

NEW ODA SCHEME FOR HUMAN RESOURCES AND INFRASTRUCTURE DEVELOPMENT IN DEVELOPING COUNTRIES

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ABSTRACT: Official Development Assistance (ODA) has become the major source for socio-economic development of developing countries. Japan has been providing large amount of ODA to developing countries. Inefficiency in Japan's ODA was investigated. This paper reveals issues in Japan's ODA related to project execution, technology transfer and human resources development, and introduces a new ODA scheme based on the collaboration between universities from a donor country with local universities in a recipient country in order to enable recipient countries able to develop appropriate human resources and technology for their domestic infrastructure development.

KEYWORDS: ODA, Human resources, technology transfer, infrastructure, developing countries

1. INTRODUCTION

The historical beginnings of ODA were the development activities of the colonial powers in their overseas territories, the institutions and programs for economic co-operation created under United Nations auspices after the Second World War. However, ODA concept was adopted by Development Assistance Committee (DAC) established in 1961 in Organization for Economic Co-operation and Development (OECD) separating ODA from "Other Official Flows" (OOF) and identifying as ODA those official transactions which were made with the main objective of promoting the economic and social development of developing countries and the financial terms of which were "intended to be concessional in character" [1]. The DAC is the principal body through which the OECD deals with issues related to co-operation with developing countries. There are 23 members in the DAC. ODA since its inception has become the major resource for socio-economic development in developing countries.

The major contributors of the DAC the USA, Japan, the UK, France, Germany, Italy and Canada have been providing significant money for developing countries. As seen on Figure-1, Japan was the largest contributor in the 1990s, and still maintains the second position among the donors. Moreover, the developed countries in DAC have already spent about 1 trillion US\$ in the last 20 years for ODA activities. However, the socio-economic condition of the least developed countries is still not shown appropriate result. Why could not existing ODA make appropriate result? What is the problem and what is fundamental aspect for solving the problem? When we think about a country's development, it shall be the essential matter that a country keeps appropriate way of infrastructure development together with human development scheme. The least developed countries are still depending to the developed countries for human resources and technology. In addition, the least developed countries still have large foreign debt remaining to be repaid.

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The ODA has long been concentrated on hard infrastructure with inefficient human resources development. Further, the existing ODA system has been fulfilling the human resources and technological gap from outside rather than developing appropriate human resources and technologies in developing countries. The existing ODA system has made the least developed countries more dependent to the developed world. The purpose of this study is to develop a new ODA scheme in order to overcome the inefficiencies in the existing system and to enable recipient countries able to develop appropriate human resources and technology themselves.

2. JAPAN'S ODA

Japan's ODA is classified into three categories: Bilateral grants: Bilateral grants include technical

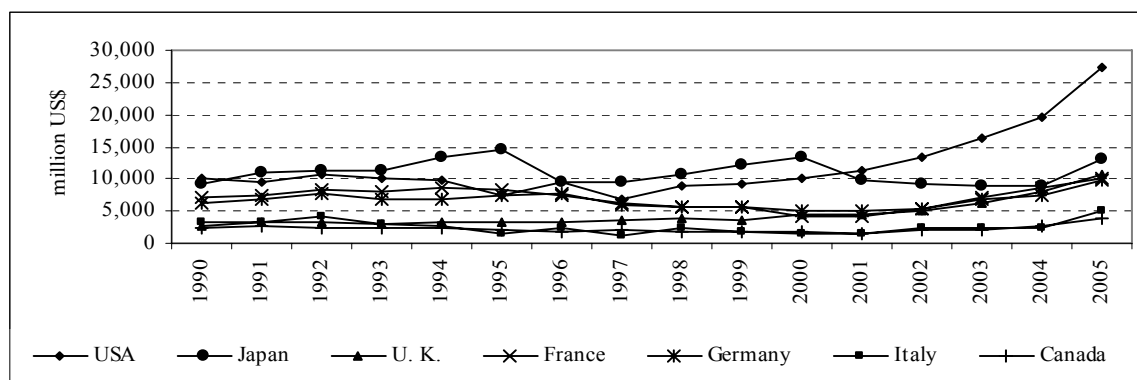


Figure 1: Amount of ODA from main members of DAC,

Source: OECD, figures for 2005 are preliminary

cooperation that deals with human resources and transfer of technology to developing countries and grant aid that provides funds with no obligation for repayment, ii) Bilateral loans: Bilateral loans are the loans that provide the funds needed for development under long-term and low interest conditions, and iii) Financial subscriptions and contributions to international organizations: Subscriptions and contributions for multilateral aid are indirect methods of extending aid by channeling funds through international organizations [2].

