

3 Donor Assistance to Tanzania

3. DONOR ASSISTANCE TO TANZANIA

3.1 Changes in the Environment of Donor Assistance to Tanzania

The net receipts of the ODA of all developing countries from 1995 to 1999 increased marginally in real terms. Those from Japan also followed this trend during the same period, with its shares in DAC members at 21.2 percent in 1995 and 21.6 percent in 1998.

The net receipts of sub-Saharan African countries declined by 15.8 percent for this period. This region's share of the ODA of all developing countries fell from 31.3 percent in 1995 to 26.1 percent in 1998.

Tanzania was one of the largest recipients of ODA in Africa. The country received the largest net ODA disbursements in real terms from 1987-88, and its rank was second only to Mozambique in 1997 and 1998.

Tanzania was the top or second recipient for bilateral assistance in 1987-88 and 1997-98 from Denmark, Sweden, and Norway. The country's rank was the third for assistance from Finland, the United Kingdom, and the Netherlands,.

The main donors for Tanzania are Japan, Scandinavian countries, the United Kingdom, and the Netherlands.

3.2 Trends of Assistance to Tanzania

(1) Changes in Amounts

Table 3.1 shows that there was no increase in either bilateral or multilateral assistance to Tanzania in the past ten years. Japan remained the top donor from the mid-nineties.

Table 3.1 Assistance to Tanzania in the Past Ten Years

	(millions of US dollars)									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Bilateral ODA Commitments by All DAC Countries	846.9	1026.3	815.9	855.0	551.8	512.4	557.4	731.9		
Japan's ODA Commitments	62.1	62.1	78.5	90.3	93.8	132.8	119.4	108.8		
Japan's share in all (%)	7.3	6.1	9.6	10.6	17.0	25.9	21.4	14.9		
Japan's Rank	7	7	6	3	2	1	1	2		
World Bank Commitments	513.6	136.1	250.8	340.7	194.7	12.5	115.9	196.4	45.3	41.5
Adjustment	210.3	16.1	211.3	11.3	0.0	0.0	0.0	128.9	2.6	1.5
Net ODA Receipts of Tanza by All DAC Members	1147	1084	1344	953	965	877	877	944	998	
Net ODA Receipts of Tanzar from Japan	40.7	51.9	73.2	88.8	104.8	124.3	105.7	55.4	83.4	
Japan's share in all (%)	3.5	4.8	5.4	9.3	10.9	14.2	12.1	5.9	8.4	

Sources: World Bank (Operations Evaluation Dept.), Tanzania: Country Assistance Evaluation, 2000, pp.51-52.

OECD (DAC), Development Cooperation Report, various issues.

Ministry of Foreign Affairs, Japan's ODA, various issues.

(2) Changes of Allocations to Sectors

Tables 3.2.a and 3.2.b show the sectoral distribution of bilateral donor assistance. While Japan provided assistance to many sectors, such as the economic infrastructure, agriculture, energy, water supply, and health, during the terms 1992-95 and 1996-97, other bilateral donors decreased the number of sectors they were supporting in 1992-95 or 1996-97.

Table 3.2.a Sectoral Commitments by Eight Major Bilateral Donors, 1992-97

(Amt.=millions of US Dollars)

	Japan		UK		Germany		Netherlands		Denmark		Norway		Sweden		Finland		Scandinavian Countries	
	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%
Education	14.2	4.4	11.8	5.9	36.3	13.7	4.8	1.5	46.2	13.7	38.9	14.8	5.1	3.6	1.2	2.1	91.4	11.4
Health	45.5	14.1	13.8	6.8	28.3	10.7	8.9	2.7	94.7	28.1	8.3	3.2	3.4	2.4	0.4	0.7	106.8	13.4
Water supply and sanitation	25.9	8.0	2.4	1.2	34.1	12.9	29.5	9.0	12.2	3.6	-	-	26.0	18.2	4.1	7.3	42.3	5.3
Energy	32.3	10.0	1.3	0.6	38.5	14.5	14.3	4.3	42.4	12.6	103.9	39.6	71.6	50.2	7.0	12.4	224.9	28.2
Transport & communications	97.7	30.3	27.9	13.8	32.5	12.3	17.2	5.2	80.8	24.0	28.1	10.7	32.0	22.5	3.5	6.2	144.4	18.1
Agriculture, forestry and fishing	89.3	27.7	70.6	35.0	38.1	14.4	47.9	14.5	51.6	15.3	28.8	11.0	2.0	1.4	11.5	20.4	93.9	11.8
Industry, mining and construction	7.9	2.4	6.2	3.1	4.9	1.9	36.9	11.2	-	-	15.2	5.8	0.2	0.1	0.0	0.0	15.4	1.9
Trade and tourism	2.3	0.7	53.8	26.7	1.9	0.7	47.3	14.4	1.0	0.3	19.0	7.2	1.4	1.0	-	-	21.4	2.7
Multisector	7.6	2.4	13.9	6.9	50.1	18.9	122.5	37.2	8.4	2.5	20.1	7.7	0.8	0.6	28.7	50.9	58.0	7.3
Total	322.7		201.7		264.7		329.3		337.3		262.3		142.5		56.4		798.5	

Source: World Bank (Operations Evaluation Dept.), Tanzania: Country Assistance Evaluation, 2000, p.51, JICA CPE Study Team.

