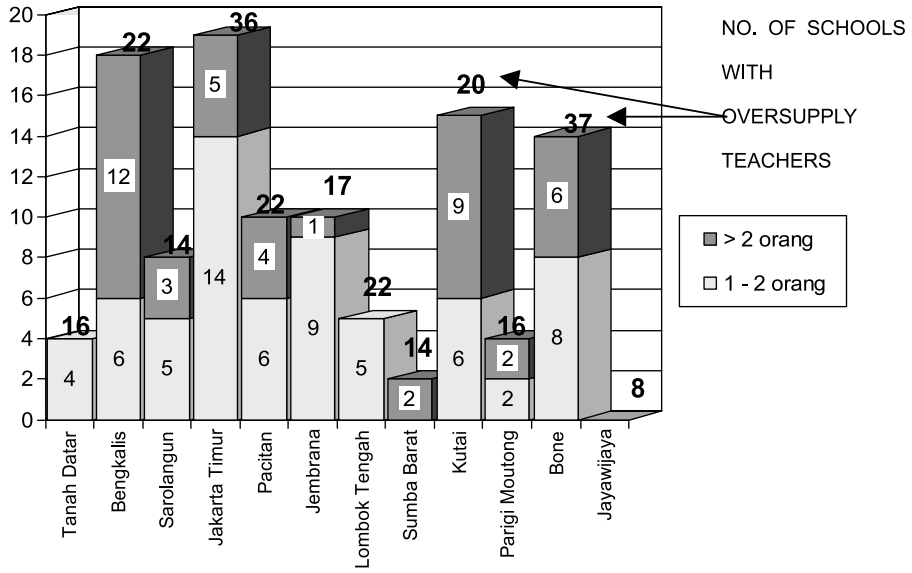
Apendix 6: Student-Teacher Ratio in Primary Schools



Data Source: Study on Teacher Employment and Deployment in 12 Districts/Municipal (Directorate of PMTPK & World Bank, 2005)

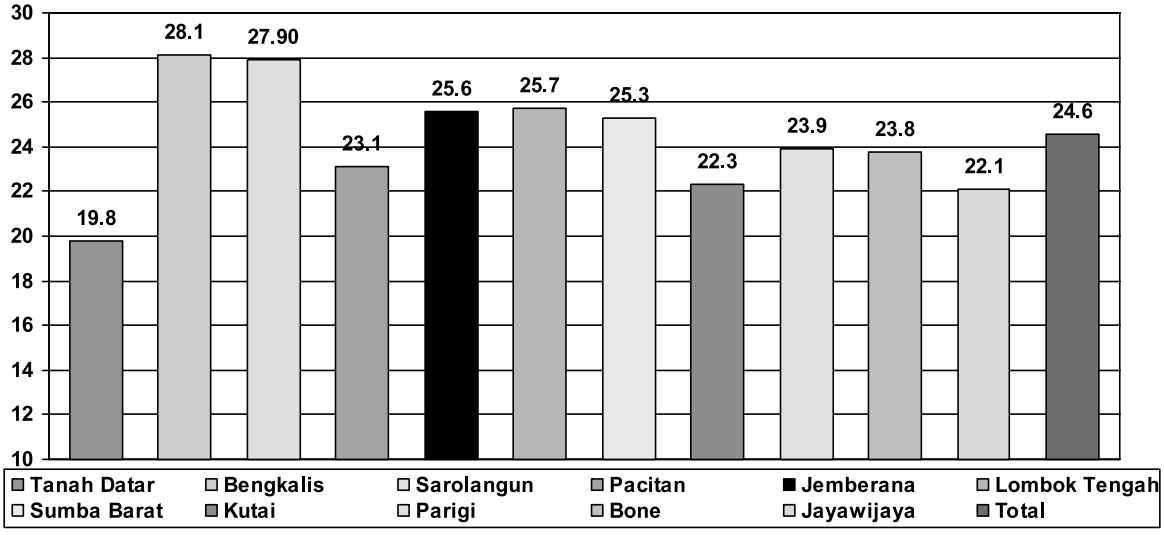
Compared to the teacher-pupil ratio based on the national education standards, the ratio in those three levels is already an ideal one. However, the above-mentioned low ratio is indicative of inefficient utilization of the teaching force due to several factors such as the large number of teachers clustering in certain areas. One of the findings from the study on "Teacher Employment and Deployment" (2005) supports this argument where there are sampled schools with oversupply teachers (see Appendix 7). This study also reveals that teaching hours per week for teacher seems to be lower than that of the standard (see Appendix 8). Another interesting finding is that teachers in remote areas tend to teaching more than their colleagues in the rural and urban areas (see Appendix 9).

Apendix 7: Sampled Primary Schools with Oversupply Teachers



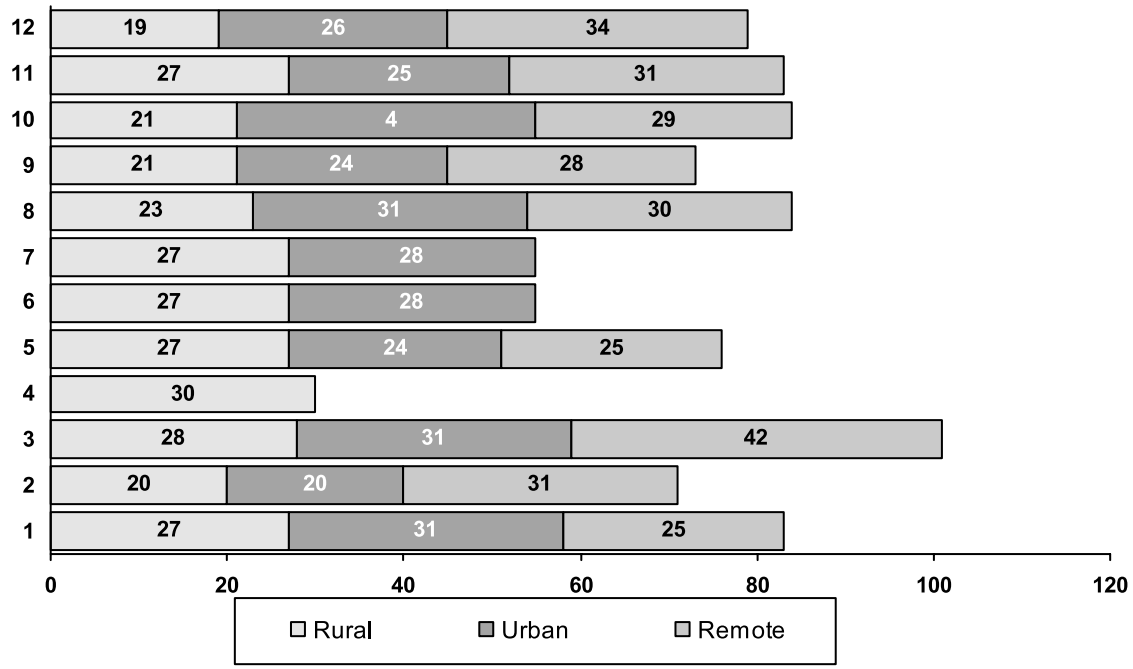
Data Source: Study on Teacher Employment and Deployment in 12 Districts/Municipalities (Directorate General of PMTPK & World Bank, 2005)

Appendix 8: Teaching hours per week for Primary Teachers in the 12 Sampled Districts/Municipalities



Data Source: Study on Teacher Employment and Deployment in 12 Sampleed Districts/ Municipalities (2005)

Appendix 9: Primary Teachers' Teaching Hours per Week by Remoteness



LEGENDA:

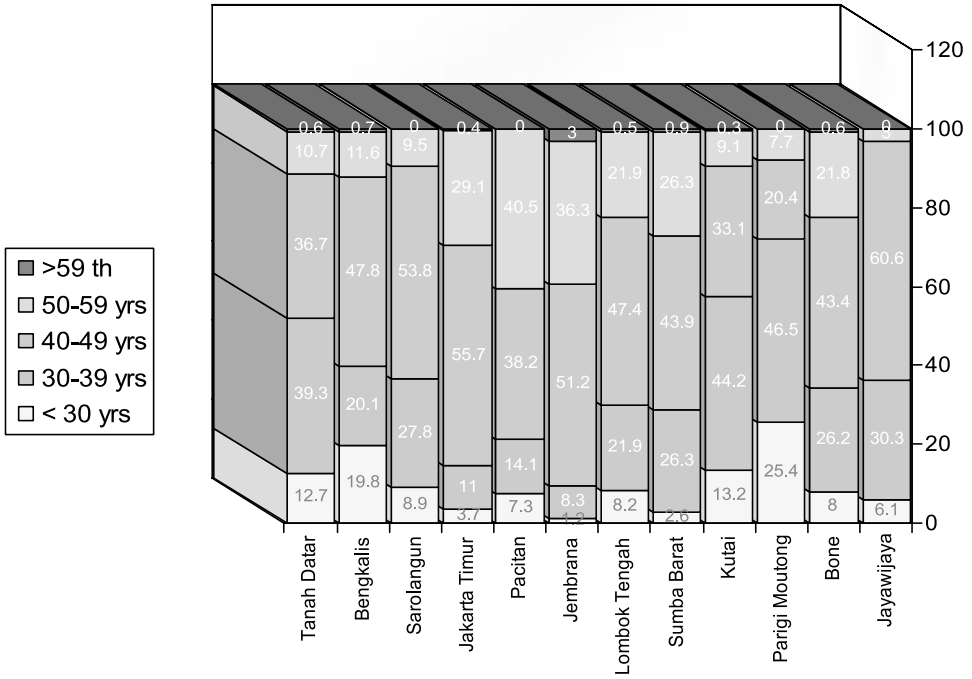
1 = Tanah Datar; 2 = Bengkalis; 3 = Sarolangun; 4 = Jakarta Timur; 5 = Pacitan; 6 = Jembrana; 7 = Lombok Tengah; 8 = Sumba Barat; 9 = Kutai; 10 = Parigi Moutong; 11 = Bone; 12 = Jayawijaya

Data Source: Study on Teacher Employment and Deployment in 12 Sampled Districts/Municipalities (2005)

The above mentioned ratio of pupils-served per teacher as well as the uneven distribution in terms of number and teaching-hour per week, will become important policy issues in the improvement of the quality and efficiency of education, since it will impose an obstacle to coverage of the education unit's operational costs and to the effort of ensuring improved salary levels for teachers.