2.1 ACTIVITIES UNDER JAPAN'S ODA

Japan's ODA has been utilizing for economic infrastructure like roads, bridges, airports, building, etc and social infrastructure like water supply, sanitation, health care, schools, etc. In addition, it also contains supply of equipment, food aid and debt relief fund. Other social development included under Japan's ODA are human resource development, development study, etc. which are performed under the technical cooperation. Although Japan's ODA incorporates soft development function, the main activities of the ODA is concentrated in the hard infrastructure development. Construction of infrastructure facilities had the prime importance rather than human resources and technology development in developing countries. For instance, all grant aids excluding technical cooperation under Japan's ODA in 1994-2001 to Nepal was used in hard infrastructure development with as much as 3 percent was utilized for educational infrastructure related activities—materials and equipment for the construction of primary schools. Similarly, less than 1 percent of the grant aids to Cambodia in the same period was used for human resources development scholarship [2]. Technical cooperation which is responsible for human resources and other soft development provides mere training for a few people usually from clients' organization. The major portion of the technical cooperation has been utilized for the experts and volunteers as seen in Table 1. Further, technologies development in aid recipient countries like Nepal and Cambodia was never addressed. Despite the large ODA volume developing countries like Nepal and Cambodia could not improve the quality of education and develop technologies for domestic infrastructure development. Donors have been filling the gap of human

resources and technology coming from outside the country through the ODA rather than helping developing countries to develop themselves. Why dose the ODA spend such small portion of amount for human resources development? Is it the policy of Japanese government? It must be lack of appropriate systems and human resources for doing it.

Table 1: Breakdown of Technical Cooperation under Japan’s ODA to Nepal (2000-2002), Cost in 100 million Yen

Year	Trainees		Experts		Study Team		JOCV		Other Volunteers		Provision of Equipment Cost	Total Technical Cooperation	% of Nepal's National Budget
	No.	Cost	No.	Cost	No.	Cost	No.	Cost	No.	Cost			
2000	163	3.07	82	5.02	184	7.26	69	2.66	15	0.75	1.11	19.87	1.7
2001	138	2.56	67	5.42	135	5.56	50	2.55	12	1.00	1.29	18.37	1.4
2002	162	3.37	54	5.70	106	3.70	63	2.73	20	1.15	1.07	17.71	1.3

Source: White paper on Japan’s ODA

2.2 ISSUES IN INFRASTRUCTURE AND HUMAN RESOURCES DEVELOPMENT UNDER JAPAN’S ODA

2.2.1 Insulated Execution System

Bilateral grant aid projects in developing countries are carried out by consultants and contractors from the donors’ country of origin. In addition, the local industry usually can not get work from international competitive bidding due to low technical and financial capability and insufficient experience. The grant aid projects under Japan’s ODA are insulated in principle as well as in practice. The execution of the grant aid projects are the sole responsibility of the Japanese contractors and consultants. The designated bidding and lump sum contract practice of the Japanese construction industry have been following even in the ODA projects in developing countries. This system has twofold effects: one is, local construction industry from recipient countries does not have enough opportunities to acquire modern technology and management skills from the Japanese firms in order to enhance the capacity for developing own country, and the second is, the Japanese contractors and consultants are deprived from international practice of the construction industry. The grant aid project execution system does not require contract administration and incorporate claim management which is the common activities in international construction market.

2.2.2 Inefficient Technology Transfer

Usually, final product is delivered to the beneficiaries, and there is a little or no opportunity for locals to be involved in the development process of donor assisted projects. In such environment, the recipient may know only how to use the product but not the technology and process for the reconstruction or rehabilitation. Moreover, internalization of a technology is further limited within an executing agency in the existing practice. In addition, the existing system of human resources development is mainly focused to the client’s people. Thus a technology transferred to an organization will flow vertically if not died out, and no opportunities for the horizontal dispersion even within the same implementing organization. There is a need to introduce additional stakeholder to facilitate the transfer, diffusion and dispersion of technology through ODA. The problem must be that the existing ODA system has no definitive and clear policy to establish the organization that will be responsible for human resources development in the recipient country side. Why does the existing ODA system have no definitive and clear policy of it? It is rather difficult to do operation and management than to make facilities for doing it. The universities could be the better option in order to make effective human resources development and absorption and internalization of a technology in developing countries.