Table 3.2.b Sectoral Commitments by Eight Major Bilateral Donors, 1996-97

(Amt.=millions of US Dollars)

	Japan		UK		Germany		Netherlands		Denmark		Norway		Sweden		Finland		Scandinavian Countries	
	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%	Amt.	%
Education	5.6	3.8	3.3	4.8	8.3	10.0	0.8	0.7	9.1	5.2	20.1	29.3	0.0	-	0.2	3.8	29.4	7.1
Health	14.7	9.9	0.9	1.3	12.7	15.3	2.3	1.9	50.0	28.7	1.8	2.6	0.0	-	0.3	5.8	83.4	20.1
Water supply and sanitation	18.8	12.6	1.3	1.9	17.7	21.3	0.3	0.2	6.6	3.8	0.0	0.0	0.0	-	0.0	0.0	10.4	2.5
Energy	22.6	15.1	0.3	0.4	16.2	19.5	2.2	1.8	0.0	0.0	13.5	19.7	0.0	-	1.9	36.5	35.1	8.5
Transport & communications	43.6	29.2	0.0	0.0	3.8	4.6	1.8	1.5	70.9	40.6	11.3	16.4	0.0	-	0.0	0.0	139.3	33.6
Agriculture, forestry and fishing	36.4	24.4	9.7	14.1	10.1	12.2	4.3	3.6	34.7	19.9	7.4	10.8	0.0	-	0.9	17.3	73.7	17.8
Industry, mining and construction	2.6	1.7	4.4	6.4	2.7	3.3	13.4	11.1	0.0	0.0	7.9	11.5	0.0	-	0.0	0.0	19.4	4.7
Trade and tourism	1.3	0.9	39.6	57.6	0.0	0.0	16.2	13.4	0.0	0.0	4.2	6.1	0.0	-	0.0	0.0	10.3	2.5
Multisector	3.6	2.4	9.2	13.4	11.5	13.9	79.2	65.7	3.2	1.8	2.5	3.6	0.0	-	1.9	36.5	13.1	3.2
Total	149.2		68.7		83.0		120.5		174.5		68.7		0.0		5.2		413.9	

Source: World Bank (Operations Evaluation Dept.), Tanzania: Country Assistance Evaluation, 2000, p.51, JICA CPE Study Team.

For example, the United Kingdom allocated a large percentage of its assistance to the agriculture sector as well as the distribution/tourism sector during the terms 1992-95 and 1996-97. The allocation to these sectors amounted to 71.1% of the total assistance. Denmark allocated the largest percentage of its assistance to the health sector during the term of 1992-97. The transportation/communication and agriculture sectors received the second and third largest percentages of its assistance. In total, the three sectors received 67.4% of the total during the term. The percentage increased to 89.2% during the term of 1996-97. Thus, Denmark intensified the selectivity. Although Norway's past record had not demonstrated the selectivity, it selected the following sectors as priority sectors: health, environment, road infrastructure, energy, local government reform, and a multilateral salvation fund after its country program evaluation in 1999.

Finland and the Netherlands allocated the largest percentage of their assistance to an area known as the multi-sector assistance. Finland concentrated its assistance in two sectors, including multi-sector assistance, during the terms of 1992-95 and 1996-97, but at the time of the CPE Preliminary Study it was expressed that the education, forestry, local government reform/democracy, and poverty reduction/multilateral salvation fund sectors were the priority sectors. The Netherlands also decided after its country program evaluation in 1994 that it would concentrate its assistance primarily to four sectors: health, education, water supply, and tourism/natural resources.

The World Bank's priority sectors during the term of 1991-99 were agriculture, transportation, energy, and finance. At the time of the CPE Preliminary Study it was expressed that the education, health, water supply, feeder roads, and agriculture (study) were the priority sectors. Sectoral adjustment loans were given to agriculture and finance in the first half of the 1990s. Structural Adjustment Credit (SAC) was provided from 1997-99 and another programmatic SAC was approved in 2000. Its Tanzanian office stated to the CPE Preliminary Study Team in 2000 that its priority sectors were education, water supply, feeder roads, and agriculture (study on the agriculture sector). The IMF provided an Enhanced Structural Adjustment Facility (ESAF) from 1991-94, ESAF/PRGF (a Poverty Reduction and Growth Facility) from 1997-99; another PRGF was approved in 2000.

(3) Changes in the Forms of Assistance

Tables 3.3.a and 3.3.b indicate that Technical Cooperation decreased in amount, but that Investment Project Assistance increased during the 1990s; this increase was due to assistance from the World Bank and Japan.

