

## Zambia

# Sustainability of Grant Aid Projects

## Project Sites

### Lusaka



## 1. Background and Objectives of Evaluation Survey

Japan is implementing grant aid<sup>1)</sup> that focuses particularly on those developing countries that have comparatively low income levels. The target areas include basic human needs such as health, sanitation, water supply, primary and secondary education and rural development as well as the environment and the development of human resources. These are areas with low profitability which are difficult to address through loans.

Within the area of grant aid, JICA is responsible for "Prior Studies" which confirm the details of requests from partner nations, the size of plans and existing project expenses. It also takes charge of "Stimulating Implementation" in which it monitors the appropriate implementation of grant aid after an exchange of notes (E/N) between the Japanese government and the partner country's government and "Follow-up Activities" after completion of the grant aid, in order to maintain and increase the results of the cooperation. These tasks are executed in the areas of general project grant aid projects, grant aid for fisheries, food aid and aid for increased food production.

Grant aid comprises the provision of funds by Japan for the procurement of materials and equipment and the construction of facilities carried out by the government of the country receiving aid. Due to problems with partner country management systems (organization, technology, funding, human resources and so on), cases in which problems with project management and maintenance have occurred after the provision of facilities and equipment have been reported in evaluation studies carried out in the past. Effective utilization of the facilities and equipment provided and achieving development are properly the responsibility of the partner country. However with the Japanese ODA's "Shifting from Quantity to Quality", grant aid has also turned towards the idea of "result-oriented" and securing project sustainability and increasing cooperation results have become even more important.

At the second Tokyo International Conference on African Development (TICAD II) held in Tokyo in October 1998, Japan had recently decided to provide around 90 billion yen in grant aid over the next five years in education, health and water supply as its African aid policy.

Against this background, the sustainability of projects in health care and water supply, which are the main areas of grant aid, were investigated in Zambia with the objective of gaining meaningful lessons for JICA when Japan implements grant aid in future.

## 2. Evaluated Projects

Project for Improvement of Primary Health Care in Lusaka (FY1994, Grant aid)

Water Supply Project in Satellite Area of Lusaka (FY1993 and FY1994, Grant aid)

## 3. Members of Evaluation Team

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## 4. Period of Evaluation

25 January 1999-5 February 1999

## 5. Results of Evaluation

### (1) Project for Improvement of Primary Health Care in Lusaka

#### 1) Project Background

The level of health care in Zambia was low as illustrated by the average life expectancy of 56 years and infant mortality rate of 107 in 1,000 and a maternal mortality rate of 200 in 100,000. Particularly in Lusaka and its suburbs where around 16% of the total population in Zambia, or approximately 1.3 million people, were concentrated, primary health care services could not be satisfactorily provided for low income earners due to a shortage of basic medical and clinical examination equipment.

As a result, patients crowded the University Teaching Hospital (UTH) provided by previous Japanese grant aid, giving rise to a situation in which UTH was unable to perform its research and teaching functions which were its key roles.

Against this background Japan, provided medical equipment (supplies such as drugs, diagnostic and treatment sets, examination tables, sterilizers and aspirators, wheelchairs, beds, mattresses, autoclave sterilizers, refrigerators and equipment storage closets) for UTH and 23 urban health centers (UHCs) in the city using grant aid with the objective of improving health care services for Lusaka's residents.

## 2) Current Status of the Project

Overall the medical equipment provided in the project is being used effectively and has contributed to improving medical services. The reason for this is that the medical equipment provided does not require a high level of technology for operation and maintenance. The equipment was also limited to basic items considered to be the minimum needed for primary level medical institutions at the UHC level, has had few breakages and can be repaired at Zambian expense even when it breaks. In addition the health sector occupies an important place in Zambia's national development plan and this project was coordinated with the Health Reform Program<sup>2)</sup> initiated in 1991. Collaboration with the projects of other donors including JICA's Primary Health Care Project was a factor in the success of this project.

An examination of this project from the perspective of sustainability is as below.

### a) Organization and Human Resources

As only basic equipment was provided in this project the equipment supplied has all been used with no equipment left unused due to ignorance of how to operate it.

At UHCs, which are centers for volunteer community health workers, residents' participation activities in local health care programs, including services for local residents, are carried out. The George District UHC has developed activities as a model district for Japanese project-type technical cooperation (Primary Health Care Project). However, although this UHC operates a 24-hour consultation system, there is an insufficient number of doctors with only two nurses on duty at nights. It will take some time for the referral system in which primary health care services are carried out at UHCs and other patients are referred to the local hospital or to UTH to function effectively.