2.2.3 Inefficient Human Resources Development System

The major activities of the human resource development under Japan's ODA are dispatch of experts and acceptance of trainees from developing countries. In addition, the JICA offers training for human resources development. However, JICA training is provided in a common base and generic in nature. It does not provide an organization of a country for regular participation and rarely addresses the country specific needs. Training in a particular area for one people from an organization in a long-year gap does not improve the performance of the organization. Thus, training for a few people in a discrete manner does not affect the skill level of an industry where hundreds of untrained people enter to the industry. It was found that about 8 people per year from Cambodia had gone for infrastructure sector training under Japan's ODA but the universities in Cambodia are producing about 300 civil engineers every year. Similarly, 13 people on an average from Nepal had attended JICA training in infrastructure sector where as about 800 civil engineers are produced within the country. 8 people among 300 in Cambodia and 13 among 800 in Nepal will not be enough power to improve the performance of the construction industry unless the quality of higher education and in-house technology development system were improved.

3. NEW ODA SCHEME FOR HUMAN RESOURCES AND TECHNOLOGY DEVELOPMENT

3.1 THE BACKGROUND OF NECESSITY OF THE NEW ODA SYSTEM

It is necessary to explain the background why the authors started to think about the new ODA system. It can be said that Japanese civil engineering technology is the most advanced in the world now. In accordance with advancing technology this engineering field has been divided into deep but narrow areas. As a result civil engineers have lost the chances to see the technology with much wider point of view like in social sciences. This situation is quite serious especially in the research and educational organizations like universities. Most faculties have no experiences of involvement in real engineering field. It is difficult to give the students opportunities to study the practical theory and technologies from the university education. The other reason is seen in the industrial side and in the society. In Japan, the investment of construction industry is decreasing and most of infrastructures that shall be required for industrial development had already built. Moreover, the population itself is decreasing drastically. It will decrease 25% by year 2040. The problem is not the decreasing investment but retrogression of the technology in this engineering field. It is necessary to keep a field for maintaining the technology and developing human resources. Though this situation shall be existed in other donor countries as well, but it is true that Japan has the most serious situation. The new scheme primarily utilizes university functions for human resources and technology development. Universities collaboration followed by establishment of center of excellence where research and technology/product development is performed and deployment of human resources, technology and product in development projects are the main features of the new system. A schematic diagram of the new system is shown in Figure 2.

3.2 ENHANCING CAPACITY OF UNIVERSITIES

It was investigated that many of the universities from the least developed countries including Nepal and Cambodia did not have enough number of faculties with advanced degree/knowledge and lack appropriate facilities for research and development. Unlike the general cooperation, the collaboration under the new scheme will enable universities able to deliver quality education/training, conduct researches and develop appropriate technology/product for the domestic infrastructure development.

The faculties during the capacity enhancement will acquire the knowledge and skills for technology which are appropriate for their domestic infrastructure development. The seed technology for the development of new/modified technology/product in the least developed countries is transferred to the

universities through researches in recipient as well as donor countries.

Kochi University of Technology, Japan investigated the need of the Cambodian construction industry and found that the industry lack competent human resources and technology on concrete and other construction materials. In addition, the Institute of Technology of Cambodia (ITC), Cambodia the most equipped and oldest institute did not have enough numbers of faculties with advanced degree on concrete technology. As a result, the industry and universities in Cambodia could not deliver appropriate education/training and develop technology for rehabilitation and development of own infrastructures. In order to improve the situation in the Cambodian construction industry, KUT has made collaboration with ITC in 2003 to enhance the capacity of faculties on concrete technology and management and to enable ITC able to deliver advanced training and develop appropriate technology/product for bridge rehabilitation in Cambodia. The collaboration activity enabled ITC to send 2 faculties to KUT for studying in the doctoral program under the infrastructure system engineering.

3.3 DEVELOPMENT OF NEW HUMAN RESOURCES AND TECHNOLOGY/PRODUCT IN RECIPIENT COUNTRIES

The development of new human resources and technology/product are done through the center of excellence for education and research (COE&R) established at the universities under as soon as the faculties are trained. The COE&R is a non profit making entity with adequate research facilities under the university which deliver advanced training, conduct researches and develop new technology /product for domestic infrastructure development. The center establishes strong linkage with domestic as well as international construction industry in order to develop new human resources and technology domestically. It also feeds universities collaboration the industrial needs and activities in order to improve the quality of education through updating curriculum and provides the graduates opportunities to acquire practical knowledge/skills through internship and training. Advanced training for the practitioners as per the need of the industry will be conducted through the center. Since developing countries like Cambodia does not have their own standards for design, construction and management of infrastructure, the COE&R with the cooperation of executing agencies and industry will involve in establishing national standard.