Table 3.3.a External Assistance to Tanzania by Type

	(millions of US dollars)								
	1990	1991	1992	1993	1994	1995	1996	1997	1998
Technical Cooperation	238.8	311.2	384.5	385.9	219.7	244.9	191.9	248.3	219.0
Free standing	195.0	238.4	302.3	362.0	162.5	215.3	96.2	217.5	139.7
Investment-Related	43.8	72.8	82.2	23.9	57.2	29.6	95.7	30.8	79.3
Investment Project Assistance	402.7	415.7	416.6	290.1	437.8	373.4	539.7	437.6	450.2
Programme/Budgetary (Balance of Payment Supports)	214.1	275.2	279.5	223.9	138.7	69.2	110.8	233.7	157.2
Food Aid	42.1	4.9	12.0	2.4	7.8	5.3	5.5	1.8	6.6
Emergency & Relief Assistance	7.5	12.0	20.0	3.2	84.4	121.4	58.5	54.7	78.5
Unallocated	51.0	40.8							
TOTAL	956.2	1059.8	1112.6	905.5	888.4	814.2	906.4	976.1	911.5

Source: UNDP (Tanzania Office), Development Cooperation Report, various issues.

Table 3.3.b External Assistance to Tanzania by Type

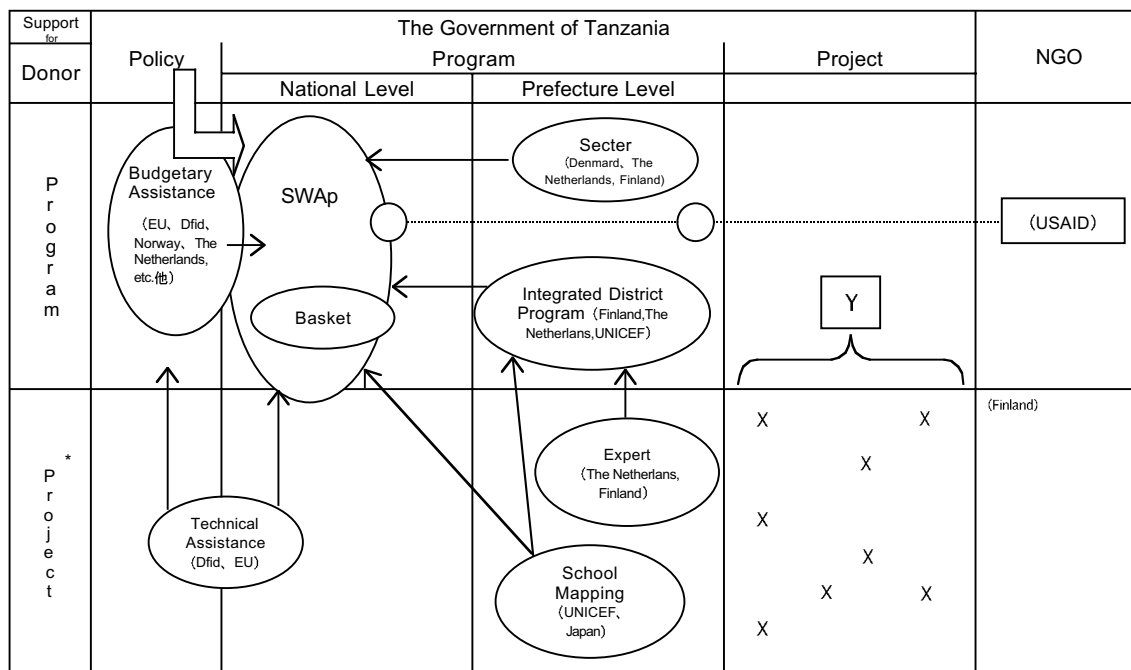
	1990	1991	1992	1993	1994	1995	1996	1997	1998	(% share in total)	
										1991-95	1996-98
Technical Cooperation	25.0	29.4	34.6	42.6	24.7	30.1	21.2	25.4	24.0	32.3	23.5
Free standing	20.4	22.5	27.2	40.0	18.3	26.4	10.6	22.3	15.3	26.9	16.1
Investment-Related	4.6	6.9	7.4	2.6	6.4	3.6	10.6	3.2	8.7	5.4	7.5
Investment Project Assistance	42.1	39.2	37.4	32.0	49.3	45.9	59.5	44.8	49.4	40.8	51.3
Programme/Budgetary (Balance of Payment Supports)	22.4	26.0	25.1	24.7	15.6	8.5	12.2	23.9	17.2	20.0	17.8
Food Aid	4.4	0.5	1.1	0.3	0.9	0.7	0.6	0.2	0.7	0.7	0.5
Emergency & Relief Assistance	0.8	1.1	1.8	0.4	9.5	14.9	6.5	5.6	8.6	5.5	6.9
Unallocated	5.3	3.8								0.8	
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: UNDP (Tanzania Office), Development Cooperation Report, various issues.