The maintenance of equipment provided to UHCs is the responsibility of the maintenance department of the Lusaka Urban District Health Management Team (LUDHMT). The LUDHMT despatches technicians to make repairs based on the requests from UHCs. At UTH the university maintenance department carries out repairs of equipment in response to requests from each section, including equipment provided in this project, and each Friday is a regular inspection day for equipment. The department has a manager who received training in Japan so basic medical equipment is generally in a good state of repair.



Residents using a communal water tap

### b) Finance and Budget

The Health Reform Program increased fees for beneficiaries of services and has sought to make each medical institution a paying concern, however it has only been a short time since the medical treatment fee system was introduced in 1996 and it has yet to cover the general population. Residents who wish to be treated at UHCs, as a rule, pay 1,500 kwacha<sup>3)</sup> a month per person and receive treatment after obtaining a member's card. However, there are many patients who have not paid in advance and those who have paid fees comprise about 10-15% of all patients according to some accounts. As a result the Zambian side is largely unable to raise funds for capital investment or even for the operation and maintenance of existing facilities. It is currently forced to rely on donors for the major part of maintenance expenses.

### c) Facilities and Equipment

The medical equipment provided to UHCs is generally in working order and simple repairs have been carried out at Zambian expense. Spare parts management is conducted by LDHMT. LDHMT has been making substantial efforts. For example, it has purchased 5 million kwacha in spare parts from Japan. However at UHCs observed in this evaluation, some inadequacies in the management of equipment were found. These included shortages of supplies such as oxygen and distilled water for autoclave sterilizers and reagents and theft of adaptors. Although the equipment provided to UHCs does not require a high level of repair technology, improvements in the maintenance system, the spare parts supply system and the ethics and awareness of the users are required.

At UTH spare parts are currently available and have been managed by filling in a ledger. Spare parts that can be procured domestically are acquired at Zambian expense. As mentioned previously, because there is a manager in the UTH maintenance department who received training in Japan, the basic medical equipment is generally in a good state of repair.

## (2) Water Supply Project in Satellite Area of Lusaka

### 1) Project Background

In Zambia, there was a continual influx of the population from the countryside to the capital, Lusaka. Low income residential areas with inadequate social infrastructure such as

health care, education and water supply had been formed in large numbers around the city without any planning. The residents of these areas had to rely on insanitary shallow wells for water and, as a result of the insanitary environment, there had been outbreaks of diseases such as cholera during the wet season in recent years. Addressing this problem had been a pressing government concern.

Against this background, Japan constructed simple piped water facilities that draw on deep wells using grant aid with the objective of supplying clean drinking water for the residents of the George Complex of Lusaka where the incidence of cholera had been high in recent years. The project was divided into four phases and this evaluation covered up to Phase II when the construction work had been completed and the operation and management of the water supply facilities by the Zambian side had been implemented.

## 2) Current Status of the Project

The water supply facilities (water towers, pipes, communal taps and so on) constructed using the grant aid, have not been damaged or broken by residents and have been supplying George Complex residents with clean water. As a result there has been a sharp decline in contagious diseases such as cholera and diarrhoea in the George Complex. Moreover, because a large number of communal taps have been provided about 10 minutes walk from each household, there has been a significant reduction in water collecting time which previously took several hours including travelling and waiting times. As a result, women and children, who used to do the work of collecting water, have free time, and some women have begun businesses handling small goods and some children have started to attend school. The management of the communal water taps is conducted by the residents themselves, and the project is running smoothly<sup>4)</sup>.

The reason why the project has been effective is that a participatory approach for residents, including organization of residents in the George Complex. Health education and explanation of water fees were conducted from the initial stages of construction work on the water supply facilities. In addition to the efforts of the Japanese consultant who was entrusted with this project, these activities were supplemented by support from the United Kingdom's Department for International Development (DFID) and CARE (an NGO). During this process, the JICA Zambia office and the Japanese Embassy sought cooperation with other aid organizations concerning education for residents, playing active coordinating roles. The implementation of the project in four phases was also effective in allowing the ongoing implementation of support for cultivating human resources that cannot be easily accomplished in a single fiscal year. Moreover, the selection of the George Complex, where residents' needs for clean water were extremely high due to the incidence of cholera as the target district, and innovations such as a design which prevents theft, taking account of local conditions where theft of water taps is common, are also factors that cannot be overlooked.

Examination results of the project from the perspective of sustainability is as below.