In terms of teaching services' duration and locations, it is revealed from a study on teacher employment and deployment (see Appendix 10) that about 20% of the total number of teachers in the sampled districts/municipalities will be in retirement. Another data from the National Agency of Public Service (BKN) supports this notion (see Appendix 11). With reference to these two data, the Government of Indonesia is in the critical situation for the better recruitment, employment and deployment process in order to have more qualified and competent teachers in the future. This is especially important due to the enactment of the new Law on Teacher and Lecturer which implies such a minimal requirement and standards in terms of academic qualification and competencies as well as well certification process.

Appendix 10: Distribution of Teachers by Age (%) in Sampled Districts/Municipalities



Appendix 11: Teachers by Age Groups and Types (as of July 2005)

No	Age Groups (Year)	Types							Total
		K	PS	General JSS	Voc. JSS	SSS	VSS	SKB/SLB	
1	18 - 20	1	11	4	-	-	-	-	16
2	21 - 25	4	164	18	-	15	15	-	216
3	26 - 30	23	6.255	1.721	11	962	349	3	9.324
4	31 - 35	1.125	51.997	24.207	254	8.136	3.293	75	89.087
5	36 - 40	7.510	175.825	65.668	872	25.991	11.661	616	288.143
6	41 - 45	10.920	307.252	84.482	829	32.615	16.721	957	453.776
7	46 - 50	4.321	207.682	46.060	492	23.091	11.923	440	294.009
8	51 - 56	3.357	179.312	25.967	237	11.246	7.393	203	227.715
9	57 - 60	977	60.319	14.487	143	4.226	4.106	60	84.318
Total		8.238	988.817	262.614	2.838	106.282	55.461	2.354	1.446.604

Notable Policies, Measures and Reforms taken by the Government of Indonesia towards

Quality Improvement in Education

The development of national education shall be faced with serious challenges, especially with regards to the improvement of working performance. This includes (i) equity and quality of access to education, (ii) improvement of quality, relevance, and competitiveness, (iii) the redressing of governance, accountability, and public satisfaction and public image, and (iv) the increasing of budget allocation for funding.

It is important to note that the issue of education quality is no longer a stand-alone monolithic issue but it is a host of intertwined problems which have formed a mutually influencing cluster. To address these issues, a holistic reform through such policies and measures has been undertaken by the Government of Indonesia as follows.

Amendment to the 1945 Constitution

One of the major developments registered in the reform of Indonesia's system of education is the adoption of the Fourth Amendment to the Constitution on 10 August 2002. The newly amended Constitution not only guarantees every Indonesian's right to education, but also the corresponding obligation of the state in this regard. Article 31 stipulates the government's obligation to ensure the fulfilment of the right of every citizen to basic education, as well as the financial responsibility which this fulfilment entails. In addition, the state must develop and implement a national education system, and earmark at least 20% of its own and local government's budgets to meet the system's requirements.

Establishment of the Directorate General for Quality Improvement of Teacher and Education Personnel

A key part of the solution to the problems exist in teacher context in Indonesia is to upgrade the qualifications of teachers and to pay them more adequately based on their educational qualifications and competencies. There is also an opportunity for excessively low pupil teacher ratios to be corrected, thereby generating significant cost savings that can be used toward funding salary increases or other quality improvements.

With these concerns in mind, a new Directorate General - Directorate General for Quality Improvement of Teacher and Education Personnel (Direktorat Jenderal Peningkatan Mutu Pendidik dan Tenaga Kependidikan) - has recently been established, in May 2005. The mission of this new Directorate General is to assure that teachers particularly and education personnel in general shall meet adequate academic and competency standards and receive appropriate remuneration and welfare.

The Issuance of Teachers and Lecturers Law

One of the milestones that the Government of Indonesia (GoI) has recently achieved is the issuance of law for teacher and lecturer which was endorsed on 6 December 2005. The Law is structured to set up a framework for teacher rights, roles and responsibilities as well as define responsibilities of various levels of government in relation to teachers. The wording is often kept general, with the details to be specified in subsequent regulations. This strategy has the advantage of greater likelihood for future modifications.

The main chapter of the law cover (i) professional principles, (ii) qualifications and competencies, (iii) rights and obligations, (iv) compulsory work and post-graduation compulsory service contract, (v) appointment, replacement, transfer and discharge, (vi) guidance and development, (vii) rewards, (viii) protection and (ix) sanctions.

A common theme in the law is the issue of teacher certification. Qualification standards are being increased to require teachers to have at least a bachelor's degree (S1) or four year diploma (D4) and demonstrated competencies in four areas: (i) pedagogical, (ii) personal, (iii) professional, and (iv) social. *Pedagogical competency* involves understanding students, designing and implementing learning methods, and evaluating study results. *Personal competency* involves aspects such as having an adult personality and character worthy of imitation, and having leadership qualities and an ability to nurture each individual students. *Professional competency* concerns wide and comprehensive master of the subjects to be taught to students using appropriate instructional methodologies and learning strategies. Finally, *social competency* concerns the ability of the teacher as part of a social group to communicate effectively and efficiently with students, fellow teachers, students' parents/guardians, and the nearby community (Ritchie Stevenson, 2005).

The competencies require 40 (forty) credits of training the so-called "professional teacher education program" through accredited universities. Teachers who have met both the academic qualifications and competencies will be given professional certificate and the certificate will have important implications in the determination of salary.

The law is to tie salary to qualifications in order to ensure quality improvement outcomes. The law states that both the national and regional governments have the duty to budget to increase teachers' academic qualifications. A critical incentive defined is that professional allowances will be given by the national government for teachers who are certified. The allowances are equivalent to 1 (one) time the basic salary of teachers appointed by the Government or private school with the same level, service period, and qualifications. Other types of incentives include (i) functional allowances for teachers appointed by the Government and private school, (ii) special allowances for teachers assigned to special areas, which are equivalent to 1 (one) time the basic salary of teachers appointed by the Government or local government with the same level, service period, and qualifications, and (iii) the fringe benefits which are additional welfare benefits obtained in the forms of educational benefits, educational insurance, scholarship, and rewards for teachers, facilities for teachers' children to receive education, health services, or other welfare benefits. In brief, under the new Law No. 14/2005, a teacher will receive at least 1.5 times as that of his/her current salary through the incentives once they obtained the professional qualification.

As regard the appointment, replacement and transfer the law includes the following crucial statements:

a. The appointment and placement of teachers shall be carried out in an objective and transparent manners, in accordance with legislation.
b. Teachers appointed by the Government or the Local government can be assigned to a structural position.
c. Teachers appointed by the Government or local governments may be transferred to other provinces, districts/ municipalities, sub-districts as well as to other educational units to meet the need of the educational units and/

or for promotional reasons.

d. Teachers appointed by the Government or local governments may make a request to transfer to other provinces, districts/municipalities, sub-districts as well as to other educational units in accordance with the legislation.

The issuance of the law has reaffirmed the commitment of the GoI towards the quality of education as well as the availability of educators and educational support staff members as one of the influence factors in achieving education quality.

Strategies for Teachers' Quality Improvement

The quality improvement programs for teachers aim to improve the numbers of teachers, their capability in managing, developing, supervising and delivering technical services to support the education and learning processes in each educational unit. With this respect, the Government of Indonesia through the Ministry of National Education runs few programs, namely (i) provision of block-grant to school, (ii) establishment of subject-matter teacher association, (iii) organization of scientific forum and publication of scientific journals, and (iv) empowerment of subject matter teacher cluster the so-called “MGMP” (Musyawarah Guru Mata Pelajaran”).

Provision of Block-grant to School

The block-grant is provided directly to school and is used for activities aim for the improvement of teachers’ professional in teaching-learning process. Each school is entitled to allocate the budget for classroom action research (CAR) conducted by teachers. In addition, the grant can be used to awarding the teacher who has an extraordinary achievement and well dedicated.

Professional Teacher Association

The association is assumed critical in its role to provide forum for teachers to meet regularly to plan activities, share resources and discuss issues related to the teaching of their subject or the functional or operational activities of their schools. In addition, the association is assumed important as one of pivotal contributors and partners for the government in policy changes as well as in the development and implementation of new syllabuses and courses. In brief, the association enhances the professionalism of teachers and the quality of education by linking and supporting members associations, giving and gaining strength through involvement, cooperative effort and diversity of their individual contributions.

Organization of Scientific Forum and Publication of Journals

These two strategies aim for the enhancement of teachers’ professionalism. The forum and journals function to encourage development, interchange and dissemination of ideas, information and teaching methodologies; to share resources and issues relating to the teaching of their subject; to provide a forum to discuss educational ideas with access to and influence of the process of educational decision-making at all levels; and to enable effective administrative services and support in a recognizable location. These strategies are *about, by and for* teachers.

Empowerment of MGMP

This forum or cluster is another forum for teachers to discuss and share ideas and experiences. Teachers are encouraged to attend after-school meetings at the nucleus school where experienced teachers lead workshops and discussion groups. As this group is very critical, the Ministry of National Education will empower MGMP in the future by making this cluster as one of the alternatives to upgrade teacher competency for a practical focus to ensure relevance and direct application to the classroom.