(4) Donors' Policies on Changes in the Forms/Contents of Assistance

The forms of assistance by donors have been changing from technical assistance and project assistance, which are difficult for the GOT to calculate in their budgets, to the basket fund and budget assistance. In addition, assistance for the sector program became increasingly important among the various kinds of assistance. The underlying policy of donors is to optimize use of the limited resources of the GOT in development through improved donor-coordination, realized by donors that share the same assistant objectives and procedures. Detailed examples¹ of the changes in this policy are 1) movement from project assistance to program assistance, 2) participation in the basket fund, 3) participation in budgetary assistance, 4) review of technical assistance, and 5) assistance for districts. Figure 3.1 shows these changes.

¹ For further details, refer to the report of the CPE Preliminary Study, which conducted a detailed study on the changes in the donors policy on forms of assistance and their actual assistance.



*: Technical Assistance

Source: JICA. Planning and Evaluation Department, Office of Evaluation and Post Project Monitoring, "The Country Program Evaluation Study on JICA's Cooperation in Tanzania, the First (Preliminary) Study Report", Nov. 2000, P.20

Figure 3.1 Changes in Assistance Strategies of Main Donors to Tanzania

3.3 Japan's assistance to Tanzania during the 1990s

(1) Positioning of assistance to Tanzania in Japanese ODA

Assistance from Japan to African countries including Tanzania is based on the following six pillars adopted at the Tokyo Initiative Conference on African Development Conference (TICAD I) in Oct. 1993:

- 1) Political and economic reform based on the recipient's own initiative
- 2) Economic development through the activities of the private sector
- 3) Regional cooperation and regional unification among African countries
- 4) Prevention of natural disasters and man-caused calamities and the significance of emergency assistance
- 5) Transfer of experience in developing Asian countries to developing African countries and expanding south-south cooperation
- 6) International cooperation for solving a wide range of problems including the WID, the environment, HIV/AIDS, and NGOs. Furthermore, through organizing the 2nd Tokyo Initiative Conference on African Development Conference (TICAD II) in 1998, Japan has clarified its will to help develop initiatives of African countries.

Tanzania is one of the four African countries with the highest priorities in implementing the "DAC New Development Strategy" adopted under the initiative of Japan at the DAC senior meeting held in June 1998. Japan has therefore provided Tanzania assistance in the form of grant aid and technical cooperation by assigning Tanzania as the highest priority for assistance in Sub-Saharan Africa.

At annual conferences held between Japan and Tanzania in the early 1990s, Japan and Tanzania agreed to set economic infrastructure, promotion of agriculture, and BHN field (healthcare/medicine) as high-priority fields of assistance; the assistance provided in the first half of the 1990s was mainly directed to these sectors. The current high-priority fields are based on an agreement between the comprehensive economic cooperation mission dispatched to Tanzania in February 1990 and the Tanzanian government, and include agriculture, promoting small- and medium-sized enterprises, basic education, basic healthcare services, improvement the living environment by providing basic infrastructure, and preservation of forests.

(2) Results of assistance

a. Grant aid

The total grant aid based on official document exchanges by the end of 1998 (Table 3.4) was 101,723 million yen (US\$ 816.25 million), the largest amount in the region. The amount provided during 1990 to 1998 was US\$ 576.72 million (Table 3.4) and was mainly used to provide basic infrastructure such as communications, roads and bridges, and electric power supply and for basic life-support fields such as healthcare and medical services. Assistance was implemented throughout the 1990s for these two sectors. Furthermore, to support structure adjustment adjustment efforts in Tanzania, non-project grant aid (a total of 16.5 billion yen) has been provided since 1987.

Table 3.4 Government of Japan's Development Assistance to Tanzania

(Unit : Million USD)

Calendar Year	Grant			Loan		Total
	Financial	Technical	Total	Gross	Net	
	Cooperation	Cooperation		Disbursement	Disbursement	
1990	28.37	15.03	43.40	0.85	-2.72	40.68
1991	42.76	13.74	56.10	0.08	-4.24	51.86
1992	63.33	16.00	79.33	0.32	-6.13	73.20
1993	74.27	25.33	99.60	0.30	-10.77	88.83
1994	79.61	27.06	106.67	0.54	-1.91	104.76
1995	90.21	35.65	125.87	0.99	-1.56	124.30
1996	80.29	29.20	109.49	—	-3.82	105.68
1997	36.83	29.05	65.88	—	-10.51	55.37
1998	81.05	21.81	102.86	—	-19.49	83.37
90/98Total	576.72	212.87	789.20	3.08	-61.15	728.05

Source: Japan's ODA White Paper, MOFA

b. Technical cooperation

Total technical cooperation on JICA's expense (result base) by the end of 1998 was 40,855 million yen (US\$309.95 million), the second largest result within the region.

In the breakdown of technical cooperation from 1991 to 1998 (Table 3.5), 30 to 40 experts were dispatched every year, mainly in the fields of agriculture, industry, health,

and transportation.