### a) Organization and Human Resources

The George Office of the Lusaka Water and Sewage Company (LWSC) which was newly established for this project, is responsible for operating and managing the water supply facilities that were provided. The LWSC which is the implementing body for this project, transferred a total of four employees including a project engineer, who is the manager of the George Office, and an account manager to the Office. The Lusaka City Council (LCC) also transferred a total of three employees as Field Community Development Officers. The project engineer has been trained in Japan, strengthening the operation and training system.

Moreover, during the project, water committees were formed among the residents in order to carry out appropriate water management. The George Complex was further divided into four areas with a sub-committee for each area. These residents' organizations have sustained the public relations and educational activities concerning the project such as health education for residents and the payment of fees through workshops held by CARE which has an extensive track record in the creation of residents' organizations with the assistance of the United Kingdom's DFID.

A tap leader elected from the users of each communal tap is in charge of the daily use and management of communal taps. However, repairs to communal taps are carried out by the George Office in response to requests from residents. Repairs that cannot be handled by the Office are carried out by the maintenance department of the LWSC. When the LWSC carries out repairs they are currently free, however in the future the LWSC has decided that the George Office will pay a fee to the LWSC for each repair.

### b) Finance and Budget

In principle, the George Office operates as a paying concern based on fees collected from residents, and fees are 500 kwacha a household for registration with a 2,500 kwacha monthly usage fee. However, as there are many users of the communal taps who are unregistered and also many people who have not paid the water usage fees, the office currently relies on subsidies from the LWSC.

In order to increase collection of fees, the George Office is paying tap leaders, who manage the communal taps, 400 kwacha out of the 2,500 kwacha fee for each household and 100 kwacha to zone leaders, who manage whole areas as a commission, in an attempt to increase the motivation for tap leaders and some leaders to collect fees.

### c) Facilities and Equipment

The water supply facilities, including the water pumps and water tanks and the management office, are surrounded by concrete block walls and also have guards, so security is high. Inside the management office, there is a materials management room where the materials and spare parts procured by the project are stored.

With imports from neighboring South Africa, local purchase of pipes and so on is possible. However, for parts which cannot be acquired locally it is necessary to produce

a list and establish a means of procurement or a means of purchasing substitutes.

## 6. Lessons Learned and Recommendations

The important factors in establishing project sustainability and continued results are "infrastructure" which is the foundation of the project, "operations and management" including organization for project implementation, human resources and budget and so on, and "ownership" by the people carrying out the project or the beneficiaries. Grant aid primarily conducts the infrastructure aspect. However when looking at the project overall, if the other aspects of operations and management and ownership are inadequate, project sustainability will not be possible. It is important that all of these factors are included in a well balanced way.

Here, the kind of points that need to be confirmed and tackled in order to increase overall project sustainability when implementing grant aid are considered drawing on the evaluation results of the projects in Zambia.

### (1) Selection of Facilities and Equipment

In order for facilities and equipment provided to be used effectively and continuously by the partner country in accordance with the original objectives, it is essential to formulate plans that match local needs and development issues. After accurately assessing local needs and development issues through thorough preliminary surveys, it is important to select the minimum facilities and equipment necessary to cater to those needs. At that time, it is also necessary to adequately consider the technological level of the users. In the two projects targeted by this evaluation the facilities and equipment provided are being used effectively by the Zambian side with no major problems, and this is one factor contributing to the achievement of the anticipated results.

With project-type technical cooperation which usually lasts five years, there is sufficient time to review activities during the cooperation period and to carry out technical transfer for the operation and maintenance of equipment as needed. However, with grant aid the content of the project is fixed and it is not easy to change the plans after an agreement has been made between governments. Because of that, even more serious consideration and scrutiny is required at the preliminary planning stage.

Where it is necessary to introduce facilities and equipment that go beyond the technological level of the users in order to respond to local needs, it is essential to provide training in operations by consultants and preparation of manuals for operations and management. In addition, when introducing equipment made in Japan, it is necessary to require English language manuals. Technical training in Japan will also be effective. Where the main users of the facilities and equipment do not understand English, it is important to produce manuals in local languages. The provision of such manuals has already been implemented to some extent. However the results of various evaluations indicate that, the provided equipment is left unused or used wrongly leading to breakage as a result of ignorance of how to use and operate it. Therefore further focus



Doing laundry at the communal taps

on this point is required.