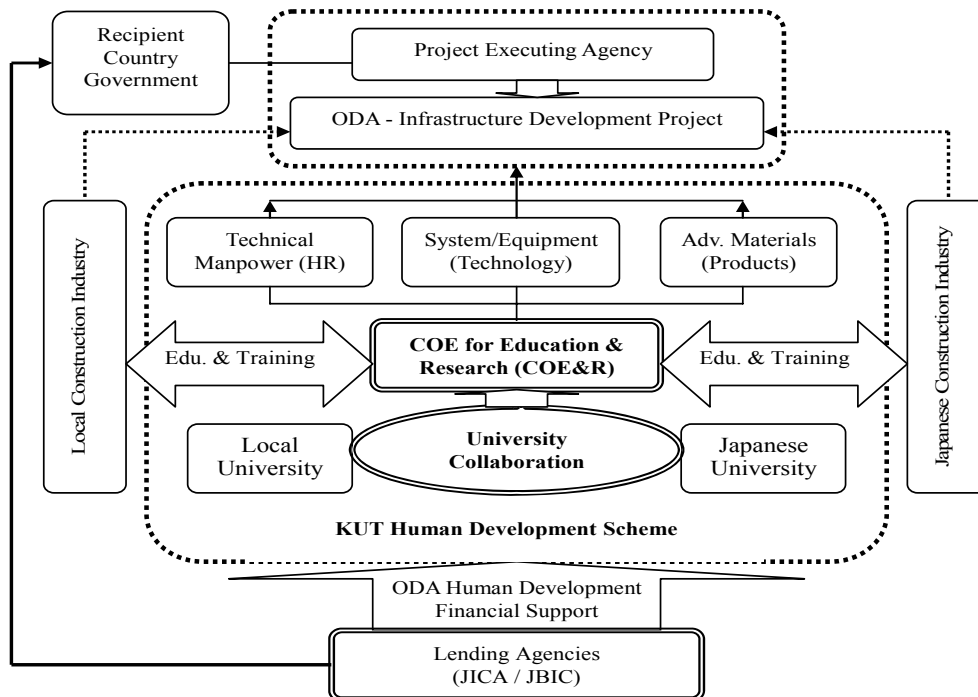


Figure 2: Model for New ODA Scheme

3.4 DEPLOYMENT OF HUMAN RESOURCES, TECHNOLOGY AND PRODUCT IN DEVELOPMENT WORKS

The proposed new system has envisaged that human resources and technology/product developed at the center will be deployed for the development works in donor assisted as well as domestically financed projects. The special materials for infrastructure development are supplied from the COE&R where as general materials and executions are the responsibility of the local industry. The cost reimbursement system for the deployment of the services and product from the CO&R would help lower infrastructure development cost and consequently reduce the loan burden to developing countries. The returns from the supply of human resources, technology and product are utilized for further research and development.

4. NECESSARY CHANGES REQUIRED FOR IMPLEMENTATION OF NEW SCHEME

The new system at the project preparation stage requires investigating the specific technology and human resources required for the execution of the project under consideration. The project proposal should specify, in addition to the project description, cost, benefit, implementation schedule, etc., the required collaboration for human resources and technology development. This scheme has two steps of the execution. One is the universities collaboration project and the second is infrastructure construction project. Donors during the review and approval process of the first one have to identify and select universities/organization from her country which can enhance the capacity of universities/institutions in recipient countries and enable them able to develop the required human resources and technology/product for the projects under consideration. The new system requires short-term as well as long-term contract in order to enable recipient countries able to develop human resources and technology domestically for the projects under consideration and other future projects. This necessitates donors to make additional agreements with universities from her country of origin in order to support the local universities for human resources and technology development in recipient countries. Donors, clients and industry should provide opportunities to deploy human resources and use technology/product produced at COE&R instead of bringing from abroad. The resources and product of the COE&R could be used in cost reimbursement system.

Such implementation system would encourage and provide local universities/industry opportunities to develop/innovate new technology. The increased skill level of the local skilled workforce and increase in availability of technology in local environment would enable the local industry to deliver higher output and to increase productivity. This would further enhance the competitiveness of the local industry.

5. CONCLUDING REMARKS

Least developed countries like Nepal and Cambodia lack appropriate human resources and technology development system. Universities in these countries lacked enough number of competent faculties, appropriate research facilities and financial resources, and industry was not motivated to invest in human resources and technology development. The existing implementation system of ODA should be changed in order to enable poor countries able to develop themselves and reduce the dependency to the developed world. The new system provides local universities and industry enough opportunities to develop required human resources and appropriate technology domestically for their domestic infrastructure development. The capacity of local industry could be enhanced and the dependency of the poor countries to the developed world could be decreased if the proposed new scheme were effectively implemented.

6. REFERENCES

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