Table 3.5. Government of Japan's Technical cooperation to Tanzania

Fiscal Year	Technical Cooperation	Trainees	Experts	Survey Team	Volunteers	Equipments	P.T.C.	Development Survey
	Million Yen	Person	Person	Person	Person	Million Yen	No. of projects	No. of teams
1991	1,831	69	12	53	36	336	3	2
1992	2,267	75	35	103	32	345	4	3
1993	2,566	139	32	93	41	253	1	5
1994	2,619	165	43	82	37	215	3	4
1995	2,779	190	39	90	31	217	3	4
1996	3,120	174	36	120	39	255	3	6
1997	3,477	208	29	98	24	382	3	4
1998	2,192	293	28	43	24	272	3	2

Note: P.T.C. indicates Project-type Technical Cooperation

Source: Japan's ODA White Papers, MOFA

Twenty-five to 40 members of the Japan Overseas Cooperation Volunteers were dispatched every year, primarily in the fields of agriculture, industry, social infrastructure, and human resources development.

About 70 trainees were accepted every year from the early 1990s. This number increased year-by-year and recently reached 300. Sectors accepting the largest number of trainees include agriculture, industry, health, transportation, and administration.

Project-type technical cooperation implemented in the 1990s includes Kilimanjaro Agricultural Development Project (1986 to 1993), Kilimanjaro Industrial Development Center Project Phase II (1988 to 1993), Kilimanjaro Rural Forestry Plans and Kilimanjaro Rural Forestry Plans II (1991 to 1993, 1993 to 2000), Maternal and Child Health Services Project (1994 to 2001), and Kilimanjaro agricultural engineer training center (1994 to 2001).

Development Studies were also conducted for the Dar-es-Salaam Road Development Project, the Dar-es-Salaam Power Supply System Expansion Project, and the Low Cost Smallholder Irrigation Project in Central Wami River Basin, all of which subsequently led to grant assistance.

c. ODA Loans

ODA Loans from Japan had reached a total of 4,031 million yen (US\$177.45 million) by 1999, which is ranked seventh in the African region. Though ODA Loans was implemented in agriculture development in Lower Moshi Integrated Agriculture and Rural Development Project and Reinforcement of Power Distribution Network Project in Kilimanjaro in 1981, as the Tanzanian economy worsened, debt relief measures were applied to the plans according the Toronto scheme and new Toronto scheme. No new ODA Loans have been given since 1982, except for postponement of debts (see Table 3.4).

(3) Involvement of Japan in the sector program

In Tanzania, sector-wide approaches have so far been implemented in the fields of healthcare and education. In the field of healthcare, for example, and within the framework of the sector program established by the initiative of the Ministry of Healthcare, the common basket system has been adopted with participation of many donors.²

In the field of agriculture and rural development, however, Japan expressed its desire to positively support the establishment of the Agriculture Sector Development Strategy (ASDS) and Rural Development Strategy (RDS) at the end of 2000. Japan has provided financial assistance (the common basket type assistance with conditionalities) together with Denmark and Ireland for establishing ASDS and together with Denmark for establishing RDS. The taskforce to establish ASDS is organized under the Agricultural sector working group (FASEOG) (Office: FAO; members, agriculture-related ministries and agencies as well as donors) in the Tanzanian Ministry of Agriculture and Foods; Japan has served as the secretary of FASEOG. ASDS will be established within 2001, after which planning of the Agriculture Sector Development Program (ASDP) will be started. It is also planned to establish RDS in 2001.

After RDS and ASDS are established and ASDP is established in the field of agriculture, all donors will be able to implement assistance in a common framework established by the Tanzanian government. Japan will then be able to provide assistance in the rural development within such a framework.

² WB, Denmark, DFID, GTZ, KfW, the Netherlands, Irish Aid, Swiss Aid, Norway.

Japan has primarily implemented assistance in Asia, so there is precedent for a plan being established and implemented only between Japan and the recipient country. In Tanzania, however, European donors have implemented assistance for a long time. Therefore, if Japan implements its original plans and ignores the philosophy of assistance built up by European donors, Japan's plans will not only face the resistance of other donors but also cause inefficient implementation of its assistance because it is not aligned with existing support from other donors. Therefore, particularly in Tanzania, Japan is redirecting its policy toward providing assistance after fully recognizing the aid environment in which the government's initiative is respected and plans are established while sharing information with other donors.

4 Evaluation of JICA's Cooperation

4. Evaluation of JICA' Cooperation

4.1 Evaluation Methodology

(1) Evaluation Criteria

Selection of evaluation criteria for the CPE Study depended on the proposal from the CPE Preliminary Study Team and the JICA's terms of reference for this study."The DAC 5 Criteria are as follows (descriptions were extracted from PCM Monitoring and Evaluation Based on the PCM Method published by Foundation for Advanced Studies on International Development¹).

