

Developing Countries in Need of Science and Technology Education for Economic Growth

As the economic recession continues in the aftermath of last year's financial crisis, an urgent priority for developed countries is to deal with their immediate economic problems. Although developing countries too have been affected by the financial crisis, they also face issues of climate change, energy, and food supply that can only be solved through the application of science and technology. Against this background, there are growing expectations for fostering the people who will take up the task of advancing science and technology in the future.

Typical developing countries face a multitude of problems including lack of access to satisfactory primary education, safe drinking water, and adequate healthcare and medical services. In response to these problems, immediate measures that seek to eliminate the obstacles that confront us are important. But at the same time, there is a growing awareness among the international aid community that economic growth is essential to solving the fundamental problems. There is no question that activities like constructing primary schools, digging wells, and administering vaccines are critical. But individual measures will only lead to the recipients becoming permanently dependent on aid. In addition to this social sector support for education, water, and healthcare, assistance that helps accelerate economic growth is essential.

Something I hear very often when speaking with leaders in developing countries is that what they want most of all is the creation of employment opportunities, along with the investment and setting up of businesses by corporations that make this possible. This plea comes not only from leaders but is also frequently heard from ordinary citizens. Both "countries" and the "people" who live in developing countries are seeking independence and self-reliance. The role that we seek for development aid provided by the Japan International Cooperation Agency (JICA) is that it provides "support" for initiatives that can help these "countries" and their "people" move toward independence and self-reliance.

As economies become globalized, Japanese corporations have been shifting their production base from Japan to developing countries and this has made a big contribution to those countries enjoying stable economic growth and job creation. The biggest problem that many of these companies face when they set up overseas operations is likely to be a shortage of staff at these new sites. I suspect that, among the people in Hitachi who are involved with overseas production sites, there are many who have personal experience of frustration due to lack of staff with a high level of technical

skills.

JICA is responding to this shortage of technically skilled staff in developing countries through technical cooperation projects. In the Arab Republic of Egypt, for example, the "Egypt-Japan University of Science and Technology (E-Just)" Project started in October 2008. This project draws on experience from Japanese engineering training and industry-academia cooperation to support education that emphasizes practical work and on-the-job training, with 12 Japanese universities including Waseda University and Kyushu University having joined the project as sponsoring universities. The ultimate aim is to foster engineers who can solve problems in the factory workplace and develop new products.

In the Republic of Rwanda, based on a government policy of encouraging science and technology, we are operating a program for improving teaching methodologies and strengthening the fundamentals of college administration with the aim of training engineers in the IT, electrical, and electronics fields at the Tumba College of Technology.

No matter how advanced the technology is, it can only be used if it matches the needs and level of the place where it is being applied. It is critical that engineers from the country concerned research for themselves and make choices about what they study. In the case of production systems, only established dialog between the Japanese engineers and the local engineers who understand the circumstances of the site's labor force enables the Japanese concept of "monozukuri" (manufacturing ethos) to function effectively in the local production systems.

JICA is concerned with human resource development and Japanese corporations utilize local engineers in their "monozukuri" activities. I believe that maintaining an exchange of opinion between JICA and these corporations also has value in terms of the medium- to long-term economic progress of the countries concerned. I hope to continue working in cooperation with various Japanese corporations to maintain an all-Japan effort toward fostering human resources in the fields of science and technology in developing countries.

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