Japan Assistance for Teachers' Quality Improvement through MGMP in Indonesia

The project for Development of Mathematics and Science Teaching for Primary and Secondary Education so called IMSTEP had been implemented since October 1998 until September 2003 under supporting of the government of Japan. The recipient institutions from the project are the faculties of Mathematics and Science (FMIPA) and the faculty of Mathematics and Science Education (FPMIPA) in the Indonesia University of Education (UPI), the National University of Yogyakarta (UNY), and the National University of Malang (UM). Those universities work with Mathematics and Science teachers in two SMP (junior secondary school) and two SMA (senior secondary school) in each project site, through Lesson Study. The project utilized effectively the so-called MGMP (Musyawarah Guru Mata Pelajaran).

The expected outputs of the follow-up program are as follows. (1) The strengthened linkage and coordination between existing in-service teacher training institutions and universities, (2) The standardized strategies and methodologies of ongoing and future piloting activities. (3) The greater applicability of lesson plans produced through piloting activities for a wider range of schools with different academic level and material condition. (4) The complete editorial works regarding the manuscripts of common textbooks. (5) The improved quality of common textbooks based on try-out results at universities. (6) Expanded opportunities for secondary school teachers other than pilot school teachers to utilize the results of the Project output (such as lesson plans) through joint activities between the Follow-up programmed and MGMP/LPMP/PPPG. (7) Enhanced understanding of personnel concerned in science and mathematics education in 3 universities and related organization on current issues in this area.

Both Ministry of National Education (MONE) of the Republic of Indonesia and Japan International Cooperation Agency (JICA) recognize certain impacts of such collaborative activities on professional development of teachers in terms of subject knowledge and skills in teaching, as well as cognitive and affective growth in students. It is therefore recently in January 18, 2006 a record of discussions was signed between Japan International Cooperation Agency and Authorities concerned of the Government of the Republic of Indonesia. The signing record concerned on the "Strengthening of In-Service Teacher Training of Mathematics and Science Education at Junior Secondary Level." The duration of the technical cooperation for the program will be two and half years, from May 2006 to October 2008. The overall goals are:

1. Education officers in the central government and target districts recognize the effectiveness of the MGMP

activities and take necessary financial and administrative measures to sustain them.

2. Effective MGMP activities are regularly conducted in the target districts.
   a. MGMP facilitators are trained in the target districts
   b. Principals of the target schools recognize the effectiveness of the MGMP activities and take necessary measures to sustain them.
   c. Mathematics and Science teachers improve the practical teaching competency through the MGMP activities applying Lesson Study.
3. The monitoring and evaluation mechanism of the MGMP activities is developed.

Conclusions

Concerning teachers and educational quality, a number of issues, problems and challenges have been faced by the Government of Indonesia (GoI) since its independence. However, the Government of Indonesia has taken measures, policies and strategic actions to reduce as well as to overcome so that the quality of education and teachers will be improved.

In the future, the Government of Indonesia welcomes for assistance in terms of funding and technical assistance from various donor agencies and governments including the Government of Japan. The collaboration and partnership is assumed critical for the acceleration of teacher's quality improvement in Indonesia.

Panel Presentation

Merle Tan

Director, National Institute for Science and
Mathematics Education Development
University of the Philippines (UP NISMED)

Improving the Quality of Science and Mathematics Education By Enhancing Teachers' Quality

Konnichiwa. Good afternoon. Thank you for inviting me to this Forum.

My presentation is focused on improving the quality of Science and Mathematics Education by improving teacher quality. UP NISMED, the Institute where I work, is the national center for science and mathematics education at the basic and teacher education level.

Recognizing that the world is increasingly shaped by science and technology; people need basic knowledge and skills if they are not to be alienated from the society in which they live, if they are not to be overwhelmed and demoralized by change, if they have to make those multifarious political, environmental and ethical choices in which scientific discovery and its consequences are confronting us all ((Sec Gen, UNESCO, 1993). Teachers play a major role in promoting knowledge and skills to help students and the general public cope with changes in society and the environment. Different government and nongovernment institutions, as well as the business sector, are working closely to improve teacher quality and science and mathematics education in the country.

Problems about science and mathematics teachers in the Philippines

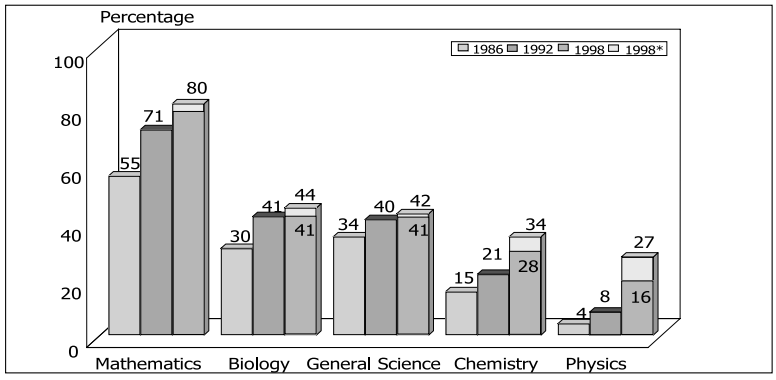
For lack of time, this paper will discuss only three of the major issues and problems related to science and mathematic education in the country. The problems are interrelated but they are presented separately to highlight the causes.

Problem 1: Low percentage of qualified science and mathematics teachers

By qualified teachers we mean those who have a) completed a four-year Bachelor of Secondary Education (BSEd) or Bachelor in Elementary Education (BEEd) with majors or minors in science or mathematics; b) trained in the basic and applied sciences (e.g., engineers, nurses, medical doctors or food technologists) but have taken 18 units of education

Figure 1

Percentage of Qualified Teachers
Source: Science Education Institute 2001



*** in-service training programs which are equivalent to major of minor in S&M**

subjects and passed the licensure examination for teachers or LET; and c) attended in-service teacher training programs equivalent to major or minor in science and mathematics education. Figure 1 highlights the problem.

The graph was taken from the 2001 report of the Department of the Science & Technology.- Science Education Institute (DOST SEI). This report has a 2005 version but the results are not yet released to the public but based on verbal comments of researchers the figures did not change much. The graph shows that mathematics teachers have a better image, with qualified teachers increasing from 55% in 1986 to 80% in 1998. Mathematics teachers are lumped together because they are expected to teach any sub area of mathematics - geometry, algebra, statistics, and others. Science teachers on the other hand, are distributed over four specializations - Integrated or General Science, Biology, Chemistry, and Physics. The subject area with the least percentage of qualified teachers is Physics followed by Chemistry. The yellow bar in the graph represents the third category of qualified teachers explained earlier, those who have undergone upgrading in science and mathematics education equivalent to a major or minor in the subjects. The percentage of qualified science teachers is increasing through the years but the percentage is not enough considering the needs of millions of students in elementary and high schools all over the country for better science and mathematics education.

What are the possible causes for the low percentage of qualified science and mathematics teachers in the Philippines? One reason is that teaching is not a popular choice among high school graduates, especially those belonging to the upper 20% of the graduating class. In addition, science and mathematics are not popular choices for those who opt to go into science and math teaching. Figure 2 below reveals that in terms of specialization, science ranks fifth while mathematics ranks sixth.

Figure 2

BSE Studentsí Ranking for Areas of Specialization

Area	Rank
Library Science	1
Music	2
Values Education	3
History	4
Science	5
Mathematics	6
Health & Physical Education/ Practical Arts	7
Filipino	8
English	9

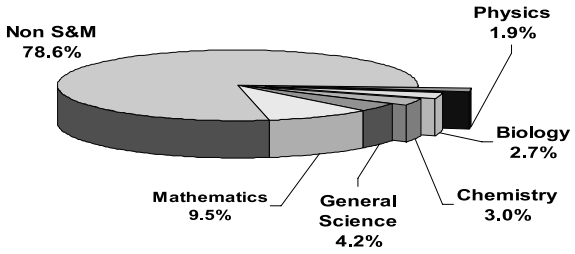
Source: DOST SEI, 2005

Another reason for the low number of qualified teachers is that even if these teachers have major or minor in science or mathematics in their undergraduate degrees, they shift to other specializations when they pursue graduate education. For example, as shown in Figure 3, only 1.9% take Physics Education in the masters degree, 2.7% in Biology Education, 3% in Chemistry Education, 4.2% in General Science Education, and 9% in Mathematics Education.. A big 78.6% specialize in non Science & non Mathematics Education courses. The problem gets worse

when these teachers take their doctoral degrees. The popular choices for teachers' graduate degree specialization are Administration and Supervision and Research and Evaluation. The career path is towards becoming a principal in a school and eventually a superintendent in a division.

Figure 3

Specializations of Teachers at MAT/MST/MA/Med Levels
Source: Science Education Institute 2001



Yet another reason for the low number of qualified teachers is that many teachers who have majors in science and mathematics have left the Philippines for a teaching job in the US, Canada, Saudi Arabia, Brunei, and other developed countries. Cortes and Tan (2005) reported that, as shown in Table 1, more than 12 000 of the best Filipino science and mathematics teachers have left the country over the last 10 years. In UP NISMED alone, three PhD holders in Physics Education have left for the US. They get very high salary (as much as USD 8000 a month) in addition to opportunities for more professional growth.

Table 1

Distribution of Migrant Teachers by Occupation and Country of Destination: 1988 to 2001

(Source: Commission on Filipino Overseas, in Labstat Updates, July 2003)

Occupation	TOTAL	United States	Canada	Australia	Japan	Germany	Others
ï Elementary Teacher	4 257	3 308	378	378	44	33	116
ï High School Teacher	2 480	1 789	281	258	33	29	90
ï Supervisor/ Principal	1 729	1 212	261	189	12	13	42
ï Others	4 268	2 966	655	349	63	42	193
TOTAL	12 734	9 275	1 575	1 174	152	117	441
% to Total		72.8%	12.4%	9.2%	1.9%	0.9%	3.5%

In Cortes J.R. & Tan M.C.(2005) Teacher Leavers: Brain Drain or Technology Transfer?