- Efficiency: Productivity of the implementation process: how efficiently the various inputs are converted into outputs.
- Effectiveness: Effectiveness concerns the extent to which the project purpose has been achieved, or is expected to be achieved, in relation to the outputs produced by the project.
- Impact: Impact is intended and unintended, direct and indirect, positive and negative changes as a result of the project
- Relevance: Relevance is to question whether the outputs, project purpose and overall goal are still in keeping with the priority needs and concerns at the time of evaluation.
- Sustainability: Sustainability of the development project is to question whether the project benefits are likely to continue after the external aid has come to an end.

Among the DAC 5 Criteria for assessing aid, the CPE Study stresses the relevance and efficiency and examines the sustainability of case studies. The Preliminary Study Team of the CPE Study collected information on other donors' past country evaluations (Table 4.1) and analyzed that impact evaluation have been regarded as the most difficult evaluation criterion by other donors that experienced country evaluation. In addition to this, it is generally understood that evaluating separately the impact of a donor's contribution to development of the entire sector/economy of a developing country is hard to be conducted. Therefore, impact evaluation was not included in the CPE Study.

¹ Foundation for Advanced Studies on International Development, PCM Monitoring and Evaluation Based on the PCM Method, P.24 - 29, 1998.

Table 4.1 Country Evaluation by Other Donors

Donors	Year	Term Subject for Evaluation	Evaluation Viewpoint
The Netherlands	1994	1970-1992	efficiency & effectiveness of different modelities, poliucy relevancy, policy options
Sweden	1994	1965-1991	aid effectiveness from a viewpoint of groth and distribution
Finland	1995	1942-1993	poliucy relevancy, aid management, impact on poverty, contribution to macro economy, sustainability
Japan	1995	Long trem	transition to the market economy, conotribution to poverty reduction
Ireland	1996	1997-1999	program formulation for 1997-1999
Switzerland	1998	1993-1998	empowerment & owenership, institutional and economic sustainability, gender
EU	1998	1974-1998	policy formulation, policy dailogue between EC and the counterpart country, aid implmentation & management, general developmen support, sector support, cross-cutting issues, result evaluation, country strategic plan
Norway	1999	1994-1997	
EU, DFID, IA	2000	1997-2000	education program

Source: JICA, Tanzania Country Program Evaluation Study: Preliminary Study.

The CPE Study put more emphasis on evaluation on “sustainability” among evaluation criteria for reasons that JICA aims at implementing “programs/projects that have sustainability” and that evaluation on this criteria is extremely important in post-implementation evaluation. In addition, evaluation on “sustainability” requires comprehensive examination on “impact” and “effectiveness” as prerequisites. “Effectiveness” was regarded relatively less important in post-implementation evaluation due to the large scale of the CPE Study.

The CPE Study conducted case studies on sustainability of programs of the three sector; agriculture, infrastructure development, and health sectors. One program from each sector was subject for the sustainability evaluation. The selected programs were those peculiar to JICA’s activities such as project-type of technical cooperation. They were also suitable for the evaluation from which convincing lessons learned as well as recommendations could be extracted. The case study on the education sector was not conducted because it was still too early to evaluate sustainability of a program of the sector since JICA had started its cooperation in the sector relatively recently.

Relevance

Relevance of JICA 's cooperation at the national and the Program levels to development issues in Tanzania.

Efficiency

Efficiency of implementation of JICA 's cooperation at the national and the Program levels.

Sustainability

One specific Program will be selected and Sustainability of specific Programs of the fields of agriculture, infrastructure development, and health, as a case study. One Program is selected from each of the three fields.

< The Programs selected as case studies >

One Program From each of the three sectors subject for the case study is finally selected after gathering various information. However, with consideration of the following factors, Programs below will be selected by the CPE Study team (Table 4.2). The factors are; 1) the number of projects (the Program subject for evaluation should have a certain numbers of projects as a Program); 2) the balance of cooperation schemes among these projects; 3) the completion year of the projects (the Program should not consist of projects finished recently), 4) amount of project information generally.

Table 4.2 Selected Programs for Case Study

Agriculture (Rural Development)	Irrigated agriculture improvement program
	Agricultural technology improvement program
	Micro/small enterprise promotion program
Health	Health and medical care administration capacity building program
	Health and medical care service strengthening program
	Population/AIDS program
Infrastructure Development	Transport infrastructure improvement program
	Communications infrastructure improvement program
	Electric power infrastructure improvement program
	Water resources development program
	Living environment improvement program

In section 4, examples of basic items for questions for evaluation in relation to their relevance, efficiency, and sustainability are listed. These items are to be revised in the process of information collection, if necessary.