It is also important to select equipment for which it is possible to acquire spare parts and supplies locally. There are many examples of provided facilities and equipment going unrepaired and remaining unused due to a shortage of the spare parts needed for maintenance. In grant aid projects the existence of local agents is usually surveyed at the basic design study stage and it seems important to select equipment after studying the purchase prices for spare parts and supplies and the time needed for ordering. This is because, even where agencies exist, the partner country's implementing body may be actually unable to use them due to the high cost of imported goods and the fact that ordering takes several months. Likewise, further confirmation of both the technical and cost aspects is required in terms of the potential for local repairs. In the Project for Improvement of Primary Health Care in Lusaka evaluated here, repairs of provided equipment are carried out by an ex-trainee who took training in Japan. Particularly when introducing equipment into areas where it has not been previously used, it will be important to consider plans that focus on the possibility of combining training in Japan and dispatch of JOCVs in order to improve the local repair skills.

### (2) Operations and Management

It is important to consider the creation of project operation systems from the initial planning stages in order to produce sustained results that are not limited to the grant aid after project completion. Usually in grant aid the system for after the transfer of facilities and equipment is examined at the basic design study stage and the partner country is requested to make appropriate arrangements for allocation of staff members and provision of related facilities. However, particularly when the partner country's government is required to make new expenditures, it does not always fulfil its initial promises due to factors such as deterioration in government finances. The principle of Japanese aid is self-help, which draws on Japan's own experience of development, and Japanese aid should continue to be implemented in future on the basis of this principle. The key will be the assessment of to what extent of self-help it is realistic and effective in the long term to require from the developing country side. In addition, it is essential to provide structures that facilitate self-help by the partner countries and enable sustainability.

As in the water supply and health care projects evaluated here, where projects can charge fees to beneficiaries, it is important to establish a business foundation based on profit. Due to the economic fragility of partner countries and the instability of their national economies, even though budgets may be provided, they are not implemented and securing an independent source of income for projects which are not dependent on government finances increases the stability and sustainability of project operation. Therefore, in addition to education activities to increase the awareness of residents who are the beneficiaries about fees, it is also necessary to include human resources training to ensure the transparent and fair accounting and sound management of the fee collecting body in the cooperation content.

With respect to education activities aimed at residents, the trial conducted in the Water Supply Project in Satellite Area of Lusaka should serve as a future lesson. In the project residents' organizations were formed by the time that the water supply commenced. By conducting organizing activities simultaneously and in parallel with construction work rather than after the completion of water supply facilities, the management system based on residents' organizations was transferred relatively smoothly after facilities were handed over to the partner country. This was also important in increasing the efficiency of the whole project. Moreover, it is necessary to take account of the number of years that residents have lived in the target project area when considering support for education activities aimed at local residents.

In Water Supply Project in Satellite Area of Lusaka, the residents' organizations formed by the project implemented educational activities concerning health education and water fees for local residents in conjunction with CARE. However, disparities in the collection of fees were seen by area within the George Complex. When comparing areas with many long-term residents to areas with many recently arrived residents, the collection of fees in the former was higher. Where there are many long-term residents, there is a greater solidarity and more harmonious cooperation can be easily obtained when implementing management of communal taps by residents, as well as collecting fees. When planning similar projects in the future, in addition to examining the dynamics of residents, it will be useful to establish the period of educational activities aimed at residents based on the results of this examination. Moreover, it is desirable to conduct health education concerning the dangers of using water from shallow wells that are easily contaminated, not only on fee collection, in water supply projects. This will also increase the number of piped water users and the collection of fees, strengthening the financial basis. It is desirable to actively examine collaboration with local NGOs in these kinds of activities for local residents.

It is also important to improve the accounting and financial skills of the implementing organization including the appropriate setting of fees. Inventory management technology for spare parts and supplies is also essential for the systematic supply of spare parts and supplies and allowing the continuous use of equipment. In this area, which is the transfer of so-called "soft technology", the use of the "soft component" introduced in grant aid in FY1998 and training in Japan should be considered.

In addition to such soft technology, evaluations conducted in the past have frequently indicated the importance of technology transfer for the operation and repair of provided equipment. The repair of equipment has already received a certain level of attention as seen in the implementing of equipment repairs primarily by a former trainee who participated in training in Japan in Project for Improvement of Primary Health Care in Lusaka evaluated here. However, as inexperience and lack of order in the handling of equipment are major factors in the breakdown of equipment, an emphasis should also be placed on preventing unnecessary breakage due to such factors in future. In this sense, as well as the provision of manuals mentioned previously, it is necessary to establish adequate training periods on equipment operation methods by Japanese consultants.

### (3) Ownership

So far the selection of facilities and equipment, the establishment of operating systems and the issues that need to be considered by the donor country have been covered. However, the most important factor in the success of development is, naturally, a developing country's independent policies (ownership). It was declared as the basic concept in the new development strategy (formal name "Shaping the 21<sup>st</sup> Century: The Contribution of Development Cooperation") approved at the May 1996 OECD Ministerial Council, which Japan played a leading role in establishing.