Problem 2: Overcrowded classroom and lack of quality instructional materials

A regular public high school would have about 60 to 70 students in a class (elementary schools may have between 40 to 50 students per class). This means that students may not be exposed to hands-on minds-on activities using concrete materials. Studies have shown that children learn best in a concrete manner involving personal participation, physical or hands-on activities and opportunities for personal discovery. Learning is greatly enhanced when concepts are presented in contexts or relationships that are familiar to students. Most learners learn best through personal interaction with other learners through study groups and team learning.

The UP NISMED Report on the Classroom-Level Impact of the Science and Mathematics Education Manpower Development Program (SMEMDP) under the CICE Study supports this claim. With large classes, practical work approach is seldom done. The worse part is that even if there are activities done in the classroom, many unqualified teachers are unable to process the results in such as way that students can relate the concepts to daily life activities and phenomena or to real-life problem solving.

Teachers who lack content knowledge of the subject they teach are not in a position to motivate students to learn and enjoy science or mathematics. Neither can they develop learner-centered activities that promote development of, critical and creative thinking as well as problem solving and decision making, otherwise known as higher order thinking skills.

Problem 3: Lack of research on how students learn

Thesis or dissertation studies of graduate students deal more with comparison of teaching approaches or effects of different curriculum materials on student learning or attitudes. Very few research studies tackle the question "how students learn". With large classes, teachers are not able to do action research to improve their own teaching-learning situation. Action research is "a collective self-reflective inquiry undertaken by teachers in social situations in order to improve the rationality and justice of their own social or educational practices, as well as their understanding of these practices and situations in which the practices are carried out" (Kemmis and McTaggart, 1988). Action research involves discovering, developing or monitoring changes through a small scale, contextualized, localized collaboration activity, and carried out in a cycle of planning, acting, reflecting, and evaluating.

Assessment skills of unqualified teachers are also limited. Their questions are mainly at the factual level or recall type. They find difficulty in developing constructed-response items and scoring keys or rubrics. In many cases, the results of the assessment are not used to improve the teaching and learning process. These teachers have not practiced assessment as an integral part of the teaching learning situation. These are mainly done at the end of the lesson or unit (UP NISMED TIMSS 1999 Micro Analysis Report, 2005).

Policies and measures being undertaken to address the problems

The government recognizes that science and technology shapes the economy and society It is supporting projects and programs to address them. For example, there is a national policy for development of science and technology education in the Philippines. This support is stated in our Philippines Constitution, Article XIV.

"...gives priority to research and development, invention, innovation and their utilization;
and to science and technology education, training and services."

"...supports indigenous, appropriate, and self-reliant scientific and technological
capabilities, and their application to the county's productive system and national life."

A Science and Technology Education Plan had been developed as a guide for both policy makers and program implementers of science & education programs. It is an interagency program with the DOS SEI and the UP NISMED

directors as chair and co-chair, respectively. The Plan has seven thrusts:

1) upgrading teachers' capabilities through training on content, teaching strategies, development of learner-centered curriculum materials, integration of technology into teaching and development of varied assessment items requiring higher order thinking techniques;
2) enhancing the learning environment by providing computers and other instructional aids and kits to schools;
3) reengineering the assessment procedure not to focus mainly on paper and pencil test but other forms of assessment; use of constructed-response items and development of high level multiple-choice questions;
4) establishment of a quality assurance system involving the training of supervisors and other education personnel to improve academic supervision and support to teachers;
5) advocacy agenda or popularizing science through science fairs and museums as well as TV and radio programs;
6) research agenda involving studies on how students learn and how to develop scientific and technological literacy including numeracy; and
7) legislative agenda to encourage lawmakers to focus on formulation of bills that lead to the improvement of science and mathematics education, including establishment of scholarships programs.

Table 2 enumerates some of the projects that have been or are focused on upgrading.of science and mathematics teachers.

Table 2 Math and Science Teacher Training Projects

Project Name		National Level Implementation
SMEMDP	Science and Mathematics Education Manpower Development Project	1994 to 1999
RISE	Rescue Initiatives for Science Education	1999 to 2003
TEEP	Third Elementary Education Project	ends 2006
SEDIP	Secondary Education Development and Improvement Project	on going
SBTP	School-Based Training Program	on going
ITTF	Intel Teach to the Future	on going
	New Teacher Education Curriculum	started June 2005

In the six teacher training programs listed above, UP NISMED played a major role in their design and implementation, being the research and development arm and extension unit of the government in science and mathematics at the basic and teacher education levels. Note that these functions were enumerated by the Board of Regents of UP when the Science Teaching Center (the first name of NISMED) was established in 1964. In recognition of the lead role that UP NISMED has been doing to improve science and mathematics education in the country especially at the basic education level, the DOST SEI designated it as the National Center for Research and Innovation in 2005. This new title demands that UP NISMED create and/or innovate techniques and strategies to improve research outputs that will feed into the training and curriculum development projects and reforms initiatives in the country. UP NISMED is currently reviewing the science curriculum for basic education to come up, before the end

of the year, with a more relevant science curriculum framework for Filipino students. The results of local and international research studies like the Scientific Technological and Environmental Literacy Levels of Filipino Students and the Learners Perspectives Study (Math) are important considerations in the preparation of this framework. The role of technology in improving science and mathematics education is not overlooked. Intel Philippines is supporting training programs to help teachers use technology in teaching Science, Mathematics, and English.

The table also highlights the policy reform done by the Commission on Higher Education by implementing since June 2005, a New Teacher Education Curriculum aimed at upgrading the competence of would be science and mathematics teachers by increasing the number of units of specialization courses.

The role of international cooperation in improving teacher quality (experiences with Japan)

There are many education projects in the Philippines supported by different international agencies. These agencies include USAID, AusAID, World Bank, Asian Development Bank, UNESCO and JICA. This report will focus on UP NISMED's experiences in implementing two projects supported by the Japanese Government.

o The Science and Mathematics Education Manpower Development Project (SMEMDP)

This project was implemented in 1994-1999. It was a component of the package cooperation for the development of elementary and secondary science and mathematics education. UP NISMED was the implementing agency. The goal was to enhance and upgrade the capabilities of science and mathematics teachers in the elementary and secondary schools that will lead to effective learning of science and mathematics, through the training provided by teacher trainers trained at UP NISMED.

The main features of SMEMDP include: technical transfer from Japanese experts to UP NISMED staff, development of instructional materials and methods utilizing practical work, provision of equipment and books needed to do hands-on, minds-on activities, conduct of national training of leader trainers to enable UP NISMED teacher educators to apply acquired skills and use developed instructional materials, follow-through of leader trainers in different regions, and conduct of training courses for classroom teachers.

The inputs from the Government of Japan were the following: dispatch of experts (about twenty two of them over five years), training of Counterparts in Japan, provision of books and equipment, provision of funds for training, and development of training materials. On the other hand, the Government of the Philippines provided physical and human resources as well as salaries of NISMED counterparts.

What was the SMEMDP training scheme? The cascade model was used - from the national level through the national training program or NTP, to the regional level though the Regional Training Program or RTP, to the division or school-based level. The follow-through of leader trainers was done to determine the gaps as the training moved from the national to the regional to the district and school level. Its salient points include: the use of the practical work approach; involved the manipulation of concrete objects and/or the performance of activities to arrive at a conceptual understanding of different phenomena and situations, relating concepts

to real-life situations, use of classroom-based and outdoor-based activities, and development of process skills. .

To determine the impact of SMEMDP, UP NISMED participated in the CICE Study involving five countries. This study was done five years after the end of the Project. The following aspects were looked into: extent of use of practical work, extent of adaptation of SMEMDP content, pedagogical skills, assessment procedure, and teacher pupil or pupil pupil-interaction. It also focused on teachers' attitude towards PWA, students' attitude towards hands-on and minds-on activities, and nature of support by principals, department heads, parents, and community. The results of the study confirmed the hypothesis that PWA can impact student learning in S&M to a large extent if teacher's knowledge of content is substantial enough. The most important factor that affects implementation of PWA are availability and utilization of SMEMDP materials and sourcebooks and strong support by the school environment such as school principal or department head; parents and alumni, time for teachers to prepare lessons, school's available resources, and availability of supplies for teaching/visual aids

o 3rd JICA Country Training Program

In this program, Japan is the 1st country, Kenya the 2nd country, and Philippines the 3rd country. JICA provides the funds for the training of Kenyan INSET trainers (national and district) in the Philippines. The Kenya trainers come from the project called the Secondary Mathematics and Science Education Program (SMASSE). The 3rd country training started in 2002 with one biology master trainer sent to the Philippines for three months. This was followed in 2003 with one chemistry trainer also for three months. In 2004, the number of participants from Kenya totaled 20 - five each for Biology, Chemistry, Physics and Mathematics for secondary education; this scheme was repeated in 2005. In 2006, the project was expanded to 40 with ten master trainers for each subject area.

UP NISMED was chosen by virtue of the expertise its staff developed in the course of SMEMDP and also because of its building facilities and equipment housed in the National Learning Resource Center for Teacher Training (NLRCTT) which was established by JICA through a grant-in aid and completed in 1990. The facility was later renamed as the Science Teacher Training Center (STTC).

The UP NISMED complex is shown; the two new buildings in front house the training laboratories and the Hostel for our trainees.