(a) Relevance

National Level (subjects: all of JICA's cooperation conducted from the fiscal year 1991 to 2000)

- A - 1: The relevance to the Japanese Ministry of Foreign Affairs' cooperation policy in Tanzania
- A - 2: The relevance to development issues in Tanzania
- A - 3: The relevance of the structure of cooperation by sectors and by schemes of the JICA's cooperation

Program Level (subject: JICA's cooperation conducted in the four fields from the fiscal year 1991 to 2000)

- a - 1: The relevance to development issues in Tanzania
- a - 2: The relevance of the structure of cooperation schemes
- a - 3: The relevance of the contents of the projects located under a Program
- a - 4: The relevance to the needs of the beneficiaries in Tanzania

(b) Efficiency

National Level (subjects: all of JICA's cooperation conducted from the fiscal year 1991 to 2000)

- B - 1: The efficiency in the context of social and economic changes in Tanzania
- B - 2: The efficiency in the context of changes in the development strategies of Tanzania
- B - 3: The efficiency in the context of changes in the international aid environment surrounding Tanzania
- B - 4: The efficiency in terms of coordination with other donors

■ Program Level (subjects: JICA's cooperation conducted in the four fields from the fiscal year 1991 to 2000)

- b - 1: The efficiency from a regional standpoint
- b - 2: The efficiency relating to the consideration and application of opinions of stakeholders
(government related organizations, beneficiaries, etc.)
- b - 3: The efficiency relating to the burdens on the Tanzanian side which include necessary operational procedures and costs incurred by conducting cooperation programs with JICA
- b - 4: The efficiency relating to monitoring
- b - 5: The efficiency in terms of coordination with other donors and of avoiding duplication of JICA' other projects

(c) Sustainability (the case study)

Program Level (subjects: specific Programs in the fields of agriculture, health, infrastructure development from 1991 to 2000)

- c - 1: The sustainability of ownership of the Tanzanian government for JICA's

- cooperation projects
- c - 2: The sustainability of financial, organizational (including personnel), and technical aspects of the responsible entities for the maintenance and operation of facilities or systems created by the JICA's cooperation projects
- c - 3: The sustainability of effectiveness of JICA's cooperation projects
- c - 4: The sustainability in term of cross-cutting issues such as gender and environment

(2) Tools for analysis

In the CPE Study, an evaluation analysis matrix is used. This evaluation analysis matrix consists of a matrix for evaluating the relevance and efficiency at the national and the Program levels and that for evaluating the sustainability at the Program level. The cells of matrix are filled by information collected by the CPE Study team which exam the whole spectrum of JICA's cooperation in Tanzania (Table 4.3~4.5). This is the basis for deriving results of the CPE Study.

Table 4.3 Evaluation Analysis Matrix at the National Level (Relevance, Efficiency)

		Answers			
		Promotion of Agriculture	Education	Basic Care Servies	Building
Relevance					
A-1	a				
	b				
	c				
A-2	a				
	b				
	c				
A-3	a				
	b				
	c				
Efficiency					
B-1	a				
	b				
	c				
B-2	a				
	b				
	c				
B-3	a				
	b				
	c				
B-4	a				
	b				
	c				

Table 4.4 Evaluation Analysis Matrix at the Program Level (Relevance, Efficiency)

Name of the Sector		Name of the Program:					
		Answers					
		Sub-Program A			Sub-Program B		
		Project A	Project B	Project C	Project D	Project E	Project F
Relevancde							
a-1	a						
	b						
	c						
a-2	a						
	b						
	c						
a-3	a						
	b						
	c						
a-4	a						
	b						
	c						
a-5	a						
	b						
	c						
Efficiency							
b-1	a						
	b						
	c						
b-2	a						
	b						
	c						
b-3	a						
	b						
	c						
b-4	a						
	b						
	c						
b-5	a						
	b						
	c						
b-6	a						
	b						
	c						

Table 4.5 Evaluation Analysis Matrix at the Program Level (Sustainability)

Name of the Sector (e.g. Infrastructure Development)

Name of the Program (e.g. Transport Infrastructure Improvement Program)

		Answers					
		Sub-Program A			Sub-Program B		
		Project A	Project B	Project C	Project D	Project E	Project F
Relevance							
c-1	a						
	b						
	c						
c-2	a						
	b						
	c						
c-3	a						
	b						
	c						
c-4	a						
	b						
	c						

The numbers of A - 1 to c - 3 in the evaluation criteria column in the evaluation matrix correspond to “4. Evaluation Criteria” in this report. Based on items numbered A - 1 to c - 3, more concrete questions will be made. In the column of “Sub-programs”, names of the Sub-programs in the program tree of the JICA’s cooperation are written, and in the column of “Projects”, the names of projects consisting of the Program are written. After these preparatory works, information collection in terms of both quantity and quality for fulfilling the cells is conducted.

(3) Ways of Information Collection

In addition to the information collected through using the evaluation matrix, all information and analysis on the aid environment, trends of other donors’ cooperation, and the specific sectors collected by the Preliminary Study Mission of the CPE Study are thoroughly reviewed and reflected in the CPE Study. Results of these procedures are compiled in the final report (F/R) of the CPE Study.

