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Availability of Japanese Subsidies for International Telemedicine Projects

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In this article, the authors report the methods for obtaining subsidies for overseas telemedicine projects from Japanese sources based on their own personal experiences. The Japanese Government is already subsidizing such specialized NGOs (Non-Governmental Organizations) as the Telemedicine Society of Japan and Basic Human Needs and, Japanese trading companies are also hiring telemedicine experts. Prospective methods for obtaining subsidies are outlined as under the following headings: Assistance without compensation, Technology transfer, Grass-roots grant assistance, the Telecommunications Advancement Organization, Postal Savings for International Voluntary Aid, Venture business development funds provided by the Ministry of International Trade and Industry, Mission demonstration satellites by the National Space Development Agency of Japan, the Sasakawa Pacific Island Nations Fund, and International Communications Foundation. Key points of the applications are noted under (1) Degree of contribution to local residents, (2) Significance of project continuation and (3) Novelty and economic impact.

Key words : Japanese Consultant Trust Fund at the World Bank, Technology transfer of ODA, Grass-roots grant assistance, Postal Savings for International Voluntary Aid, Telemedicine

1. OBJECTIVE

In this article, the authors report methods for obtaining subsidies for overseas telemedicine projects from Japanese sources based on their own personal experiences. The authors have been applying to the Japanese Government for appropriations for telemedicine since 1983. The contents of this article have been restricted to publicized subsidies and feasible telemedicine projects. Reference materials of this kind have not been published before. It is hoped that this article will prove useful for not only international but also Japanese readers.

2. BUDGETARY OUTLINE

The Ministry of Health and Welfare controls the budget for all central government offices related telemedicine. On the surface, Japanese ministries and agencies distribute a combinedtotal of only one million yen to six domestic projects on telemedicine. According to the International Telecommunication Union-Development Bureau (ITU-D) report in June 1997, Japan spent no money on overseas telemedicine support. This figure is the official one published by the Japanese government. However, the zero outlay is only what appears on the surface. The Japanese Government is already subsidizing such specialized Non Governmental Organizations (NGOs) as the Telemedicine Society of Japan (TSJ) and Basic Human Needs Association (BHN) and, Japanese trading companies are also hiring telemedicine experts Prospective methods for obtaining subsidies are outlined below.

2-1. Ministry of Foreign Affairs

The Japan International Cooperation

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Agency (JICA) is an Agency that provides official development assistance (ODA) on behalf of the Ministry of Foreign Affairs. JICA is providing 20 billion yen to 40 billion yen in loans to medium-sized projects undertaken in developing countries. The agency is extending larger loans to larger projects. However, this authors take the position that the following grants without compensation should be used for securing assistance for telemedicine projects.

a. Assistance without compensation

The ceiling amount for ODA without compensation is 1 billion yen. Governments of developing nations must rank potential projects high in their priority list in order to qualify for ODA without compensation. In other words, telemedicine projects must beat such competitors as road construction and waterworks projects and capture higher ranks. ODA. without compensation is not extended unless the governments do so, and local Japanese embassies and the Ministry of Foreign Affairs rank projects as A. ODA without compensation asks project administrators to procure necessary machines and equipment from Japanese suppliers in principle. In order to realize such procurement, governments of developing nations must ask major Japanese trading companies to fill in application forms on their behalf and offer concrete procurement plans. It is possible for project administrators to procure buildings for telemedicine, communications equipment, image scanners, computerized tomography (CT) scanners and magnetic resonance imaging (MRI) equipment for telemedicine. However, they cannot pay communications expenses with the ODA disbursement. In principle, governments of developing countries must also absorb the cost of personnel, expendables and other items their projects require.

Ideas:

a. Construction of a wide-area network that enables medical institutions to exchange medical information
b. Construction of a cable network for medical education
c. Establishment of centers for nursing visits

b. Technology transfer

Technology transfer is aimed at dispatching experts and providing technological assistance to developing countries. The ceiling amount for technology transfer is 50 million yen. Telemedicine specialists recruited for technology transfer are able to spend up to this amounton purchases of machinery and equipment necessary for technology transfer. Pilot telemedicine projects lasting for two three years can be launched under their supervision. Projects must be ranked A by governments of developing countries, local Japanese embassies and the Ministry of Foreign Affairs in order to qualify for this aid. Technology transfer requires recruitment of Japanese specialists. Cooperation of telemedicine organizations (TSJ and BHN) and trading companies is indispensable in this respect.

Ideas:

a. Operation of a small-scale medical information network on an experimental basis
b. Operation of a medical support system for remote rural areas employing televisiontelephones on an experimental basis

c. Grass-roots grant assistance

In 1997, Japan provided grass-roots grants totaling 5 billion yen to organizations in 89 countries. The government granted 5 million yen to each eligible project. In an alternative step, the Japanese government is able to disburse up to 10 million yen to two combined projects. In principle, only NGOs operating in developing countries are eligible for Japan's grass-roots grant assistance. Grass-roots grant assistance is the easiest Japanese subsidy for overseas organizations to receive. It is reflected in an extremely large number of applications. Telemedicine has been tested in a number of projects assisted by Japan's grass-roots grants.