The 3rd country training will continue in 2007 and 2008. The objective of this 3rd country training is to upgrade participants' knowledge and skills in developing teaching and learning of materials for secondary classrooms in Kenya based on the ASEI (activity, student, experiment improvisation) and PDSI (plan, do, see, improve) approaches; upgrade their capability in planning INSET programs and curriculum for national and district levels; share and exchange experiences and practices gained in the Philippines and Kenya; and apply what has been learned in this course to their national and district's current situation.

The picture on the left shows Kenya biology trainers

observing microorganisms under a microscope. The picture below shows mathematics trainers doing outdoor measurements.

The 3rd country training program promotes international cooperation and partnerships and strengthens relations between the Philippines, Kenya, and Japan. It allows the UP NISMED to extend its role as a National Center for Research and Innovation to other countries. UP NISMED staff is forever grateful to JICA for the confidence in our capability to improve science and mathematics not only on the Philippines but also African countries.

UP NISMED is open to training science and mathematics trainers from other African countries and top level education personnel from some African countries have sent missions to the Philippines and UP NISMED to look into this matter. We look forward to more international partnerships and JICA support.

Thank you very much for listening!

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Panel Presentation

Françoise Caillods

Director a.i. International Institute for Educational Planning, UNESCO

Improving Teachers' Quality: the planner's approach

In 1990 in Jomtien (Thailand) the international community committed itself to reaching the objective of Education for All in 1990. This commitment was renewed in 2000 in Dakar and the objective is now that every child should complete primary education by 2015. Over the past ten years, great efforts have been made to increase the number of children that have access to education. In Africa again, the region where most of the out-of-school population live, enrolments have increased very rapidly and nine out of ten children now enter schools and study for some time. This result was achieved thanks to the recruitment of many teachers, many of whom were untrained. But student learning achievements are low and in some instances have declined. Children drop out before having acquired the basics. However the objective is not simply to enrol all students but to provide quality education to all and enhance students' learning. It is only when all students master literacy and other basic skills that the benefits expected from EFA will occur. Teachers are crucial to improving the quality of education: it is the quality of their teaching that is the strongest school-level determinant of student learning. All other investments, such as the production and distribution of textbooks, depends on them being used by trained and motivated teachers. But what is a good teacher? How can good quality teachers be produced in large numbers? What is the most effective way of training them? These are some of the questions that need to be answered. We shall review below some research results before making a few suggestions for action.

The planner's concern

In future years, many teachers will have to be recruited if EFA is to be achieved in developing countries. In Africa alone, according to World Bank estimates, 1,361000 teachers will have to be recruited between 2000 and 2015 to reach the objective of Education for All. The lack of teachers is even more acute because of HIV and AIDS; many teachers become ill and eventually die, while others leave education to go and work in other administrative positions or enterprises and replace people who have died of AIDS. Missing teachers have to be replaced quickly. Another dramatic circumstance that is affecting the demand for and supply of teachers is the increasing number of armed conflicts, violence and natural disasters. In 2004 there were 32 on-going armed conflicts all over the world which claimed the lives of many people. During conflict, and naturally after a conflict, education has to be organized and reconstructed. There again, teachers must be recruited and trained rapidly.

Training all these teachers is costly. In several developing countries, pre -service training is taking place in residential schools (*ecoles normales* in French-speaking countries; teacher training colleges, or colleges of education in English-speaking countries), and this kind of residential training is very expensive. Due to high boarding costs and student stipends, the cost of training one teacher can vary between 3 and 13 times the GNP per capita, or 20 to

100 times the cost of a primary school place (Lewin and Stuart, 2003).

Increasingly - as in Latin America - teachers are trained in post secondary institutions, either affiliated to universities or independent. This kind of education can be quite expensive as well. In addition, the more educated and the more trained the teachers are, the higher their salary. Recruiting teachers with higher educational attainment and training significantly increases the unit cost of primary education. Hence the need to check that teacher training programmes are effective, and that trained teachers do make a difference to the learning level of their pupils. Much research has however cast doubt on the effectiveness of some existing pre-service and in-service training programmes in this respect.

The high cost of teacher training coupled with the high level of attrition of trained teachers and the mixed results of research conducted on the impact of pre-service training on learning achievements have led some to question the relevance of a model based on long residential pre-service training. Alternative training programmes are being developed. Before opting for one model or another, we need to understand better what makes a good teacher, how present teachers teach and how their teaching practices can be improved, and the role of training in this respect; How much pre-service training is needed? What other kind of training is required - practical training and in-service training? And finally, what is the most cost-effective way of training quality teachers?

What is a good quality teacher?

One recognizes excellence in teaching when one sees it. Many of us have kept an excellent memory of two or three teachers who played an important role in our life; these teachers ignited our interest for one particular subject thanks to their mastery of the topic, their enthusiasm and their encouragement. At the same time we know that certain teachers may put students off a subject or discourage them for the rest of their life. Recognizing a very good teacher is one thing; defining what makes him/her such a good teacher is more difficult. It is generally agreed that good teachers:

- have mastery of the content they are teaching;
- use various methods of teaching, choosing the one which is most appropriate to the content;
- prepare their lessons, make use of teaching materials and cater for differences in learners;
- gives assignments and homework and provide feedback;
- are punctual; manage their time well; they keep control in class.

Thus the quality of teachers depends on:

- their subject matter knowledge. But we know little about how much of it is needed;
- their pedagogical skills (their choice of teaching strategies but also their control over the class);
- their motivation, which itself depends on their teaching conditions, the support they receive and their conditions of service;
- and their professional ethics.

How to produce a good teacher is the object of much debate. According to some authors one is born a teacher; what is very important then is to strengthen the subject-matter knowledge. If this were the case, teacher

training would not need to be of a very long duration. According to others, teaching is a real professional job and teachers need to learn not only the content but also the tricks of the profession. This is acquired through pre-service training and practice.

How much pre-service training is needed and in what form ?

Several countries are challenging the validity of their present model of selecting and training teachers. Some of the trends include the following:

- Raising the educational requirements for entry to teacher training programmes and reduce the length of initial training. There is a great variety in the educational level required to enter into educational studies and training: from completed lower secondary followed by two to four years of teacher training to complete secondary followed by some years of educational studies, to a first university degree. There is also great diversity in the length and type of teacher preparation offered: in special courses at secondary or post secondary level, or in universities. The trend is to increase the number of years of studies before beginning the professional training and to reduce the length of initial training.
- Diversifying the profile of teachers recruited. In West Africa in particular there is a tendency to recruit volunteer teachers, community teachers and contract teachers. These teachers are secondary school graduates, or sometime lower secondary school leavers, who are just given a few weeks of orientation before they start to teach. In other parts of the world (India, Cambodia) contract teachers or para-teachers are (or were) also recruited with hardly any pre-service training. Many of them are secondary school graduates or even university graduates.
- Diversifying the form of pre-service training, from college-based training to distance training and school-based training.

1. *College-based training.*

In a large number of countries teachers are trained in non-university institutions parallel to secondary schools or universities. Many of these courses are long and residential. Where this is the case the unit cost of training teachers can be quite high, as mentioned above. Another problem is that these colleges produce also a limited number of students per year, much less than are required if the objectives of Education for All are to be met.

It is worrying to find out that recent research in Africa is inconclusive concerning the impact of teachers' preparation on students' learning. In Africa several research programmes exist that measure students' achievement in standardized tests in different countries. One programme measures students' learning achievement in grade 6 in English-speaking countries - the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ). Another programme measures students' learning achievements in grade 5 in French-speaking countries - the *Programme d'Analyse des Systémes Educatifs de la CONFEMEN* (*PASEC*). The data collected makes it possible to study the impact on students' achievements of educational inputs, among which teacher educational attainment, initial professional training and in-service training. In PASEC countries neither the indicator of educational attainment nor the indicator for professional training appear to have any significant impact on students' learning achievements. In other words, whether the teacher has been trained or not appears to make no significant difference

on the level of students' learning (PASEC, 2004; Michaelowa and Wechtler, 2006). Another worrying finding is that there is no positive correlation between the duration of teachers' education and training and their knowledge of the subject matter (Michaelowa, 2003). This seems to indicate that teachers themselves received low quality education when they attended schools and teacher training institutions and possibly that those entering teacher training schools have been badly selected. The results are slightly different for English-speaking countries. In SACMEQ countries the impact of teachers' academic qualification and professional qualification on students' learning achievement is more significant. But the results vary widely between countries (Lee, Zuze and Ross, 2005; Michaelowa and Wechtler, 2006). On the whole it was found that some pre-service training is important but it is more effective if it is combined with a higher level of content competency (Duthilleul and Allen, 2005).

Qualitative research and observation of teacher practice also provide interesting information. Several studies in developed and developing countries have shown that no matter how long the professional training they receive may have been, and no matter what they were taught teachers tend to reproduce the kind of teaching they themselves were subject to as primary and secondary school students: traditional, frontal, chalk-and-talk teaching. In a recent research based on classroom observation in Madagascar, Tanzania and Uganda, researchers found that there was "little variation in teaching methods: teachers talk; students are engaged but passively; textbooks are available but poorly utilized", even in schools where teachers had received much training on how to improve students' active participation (Heneveld, 2006: 25). After many years of traditional instruction in primary and secondary schools, and even in teacher training, it is extremely difficult to change the view that teachers may have on what is good teaching as well as their practice.

In view of all these and other research results there is a great deal of debate among experts on "what should be the duration of initial teacher preparation":

- What should be the required academic level for entry to the teaching profession? (It very much depends on the cost and the level of the resources of the country).
- What should be the duration of initial teacher preparation? At what level and in which institutions (university or non-university institutions)?
- Should the subject matter and pedagogical skills be taught in sequence (one course following the other), or concurrently (in the same programme)?
- How much practice is required and when should it start?