The main focus of cooperation in grant aid is Basic Human Needs (BHN) including health care, sanitation, water supply, primary and secondary education and rural development. Therefore, it necessarily involves many projects that target local residents. Because of this, in order to maintain and expand grant aid projects, the issues of how to involve local people in projects and how to create an awareness of autonomy take on great importance. In countries which are targeted by grant aid, the governmental organizations are generally weak both financially and in terms of organization. In order to compensate for this, it is necessary to increase the ownership of local residents and to encourage independent participation in projects. In projects which collect fees from residents who are the beneficiaries, the high level of ownership by residents also contributes to increasing the collection of fees which are needed to secure project operating funds.

The most important way of increasing local residents' motivation to participate in projects is to formulate plans that accurately reflect their needs. This is only possible when local residents are involved from the planning stage in order to accurately assess their needs. By being involved from the project planning stage, local residents are likely to develop a strong awareness that they themselves are the implementing body for the project. The attitude of residents towards a project will naturally differ when their participation is requested after the project details have been decided and when participation is promoted from the planning stage.

Further, in order to obtain the participation of even more residents while implementing the project, and even after handing over to the partner country, it is important to educate residents as widely as possible about the significance of the project and

to increase their understanding of it.

In the Project for Improvement of Primary Health Care in Lusaka, the functioning and mechanism of the local clinic-local hospital-university hospital sequence was not sufficiently understood by residents at the time of the evaluation. Education of residents is currently being carried out in collaboration with JICA's primary health care project.

In recent years, such participation by residents has been enthusiastically incorporated into project-type technical cooperation. In future grant aid projects, it will also be required to consider local residents as one of the implementing bodies of the project and gain their participation while actively incorporating their opinions and needs as well as obtaining their understanding of the project activities.

#### **(4) Conclusion**

The background and circumstances of individual projects differ. However issues such as the ones above are fundamental in ensuring the sustainability of grant aid projects and therefore require consideration and confirmation when formulating plans. Basically, the primary objective of grant aid is in the so-called "hard" aspect of construction of infrastructure facilities and provision of equipment and the use and operation of the facilities and equipment is entrusted to the partner country. However, particularly in countries that are weak financially and organizationally such as the LLDCs, it is rare that a project management system can be constructed solely through the self-help effort of the partner country. Most of the examples of problems pointed out in past evaluations result from the weakness of the operations and management systems of partner countries. However, against the background of such difficulties, the issue of how to facilitate sustainability by a partner country is dependent on the knowledge of a donor. In fact there are many projects that have achieved sustainable use of equipment by transferring expertise in regular maintenance of equipment and management of spare parts and supplies rather than transferring sophisticated technology. In this sense the soft component introduced to grant aid projects in FY1998 is likely to play a significant role in the future when transferring the basic operations and management expertise for projects.

Now, when aid quality is being demanded more than ever, the issue of what kind of cooperation should be implemented in order to facilitate sustained use of provided facilities and equipment and significant results based on grant aid, in other words the question of what kind of cooperation is needed to support sustainability by the partner country, has become even more important than in the past. Naturally there are areas which are difficult to address within the framework of grant aid. However JICA has implemented technical cooperation in diverse forms including individual experts, the acceptance of trainees and project-type technical cooperation and should be able to respond appropriately by carrying out further linkage among them. In addition, as is clear from the example of Zambia covered here, collaboration with other aid organizations and NGOs is also an effective method and will be actively pursued in the future. These strategies to improve sustainability require flexible consideration according to needs, not only at the time of planning, but also during and after project implementation

based on the project management systems in the partner country.

As expressed in JICA's motto, "Human Development, National Development, Bringing People Together," human development is the basis of JICA projects. Even in grant aid projects which provide facilities and equipment, it is people who use the facilities and equipment provided and produce the results of development. This fact should require more emphasis.

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- 1) Using the criteria of eligibility for interest-free loans from the International Development Association as a rough guide, in FY1998 countries with a GDP per capita of \$1,505 or less in FY1995 qualified for grant aid (excluding cultural grant aid).
  - 2) The Health Reform Program is composed of a structural reform of the Ministry of Health (decentralization), clarification of basic service packages (construction of an effective referral system), strengthening of the financial basis, improving the quality of staff members, cooperation with the private sector, encouraging community participation and strengthening monitoring and evaluation systems.
  - 3) As of January 1999, US\$1 = approximately 2,300 kwacha.
  - 4) Since FY1999 a George community empowerment program has been commenced for this project with the objective of strengthening residents' organizations.