Example:

Telemedicine in the area polluted by the Chernobyl nuclear accident (provided by BHN)

2-2. Ministry of Posts and Telecommunications

The Ministry of Posts and Telecommu-

nications is supporting various activities undertaken by the ITU. In addition, the ministry is implementing a program for training communications workers from developing nations in Japan at JICA's expense. It is possible to invite telemedicine specialists to Japan using this project. The Ministry of Posts and Telecommunications has also assisted a number of telemdicine projects. The ministry can appropriate budget for telemedicine projects using the following two schemes.

a. Postal Savings for International Voluntary Aid

Postal Savings for International Voluntary Aid gives financial support to volunteer activities which Japanese NGOs carry out abroad. Funds generated by these savings must go to overseas projects except for special cases. Project administrators can procure materials, machinery and equipment from suppliers in Japan and abroad. Disbursement from Postal Savings for International Voluntary Aid can be used to pay for personnel expenses abroad. However, NGOs are not allowed to spend this subsidy on their domestic operations. Because of this restriction, only those in Japan that are capable of raising a certain amount of funds on their own canadequately manage this subsidy. Organizations in, and governments of, developing countrieswishing to obtain financial assistance from Postal Savings for International Voluntary Aid mustrequest Japanese NGOs to apply. Only NGOs based in this country are permitted to apply tothe posts and telecommunications minister for disbursement.

Example:

AMINE/PARTNERS covering Cambodia, Papua New Guinea, Fuji and other countries via ETS-V satellite (built by TSJ)

b. Telecommunications Advancement Organization (TAO)

The Telecommunications Advancement Organization (TAO) is subsidizing research institutesaffilated with Japanese universities and companies. Overseas project administrators are able to buy satellite communications and other hardware and software with this subsidy byundertaking joint research on international telemedicine with Japanese universities. The size of grants ranges from 500 million yen to 1 billion yen per project.

Example:

Exchanges of rehabilitation-related information with Chinese institutes via satellite-hookups (carried out by the International Welfare University)

2-3. Venture business development fund provided by the Ministry of International Trade andIndustry (MITI)

MITI's venture business development fund is a subsidy designed to promote and develop venture businesses. Applications for this fund are limited to venture businesses in Japan. MITI disburses 150 million yen to each authorized project. Applications are possible in two categories: (1) development of contents and (2) development of new machinery and equipment. Some of the software and hardware products for telemedicine fall under these grant categories. Individuals and venture businesses abroad including those in advanced countries are able to receive this subsidy by developing products jointly with Japanese venturebusinesses.

Example:

Development of an X-ray transmission device for telemedicine employing 4,000 × 4,000 pixcel elements

2-4. National Space Development Agency of Japan (NASDA)

Mission demonstration satellites (MDS)

Contents of mission demonstration satellites (MDS) were publishe in July 1998. Applicants must be organizations and companies headquartered in Japan. However, organizations in other countries are allowed to participate in joint development of new satellites with applicants based in Japan.

Example:

Development of a middle earth orbiter (MEO) for international medical communications

2-5. Japanese Consultant Trust Fund at the World Bank

"The Japanese PHRD (Population & Human Resource Development) Fund at the

World Bank, which is untied grant money, is a good source for pilot projects in telemedicine. Around $150 million US dollars in total has been granted on an annual basis, to be administered in World Bank grants over ten years. Recently, 10% of those PHRD funds have been set aside and areavailable on a tied basis for Japanese consulting companies. The size of these projects vary, but may be up to $100 million each and are undertaken as a part of the Japanese Large-Scale Studies under the Japanese Consultant Trust Fund. The World Bank task managers are the key contacts to access this tied money. If you are aware of interest in the recipient country, in the area of telemedicine projects, this information is very attractive to individual task managers for those countries at the World Bank."

Example:

An information management system in the Philippines (established by the International Access Corporation: IAC) "In this project, begun in January, 1997, IAC developed and installed MIS components such as a database, decision-support software and a GIS to support indicator-based allocations of the education budget for the Philippines Government."

2-6. Private funds

a. Sasakawa Pacific Island Nations Fund (Sasakawa Peace Foundation)

The Sasakawa Peace Foundation is the largest source of financial assistance in Japan. The foundation accepts applications from administrators of assistance projects related to educationin Pacific island nations for the purpose of building cooperative relationships between the Pacific Island Nations and Japan as well as other countries in the international community. The Sasakawa Pacific Island Nations Fund (SPINE) makes grants in support of three categories: 1) people exchange, 2) human resource development, and 3) info-communication networking.

Example:

Support for a telenursing education program in the Northern Mariana island of Saipan

b. International Communications Foundation (ICF)

The International Communications Foundation is a subsidy for international communications research offered by Kokusai Denshin Denwa (KDD), an international telecommunications service provider in Japan. Project administrators in other countries are able to benefit from this subsidy by jointly researching international telemedicine with organizations in Japan. KDD extends about 5 million yen to each research project it authorizes.