Many of the questions above are unresolved by research and the answers will depend on the country, its traditions and its level of resources. However teachers can only teach what they have understood and mastered. An important finding is that in both PASEC and SACEMQ studies the subject knowledge of many teachers was found to be very low: this is preoccupying.

A first lesson would then be that it is necessary to recruit teachers with higher content competencies. This has consequences on the way teachers are recruited and the way they are selected to enter teacher training colleges and teacher education institutions.

A second lesson is that secondary education cannot remain outside the concern of EFA. In many countries it is necessary to improve the quality of teaching in secondary schools where most primary teachers acquire their subject knowledge in literacy, math, and also science and other relevant subjects.

Another important finding is that teacher education institutions are generally dysfunctional in various aspects.

- First, they do often not practice what they teach. Although many tutors may recommend learner-centered teaching and active learning methods, they themselves do not put it into practice: they lecture most of the time (Lewin and Stuart, 2003; Dembele, forthcoming).
- Second, they are slow in changing their curriculum to reflect the changes in the primary education curriculum. As an example, in Africa again very few teacher training programmes have included HIV/ AIDS education in their own teaching.
- Third, they do not always integrate well the practicum and feedback from the practicum in their own curriculum.

A number of additional lessons can be drawn:

Lesson 3: The fact that, according to some recent quantitative surveys, professional training does not seem to have a significant impact on students' learning in some countries does not mean that initial teacher training is not necessary, but it does mean that it is not of sufficient quality.

Lesson 4: It is necessary to improve the quality of initial teacher training in developing countries.

Lesson 5: One has to find a way of changing teachers' views on what is good teaching. Advocating for participatory and active teaching-learning methods is obviously not enough; it has to be put into practice in college classrooms. It is even better to encourage teachers to reflect on their own practice.

2. Alternative methods of initial training

In view of the high cost of the traditional teacher training approach, its shortcomings and the need to train large numbers of teachers in the coming years, alternative models of initial training have been developed and implemented in some countries. They range from distance education to school-based training. They will be described briefly.

Distance education

A great variety of distance education programmes have been implemented in Asia (Indonesia, Nepal, Sri Lanka) and Africa (Tanzania, Malawi) to train very rapidly large numbers of teachers in primary education. They differ in the extent to which they use, or not, face-to-face methods to supplement distance methods, and in the relative emphasis on content and subject matter versus pedagogy and classrooms skills. They tend to be used more often as in-service training to upgrade unqualified teachers rather than as initial training. These programmes often cost between one and two thirds the cost of conventional programmes. They are therefore quite cost-effective. Their effectiveness depends, however, on the kind of support and coaching that is provided to students. It also depends on the quality of the teaching materials which have been produced.

On-the-job training

A large number of fixed-term teachers have been or are being recruited in a number of developing countries in Asia as well as in Africa. These teachers are recruited by the government or by the community on an annual basis, generally for a much lower salary than regular public-service teachers. The practice of employing such teachers generally corresponds to a cost-saving strategy, but in some instances it is a way of coping with the problem of teacher absenteeism and increasing accountability (as in India). Teachers under a fixed-term contract tend to have lower academic qualifications than regular teachers, but this is not always the case. However they do have a much shorter initial professional training. Many of them start teaching after only a few weeks of induction training, and then they attend some days of in-service training during the year. Hence the expression 'sink or swim approach'. This approach has become quite widespread in West Africa. As we saw above, the learning achievement of their students is not significantly different from that of other students, but this may be attributed to greater accountability to communities. The challenge is in fact how to strengthen their professional training (Duthilleul, 2006).

A mixed approach

A mixed approach was used in Malawi when enrollment expanded very rapidly following the introduction of free primary education. Teachers in the Malawi Integrated In Service Teacher Education Programme (MIITEP) were recruited and asked to teach after having followed a short orientation programme. They were supposed to receive support from mentors in the school and continue to receive training through distance teaching and handbooks. But several problems occurred, at least during the initial phase. The programme assumed that the "school could provide enough support to enable the student teacher to acquire the practical knowledge and skills needed to become an effective teacher". But there were not enough trained teachers to play that role. Mentors were not trained, they were not released for these tasks, nor were they held accountable for these tasks (Lewin and Stewart, 2003).

Lesson 5 is thus: entirely school-based programmes are unlikely to be sufficient in low-income countries if the teaching conditions and possibilities of support are inadequate.

Apprenticeship

Another system which has been used is a model inspired by the 'dual system' of vocational training, i.e. a system alternating work and training. Guinea is a case in point. The country had a system where primary school teachers were selected and trained in three years following secondary education and not enough teachers were trained at too high a cost. A new programme has been introduced whereby teacher trainees, who are all secondary school graduates, receive training during one year in the *Ecole Normale*, interspersed with periods in which students teach under the supervision of a teacher trainer in special associated schools. In the second year the teacher is fully responsible for a class under the supervision of a pedagogical advisor. A crash programme alternating three months of coursework during vacation time and nine months of supervised student teaching in an associated school, followed by another three months of coursework. The two programmes together allowed large numbers of teachers to be trained at a much lower cost. It also encouraged collaborative work between teachers since several teacher trainees were appointed in the same school so as to support each other. On the whole this programme is considered effective.

These innovations echo some initiatives in developed countries which emphasize more school-based training

and induction periods. No teacher can be a good teacher on leaving school: it is therefore necessary to plan a gradual introduction to teaching and some periods of coaching while the teacher starts his/her experience as a teacher.

Lesson 6: the period of teacher training can be reduced if teachers are recruited with a higher level of academic performance and if support is provided during the first years of teaching.

In-service training

In-service training is another subject of crucial importance. Large sums have been spent on in-service training in several countries, and these are often not considered very effective. The studies using PASEC and SACMEQ data mentioned above conclude that in-service training has no significant impact on teachers' practice and on students' achievements. They even have a slightly negative influence suggesting that many in-service courses actually take time away from teaching. Hence huge resources have been invested in short but often ineffective and uncoordinated in-service training. Many of them have been organized with a cascade training approach which has not been proven to be very effective.

Yet there is a general agreement that it is necessary to continue to train teachers long after they leave school and that professional development is essential. Possibly one of the most promising models of teacher training is based on the principle of the Japanese lesson study (Schwille and Dembele, 2006). The most important feature of this model includes the following:

- Use the teacher's own classroom as a laboratory for professional development;
- Stress the importance of collaborative work: teachers working together as a team, observing each other and reflecting on each others' experience;
- Introduce action research as a means of professional development;
- Analyze student thinking;
- Balance teacher initiatives with outside advice and guidance.

Emphasizing school quality

Many other aspects beyond training have to be mentioned if one wants to emphasize teachers' quality. This has to do with the proper functioning of the school which should benefit from increased autonomy under the leadership of a good headmaster who is able to co-ordinate the work of teachers and establish a special relationship with the community. At the same time the teachers and the schools should be made accountable for their results delivered to the community. The support of supervisors or cluster headmasters would make it possible to break the isolation of the teachers, particularly in rural schools, and would contribute to increasing the quality of the schools.

The picture on the right illustrates the situation that teachers face; that they are often given a lot of responsibilities without enough support or recognition.

Consequences for international co-operation

From the above, a certain number of conclusions can be drawn for international co-operation:

1. Teacher training and professional development should be given a preeminent position in any thinking and policy to support EFA. It is not a matter of providing more teacher training, but of providing better quality training and better support to teachers.
2. There is no magic bullet. No single measure can fix all problems. Whatever the measure proposed, financial support must be sustained for a sufficiently long time. It has to fit within an overall policy addressing all of the following: initial training, induction period, professional development, support, in-service training and accountability mechanisms.
3. Investing in quality secondary education is necessary to ensure that teacher candidates will have higher subject knowledge.
4. Combining shorter but high-quality pre-service training with school-based practice and mentoring in schools is a promising strategy. This support can be provided by headmasters, but in certain cases, such as in small rural schools, clustering may be a good solution, the head of the cluster being released from any teaching.
5. Emphasize teacher collaboration: **break teacher isolation**

Thank you very much.

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Panel Discussion

Norihiro Kuroda (Hiroshima University, Japan)

It is now time to begin the final session, which is the panel discussion session. We have heard a presentation from each of the panelists. Before we open up the discussion for questions from the floor, I would like to ask Mr. Essuman to briefly comment on the situation in Ghana as he now joins this panel.

Ato Essuman (Republic of Ghana)

A lot of issues I will be raising have been raised by my colleagues. What is important is for us to consider how we are improving the quality of education by enhancing teacher quality. First, how are we relating our teacher training and education policy to the national development goals? In our reform this is an area we are looking at seriously. Secondly, how are we improving the quality of teachers' education and training at all levels? And within that, the linkages between what teachers are taught during the training and what impact that will have on how they teach when they leave. I think it is important that we have this very clear linking between what people are taught in the training to how they will teach when they go back to their schools.

Some of our initiatives to improve teacher quality are the following: 1. pre-service training to not only give information but to look at the changes that have taken place not only in our environment but in the global word. It's important for me to mention also that because of the central stage that the teacher plays in any reform the teacher training quality has not yet been fully developed. 2. We have embarked on serious capacity building development. UNESCO through the Japanese funds in trust is providing capacity building to the amount of 226 thousand dollars. With in-service training we have the insight which until two years ago was just done on an hourly basis. Packed with key objectives in our educational strategies plan, we are pursuing this vigorously. We have district support teams making sure that people who are in the communities and districts have a role to play in ensuring the quality. The school management chief of the area and other people have a role in making sure that people perform. All 38 teacher training colleges are being rehabilitated and some have been designated as science teacher training colleges and will be equipped to do so. You know about STM but we have a five year collaborative effort with Japan and Ghana. Now to motivate teachers and also in the same spirit of enhancing teacher quality we have introduced a steady scheme which unfortunately takes teachers away from the classroom so we have a system where a certain number can participate but when they come back they don't teach at the primary level. Textbook supplies have been improved seriously and although we had textbooks in the three core areas of English, math and science, now we have them in all subject areas at the ration of 1:1. We do recognize that we worry people at the lower level with so many subjects that maybe that is why they are not able to grasp numeracy and literacy.

Another important point is to provide teacher accommodations where teachers are not normally willing to go. I would like to commend our volunteers from Japan who are ready to go to some of these places and it serves an example and provides encouragement so that I think people are now responding. To keep teachers in the classroom to improve quality we are seeing that teachers who are willing to go to the rural areas qualify for study leave earlier than teachers who go to the cities.

Key areas which we need to reflect upon are that one of the results of grants has been an increase in enrollment so now there are big big challenges that we face. These challenges are that we need new classrooms very quickly

and we need new teachers. Currently there are 24,000 untrained teachers who are teaching but are not professional teachers. With the increase in enrollments we need to have more teachers or rely on those who have retired but are still so strong and willing to teach. We also have to think about materials and so on.

This is another area in which we have to be careful as developing countries. It's sad that it's only when the effects are seen that we start thinking of what we should do. It should be clear to us that if the objective is to increase enrollment the very moment you start discussing these things is the same time we need to be discussing resources so that we can provide these buildings, teachers, and so on. This is one of the things we need to look at now.

In the morning session, something that I did not talk about and that also affects quality is the multi-donor budget support system. I know that is the way a lot of our development partners (DPs) want to go so long as the money is earmarked and will be released on a timely basis but the experience that we have is that when monies go there they are not released at the time when they are needed by which case I cannot be held accountable when I don't get the money on time. Thus the earmarking of specific funds becomes necessary.

Inspection is also important and in our new reform there is a division from Ghana which reports to the Ministry and we would like to establish an independent inspection division on the basis that you cannot be a judge in your own court. I'm posing one more question and then I'll end. We have a program being supported by the World Bank and some other DPs and the government of Ghana that will be ending sometime in August this year. The cycle for this program is a cohort which lasts for 23 months. After 23 months, people who may have lost the opportunity to attend basic education are capable through this program to speak English and do simple arithmetic. They have found a way of moving through the academic level to reach tertiary education. The question we pose ourselves every day is why does it take 2 years for someone to learn how to read and write English and to do basic maths in this program and yet after 9 years or 11 years in basic education some students cannot write their own name? This gets me back to what I asked this morning: What is basic education?

Norihiro Kuroda (Hiroshima University, Japan)

You have posed to us a very fundamental question and I'm sure that there are many questions that others bring to this panel discussion. Therefore, we would like to bring the microphone to the floor and ask for questions from the audience. If we could separate the questions into two issues with the first being questions related to teacher issues and then the second questions related to international cooperation. There were many presentations and we ask that when you speak, please give us your name and affiliation and for recording purposes we will bring you a piece of paper and ask that you write your name after speaking.

Question 1

Djadja Rahardja (UPI, Indonesia University of Education)

My question goes to Mr. Essuman. At the end of your presentation you said that your country tried to implement various reforms and I wonder what kind of challenges you encountered when you tried to implement inclusive education in your country. My second question is for Dr. Jalal to comment not only on recent study in mathematics and science but also in special education with UPI and Tsukuba which has a joint program between Japan-Indonesia which is a joint lesson study program and this has been done in the two provinces of East and West Java followed by

one in Sumatra. Thus I would like to ask Dr. Tan who has long experience with the concept of lesson study, what is the advantage of lesson study compared to other methods used to improve the quality of teachers?

Question 2

Mitsuaki Hayase (Mie University, Japan)

I listened from this morning and according to all of you some countries' treatment of teachers and remuneration is insufficient and they lack recognition. In order to support teachers I think all of these must be improved. I would like to ask if anyone of you could please comment on what possible improvement measures there are?

Question 3

Yuto Kitamura (Nagoya University, Japan)

My question is to Ms. Caillods with whom I agree that, as she pointed out, we not only have to improve the pedagogical skills but perhaps more importantly improve the content of professional training. With the limited resources these countries have I think they have to make it a priority even before giving the training curriculum and thus wonder how the teachers could really be trained in a proper way. I would appreciate your view on this matter.

Question 4

Kazuo Kuroda (Waseda University, Japan)

This may be related to the international cooperation issue however in order to improve the quality of teachers there are the related issues of training and raising salaries which establish the environment for a capitation grant to be distributed, as Mr. Essuman mentioned. Thus two directions have to be achieved. The global trend has been (forward) to achieve MDGs or EFA by providing funds in a cooperative manner with multilateral donors. Another direction is to provide technical cooperation. If we are involved in teacher training by technical cooperation, it is cost ineffective. I don't think it is easy to say which is better but if we consider international cooperation in order to improve teacher training, in Japan we have been focusing on technical assistance and not the other concern which is assistance for training funds. This certainly is another way to go so if we could have your input please.

Ato Essuman (Republic of Ghana)

I'd like to address the question on inclusiveness and the challenges. I think that any such issue requires strong leadership and determination because it is something which is out of the accepted way. It is a new thing and you want to bring that about and it requires strong leadership from the very top. Why I'm talking about strong leadership is a direct link to resources. If we are talking about inclusiveness we have to look at the already established infrastructure. We have to be able to make changes in order to make sure that the steps we create rise. You should be willing to do these amendments and you must take into consideration the others who are going to be included. Infrastructure adaptation and changes means you are also looking at the teachers themselves. You would have to have a means of making sure you can train your teachers in that area. And it also requires that you may need to discriminate if they are to be brought in; you must discriminate and give incentives to people who are willing to move into those areas. You have to make provisions for new teacher materials and you need a way that all of these

things can come into play. This is why I began by saying it's not something which should be said on a platform. Rather it needs a driver and the driver is the person who has charge of resource allocation on a gradual basis. Furthermore, this person makes sure we can be moving to a greater degree. It's not something that you can blow a whistle and in the next year or two it's done. It's a process.

Merle Tan (University of the Philippines)

I'd like to comment on lesson study. Lesson study is also something new. As a matter of fact, there are only a few schools who are piloting this. The limitation is that the teachers are handling different classes during the day and do not have much time to talk together. It is our understanding that lesson study involves one teacher who prepares a lesson. Then other teachers review the lesson and thus what we are implementing here is a school based training program. In our case, we mentor and coach a master trainer who takes the lead in conducting school based training which is done continuously throughout the year. New teachers within the academic institute have piloted a mentoring program. This involves an academic supervisor and teacher who stays in the region for five days observing how they mentor, coach, get feedback from students and other teachers themselves. So the idea of lesson study has been modified to include mentoring and coaching which is what is best for the Philippines given the large classes and responsibilities of teachers.

Fasli Jalal (Republic of Indonesia)

Right now we would like to give more autonomy to the schools because for a long time the teaching profession had a loyalty more to bureaucrats than professional merit. How to defend that we are not school based formal funding is a significant component for teacher quality improvement in the classroom. We have received 1 billion USD in 2006 devoted entirely to support school based quality improvement programs. Second, we provide programs to expand upon the lesson study concept through teacher associations at the sub-district level. Junior secondary schools are located in 500 districts with 10 different subject matters. They are given programs to develop according to their own needs. Linking to university programs has also been replicated but also starting from the school and teachers themselves. This pattern of two way traffic is both school based going to the university and the other way to funnel down from the university to the schools. To improve their environment we also regard teachers as a profession. It is not regarded the same as a medical doctor or pharmacist, but is becoming more respected. Whereas before the top twenty graduates were going in that direction, now with professional standing, more graduates will enter the teaching profession.

Françoise Caillods (IIEP, UNESCO)

Where do you put your priorities when you have little money? You have to do everything at the same time. Not start with learning materials and then teacher training. I would advocate for having a strategic plan on teacher training. Some people start working on teacher training materials but we cannot wait. Free primary education exists in Malawi, Tanzania, and Ghana decided to suppress fees increasing very rapidly the number of students entering schools. It is an issue of urgency so that they have to do everything at the same time. It cannot be improved right away. My advice is simply to say you can reduce pre-service training by reducing residential courses to one year or even three months as in Guinea. Then you emphasize in-service which we call on-service or lesson study.

Norihiro Kuroda (Hiroshima University, Japan)

The question was also asked where exactly to intervene and by that meaning in teacher training or improving conditions. Which is more efficient?

Ato Essuman, (Republic of Ghana)

The situation in Ghana is that the Ministry of Education is for policy formation and then we have implementing agencies. The Ministry of Education takes over a third of the total budget of the country. Whatever we get after that which over the past years has been about 8.5-8.7%, goes to Ghana Education Service and about 90% of that is used for teacher salaries. This is serious. It leaves only 10% for administration, for services which are the real activities of the agency and for investment. So most often investment doesn't happen. You get a little bit for administration and for services. But for the support from DPs like yourself and other partners, then their support is between 8-9% of the total government but it is this small percent that really shows in the schools that we are building. These are the facts. Education is the largest employer and we are talking of about 50,000 people. Anytime you think of raising salaries no matter how small you have to think of the numbers. And this is the real issue. To be honest with you the people in education are paid better than those in the public service. When two graduates leave, the professional teacher gets more than the person who is a serviceman. But you want your education to be efficient. The real situation is what I have described. We do recognize that and the government does know that teacher salaries and other conditions need to be improved.