Example:

AMINE/PARTNERS project (undertaken by Tokai University School of Medicine)

3. CONSIDERRATIONS

No one has published key points to winning subsidies from the Japanese government andaid-giving organizations in Japan. The following considerations are this author's personal opinions based on project-launching and subsidy-acquiring experience. The Ministry of Health and Welfare limits its operations to activities that benefit Japanese citizens. JICA's medical cooperation section administers ODA for overseas projects on the ministry's behalf.

3-1. Degree of contribution to local residents

With the exception of research-oriented MDS projects advanced by the TAO and NASDA, all subsidy applicants must state how their projects contribute directly to people in developing countries. This ground rule applies particularly to the international volunteer saving fund administered by the Ministry of Posts and Telecommunications and grass-roots grantassistance (GRGA) controlled by the Ministry of Foreign Affairs.

3-2. Significance of project continuation

Parties that give out subsidies evaluate telemedicine projects by their continuation. Japanese government ministries and agencies generally promote projects that were successfully sustained by the international volunteer saving fund of the Ministry of Posts and Telecommunications or GRGA by the Ministry of Foreign Affairs to technological ODA(technology transfer) provision. When technological ODA goes well, the pro-

jects moves one step higher and become entitled to assistance without compensation. Because of this standard practice, successful project continuation is extremely important.

3-3. Novelty and economic impact

Research-oriented MDS projects by the TAO and NASDA must be innovative in nature. The subsidy that MITI provides to venture businesses also demands projects to have novelty andeconomic impact on Japan and other countries. In the past, Japan's financial aid to developing nations went primarily to (1) waterworks projects, (2) power projects and (3) road projects, in that order. However, the opinion that top priority must be given to popularization of the Internet is gaining support now. There is also the emerging view that telemedicine should be subsidized before hospitals. Why? Because AIDS is spreading at a furious pace now. Economic growth of developing nations will be severely damaged by this disease. High-level medical knowledge on the part of medical service providers is indispensable for preventing AIDS infection and treating patients.

Since the end of the Cold War, economic assistance, particularly medical assistance, has been gaining increasing prominence as a substitution to nuclear deterrent in the Third World. In the 1980s, AIDS grew into a major medical issue in developing countries [1, 2, 3]. The epidemic has been standing in the way of their economic development. Thailand, a nation formerly known for high economic achievement, is a good example. In the northern city of Chiang Mai, 30 percent of the population is HIV-positive. Developing countries in Africa and Asia are now struggling to find an efficient economic policy that will enable them to modernize their medical service in a short period without causing medical expenses to rise. The United States and Japan spent 30 years to achieve the same goal. Young doctors who live in advanced countries must think about what they can do more seriously. They should seek ways to make international contributions without leaving home if they have no time or reason to go abroad and help. Medical costs will decrease when people in advanced nations share with those in Asia and the Pacific the cost of developing new drugs. Young doctors in advanced countries should make efforts in this respect. In Japan, many patients wait for three hours for consultation, but many selfish doctors spend only three minutes on diagnosis and treatment. They do not even look closely at the faces of their patients.

We should remember that such an era will come to an end with communications liberalization and popularization of telemedicine. Telemedicine is designed to offer medical service to distant patients. At the same time, telemedicine is expected to urge doctors to look inwards for the origins of medicine [4-12].

REFERENCES

1) Basgshur R L.: Health Policy and Telemedicine. Telemedicine J., 81-83pp. 1995.
2) Weissert W G, Silberman S.: Health Care on the Information Highway, The Politics of Telemedicine. Telemedicine J., 1-15pp. 1996.
3) Doarn C R, Nicogossian A, Merrell R C.: Applications of Telemedicine in the United States Space Program. Telemedicine J., 19-30pp. 1998.
4) Gary Shannon: The Atlantic Rim Telemedicine Summit, Telemedicine J., 269-296pp. 1997.
5) Scott Norton et al.: Telemedicine in Micronesia, Telemedicine J., 225-231pp. 1996.
6) Naoto Kadowaki et al.,: Satellite hitchhiker payload and low-cost earth station design for pan-Pacific information network, 17th ISTS.
7) Isao Nakajima et al.,: Evaluation of new assistance in medical treatment and health care in the countries around Pacific ocean using a communications satellite. SINFHOS 1990.
8) Stuart Kingan et al.,: The Applications Technology Satellite networks: twenty years of distance education in the Pacific basin. IFIP, 989-996pp. 1990.
9) Isao Nakajima et al.: Emergency medical care information system via telecommunications satellite "SAKURA-2". MEDINFO IFIP-IMIA, 343-347pp. 1986.
10) Isao Nakajima et al.: Remote diagnosis via a telecommunications satellite. Tokai J Exp Clin Med., 65-69pp. 1985.
11) John Boor et al.: Technical aspects of the health/education telecommunications experiment, IEEE trans. AES-11, 1015-1032pp. 1975.
12) Isao Nakajima, Yuhwsuke Sawada, et al.; Telemedicine in Asia-Pacific on PARTNERS project, AIAA 1998, #1283.