Fasli Jalal (Republic of Indonesia)

This is very tangible from the development perspective but teacher training is not easy to sell. The Indonesian centralization area is increasing so we introduce capacity building. The import of infrastructure is by adding more schools and asking them to address also the software side of quality improvement of teachers. It is only when they match the infrastructure with software that the importance of quality to the local government will be understood and how we are holding the authority to do that. I fully agree with Mr. Essuman that it is not easy to get money for non-salary budgets. But last year the Indonesia budget included 2.1 billion USD. In one year we will add 1 billion of which 50% will be devoted to quality. In addition to quality, 1 billion will be devoted to school grants for quality improvement that is non-salary related. This is very significant.

Françoise Caillods (IIEP, UNESCO)

Teachers have less recognition and lower status. Due to the expansion of education many more university and secondary school graduates are unemployed so the status of teachers declines. In some countries the salary is too low with limits that it costs a lot to increase salaries. This creates a big input on the budget. To improve teacher conditions we need to specialize them to be mentors and to help new trainees through various possibilities. At the same time you have some countries where teachers are not badly paid. Yet they are not often present in the schools so what I would argue is that one should be very careful. Before FTI declines salaries you have to be very careful not to create demolishing impacts. One should say that when you increase you may want to consider asking conditions such as the teacher spending more time in schools or on other duties.

Ato Essuman (Republic of Ghana)

In Ghana, we have very top schools, the international schools which are comparable to what you have in Europe and so on and in the US. And then we have the public and private prep international schools which are not as high. Teachers in these private schools are not paid as much as those in the public schools. They haven't gone through the training that those in the public schools have. Yet the results of entrance examinations are that those in the private schools will have done better-far better than those in the public schools. Two basic principles we need are effective supervision and a sense of responsibility. If we do not spend money on accountability there isn't going to be any chance.

Norihiro Kuroda (Hiroshima University, Japan)

We only have about five minutes remaining but I would like to extend our discussion for another ten minutes. We have yet to address the topic of international cooperation which is a very important topic for this forum. In order to enhance quality, what is the type of international cooperation necessary or what are the lessons learned for the future? Any questions? We would like to hear from five people.

Question 5

Fatuma Chege (Visiting Professor at Hiroshima University & Senior Lecturer at Kenyatta University, Kenya)

Thank you. I think this discussion really shows that we are thinking seriously about the quality of the teacher. I am very much interested in what is happening in the Philippines and Indonesia about improving teacher quality. I really would appreciate your sharing how you link up the entire educational system. When we are talking about basics we are also asking ourselves who is training these teachers. We need content, pedagogy, resources but who is training these teachers? How can we learn in my own country? If I am a teacher at university, I am qualified to teach teachers. How can we learn from you? How can we address the person who goes to the teacher college to teach those who will now train others in the future? How can we learn from you?

Norihiro Kuroda (Hiroshima University, Japan)

That belongs to the first topic so let's address this question now.

Merle Tan (University of the Philippines)

In the Philippines we have the Department of Education and that of Higher Education. The training of teachers at the national level is done by our institute and identified master trainers who come to the institute for a number of the programs. These master teachers are then allowed to teach other teachers in their own regions. But in the secondary program which was a JICA funded program together with teacher training institutions, master teachers work together so that when they go back to their own regions they form a team. Our institute trains at the national level and then using faculty of teacher training institutions. They support master teachers as school leaders in the community.

Fasli Jalal (Republic of Indonesia)

University official training is done in which one faculty of education is retained. Now professional teacher universities are focusing back to the core business and other top notch universities are bidding to become the providers of teacher training. It used to be that the teacher training focused on education but now also many more top notch universities are willing to provide faculty education for teacher training.

Norihiro Kuroda (Hiroshima University, Japan)

We have ten minutes to go so please be concise when asking your questions.

Question 6

Shoko Yamada (National Graduate Institute for Policy Studies, Japan)

I would like to ask for your suggestions for international cooperation as the people who have been directly and indirectly involved with cooperation from Japan. In an earlier question, it was asked about the two options of budget support and technical cooperation. Specifically in the mathematics and science subject content area where teaching materials were considerably provided through cooperation in Japan, comments on room for improvement or specific strengths would be appreciated. And in regards to Dr. Tan's project in the Philippines with other projects like the Kenya project, I would like to hear your views on working with those other countries in providing training for teachers in a third country.

Question 7

Masafumi Nakanishi (Freelance Workshop Facilitator, Japan)

In international cooperation, expert consultants from overseas are outside people but characteristic values are different from country to country. How do you respect these differences and work together to improve teacher quality with different backgrounds?

Question 8

Masami Isoda (University of Tsukuba, Japan)

We have discussed the cooperation bases system and what roles are involved. Dr. Ushiogi gave his comments on this cooperation bases system outlining his archive stage project where resources are provided so the lessons learned from past cooperation is provided and accumulated there. There have been three symposiums on improving quality in mathematics, which was based on the APEC meeting organized by Prof. Ryo Watanabe and others. The theme of the symposiums is improvement in mathematics education methodology through lesson study which is done using video in the classroom. I would like to propose the suggestion that we find ways to share the information on class video use to improve lesson study and lessons.

Norihiro Kuroda (Hiroshima University, Japan)

So the question would be, how can we focus on subject development in teacher training materials and how to improve that process?

Merle Tan (University of the Philippines)

Based on our Kenya program we based the materials on what the teachers really wanted. We did this in the second phase and we had to send out questionnaires to the team so that we knew what they really needed in terms of content, level, what depth of training we should go to and to indicate special programs that they wanted us to deliver. Currently they don't use ICT but as they will need it for use in the future they wanted ICT integration. Another fortunate thing was the opportunity to visit Kenya and to see the situation of the schools which helped validate the organization. Teleconferencing with the participants before the training also helps. This is the scheme we are using in other third country programs such as Nepal and Pakistan.

Norihiro Kuroda (Hiroshima University, Japan)

Budget support from Japan has been focused on technical issues but how do you see it? Should Japan continue to go for technical cooperation?

Merle Tan (University of the Philippines)

Japan should go for the training.

Fasli Jalal (Republic of Indonesia)

Math and science teacher training start from university. Before that we were given nice facilities by the Japanese government and then we could develop how we can bring a professor into the Faculty of Education. But now the budget does not rely on the Japanese government anymore. Subsequent projects in the amount of 70% are picked up by the government. Less and less support for the infrastructure is needed but now Japan is helping us in making sure the system is developed. Input of heavy capital investment is not sufficient. In order to maintain the transition, extending to others and relying on existing structures are not enough. So I think there is room for lessening money input but focusing on the system development tagging up with these matching grants, and then expanding access to more schools so that we can embed a quality improvement packet.

Ato Essuman (Republic of Ghana)

I think it is important to understand the situation in Africa. Things change very rapidly and some advanced economies, they agree to go with long term plans. It doesn't matter what government comes but they are not always the same. It is important to have this in mind anytime you are doing collaboration. First, we cannot continue to do the same thing over and over again and it is important for you to understand the system in order to continue with the good and best practices. Second, with any cooperation which the in country thinks is good and must be sustained, there should be insistence from the very beginning on where it can find a place. In the issue of education policy the Ministry would be the place to start. Otherwise you have the key positions drawn and these organizations are hanging around in-service teacher training but now it is part of the policy of our strategic plan. There is a need for integration which leads to the next issue of resource allocation. My position is this. Any cooperation in which some commitment is being shown we must from day one have a way of ensuring that the in country makes provisions from day one to the life of the project. It should remain good even after the cooperation unless it is time bound. If

not, after the end of the support it should be possible to continue. Non formal education support is ending in August and since last year we haven't found any donor and we insisted that 70% of this funding should be provided by the government. The same thing is true with HIV/AIDS education. Otherwise we are behaving in such a way that as long as there is aid something is good, but when the aid is finished it is no longer good. I think as DPs when you are engaging in projects you need to insist that these things are done.

Norihiro Kuroda (Hiroshima University, Japan)

I would like to conclude but I am not in a position to make a summary of this grand theme for quality teacher education. Teacher issues and quality education are such grand themes that these are not issues to be solved by international cooperation. So the countries that are facing this problem have to solve the problem by pushing from behind gently. However, as Mr. Essuman says the emphasis needs to be on the initiative and ownership. I've been involved in Ghana for a decade and I'm encouraged by the comments of Dr. Tan that because of Japanese assistance things are changing in the Philippines. Also, I am inspired by Dr. Jalal and his suggestions on how we can take this to the next step and ensure sustainability which we saw through examples that demonstrated this. I am very pleased to have been involved in this field and we have heard many presentations and problems, but such step by step commitment is very encouraging in that it leads us in the right direction in order to step toward the future.

JEF III Preparatory Committee Members

Name	Affiliation
External Members	
Morikazu Ushiogi	Obirin University
Takashi Hamano	Ochanomizu University
Kazuo Kuroda	Waseda University
Shoko Yamada	National Graduate Institute for Policy Studies
Sachie Komatsu	Japan International Cooperation Agency
Kazuhiro Yoshida	Japan Bank for International Cooperation
Organizers	
Kenshi Nakatsu	Ministry of Education, Culture, Sports, Science and Technology (MEXT) ~January 2006
Mami Oyama	Ministry of Education, Culture, Sports, Science and Technology (MEXT) January 2006~
Kiyoshi Noda	Ministry of Education, Culture, Sports, Science and Technology (MEXT)
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Norihiro Kuroda	Hiroshima University
Masafumi Nagao	Hiroshima University
Hideo Kadowaki	Hiroshima University
Yuki Kashima	Hiroshima University

Japan Education Forum Ⅲ

April, 2006

Edited and Published by the Center for the Study of International Cooperation in Education, Hiroshima University
1-5-1 Kagamiyama, Higashi-Hiroshima
739-8529 JAPAN
TEL +81-82-424-6959
FAX +81-82-424-6913
E-mail：cice@hiroshima-u.ac.jp
URL：http://home.hiroshima-u.ac.jp/cice

Printed by Mihara Print Corporation