4.2 Evaluation at the National Level

(1) Relevance and Efficiency

a. Relevance

Consistency between MOFA's Aid policy for Tanzania and JICA's Country Program for Tanzania

Since the aid policy was prepared by the Japanese government (MOFA) and the country program was prepared by its implementation agency (JICA), the plans have the same root and must be consistent with each other. JICA implements grant aid (JICA's role is limited to prior studies, promotion of implementation of the grant) and technical cooperation but does not manage the ODA Loans, which is another important mode of Japanese assistance. However, Japan has not provided ODA Loans to Tanzania since 1982, except rescheduling of debts, due to the deterioration of the Tanzanian economy. Therefore, the assistance provided through JICA has been practically the entire part of Japanese aid for Tanzania, and the Japanese aid policy and JICA's country program have been consistent with each other.

JICA's country program for Tanzania in Fiscal Year 2000 and the MOFA's aid policy for Tanzania were both prepared in June 2000. The priority areas of assistance in both documents are based on the agreement between Tanzanian government and a Japanese High-Level Mission for Economic and Technical Cooperation dispatched in February 1997. The Mission included two JICA officers as observers to the Mission, and therefore, MOFA and JICA had coordinated with each other since the start of the aid planning.

The difference between JICA's country program and the MOFA's aid policy was that the JICA country program included capacity building and other sectors (tourism development, fisheries, development of regional bases, and conservation of lake water environment) as priority sectors in addition to the five priority sectors of MOFA's policy that were promotion of agriculture and micro enterprises, basic education, basic health and medical care, improvement of the living environment through the development of basic infrastructure and forest conservation, which are listed in both JICA and MOFA documents.

Another minor difference is that the MOFA's aid policy proposes cooperation with NGOs, other donors and international agencies; strengthening of capacity for debt control; cooperation within the region; and promotion of the South-South cooperation as important issues for aid implementation. However, the JICA document does not refer to those issues but to the participation and the promotion of the sector approach, which reflects JICA's positive attitude to the donor coordination and the promotion of inter-modal aid coordination and that of program approach departing from the past project approach.

These differences complement rather than oppose each other, reflecting the difference of roles of MOFA, which is in charge of diplomatic policy, and JICA, which is an aid implementation institution.

MOFA's aid policies for Tanzania from the early 1990s was analyzed as follows. Japan and Tanzania had already agreed in the annual consultation meeting in the early 1990's that economic infrastructure, agriculture and basic human needs (basic health and medical care) were the priority sectors based on the Four Principles of Japan's economic cooperation. Basic education and forest conservation were added to the above priority sectors to create the current priority sectors. This is not a fundamental change of aid policies but just an addition of basic education, which is one of the BHN sectors, and that of environment as a global issue. Therefore, Japan's aid policy has had no fundamental change for the last decade.

Consistency of JICA's assistance with the development plan of Tanzania

Assistance in Early 1990s

The first Economic Plan of Tanzania in 1990 was the Economic Recovery Programme II 1989/90 to 1991/92 (ERP II), which succeeded ERP1986/87 to 1988/89. The plan's major objectives include: a) expanding production in food crops and export crops, b) using domestic resources and efficiently mobilizing human resources, c) developing infrastructure for strengthening domestic productivity, particularly promoting rehabilitation of transport and telecommunications, d) improving the balance of payment position through appropriate fiscal monetary and trade policies, e) restraining inflation, f) activating the industrial sector, and g) expanding social services.

ERP II was subtitled "Economic and Social Action Program" and emphasized expanding social services that had not been included in ERP. In the annual aid consultation meeting in the early 1990s, Japan and Tanzania agreed to put priority on economic infrastructure, agriculture and BHN (public health and medical care), which were consistent with the objectives of ERP II.

Japan's grant aid for 1990 to 95 includes: Malaria Control Program, Dar es Salaam Road Improvement and Maintenance Project, Development, Project for Supply of Equipment for Maintenance of Trunk Roads, Project for Telephone Network Rehabilitation in Dar es Salaam, and Project for Reinforcement of Power Distribution Network in Kilimanjaro, which were in Japan's priority sectors. Other grant aid includes non-project grant aid for structural adjustment support and grant aid for debt relief. In the agricultural sector, there was no project grant aid but aid through KRIL.

In the early 1990s, project-type technical cooperation was concentrated in the Kilimanjaro Agricultural Development Project (1986 to 1993), Kilimanjaro Industrial Development Center Project Phase II (1988 to 1993), and Kilimanjaro Rural Forestry Plan (1991 to 1993), and Kilimanjaro Rural Forestry Plan Phase II (1993-2000). The Kilimanjaro Agricultural Training Center Project (1994-2000) was also started in the Kilimanjaro Region. This concentration of projects in Kilimanjaro originated from the

Tanzanian government's allocation of regions to each donor in 1968. At that time, the Tanzanian government assigned the Kilimanjaro region to Japan. The regional allocation to each donor was terminated in the 1990s, but Japan continued providing aid to the Kilimanjaro Region due to the insufficient sustainability of aid projects in the Region.

In the 1990s, the World Bank implemented projects in multisector rehabilitation, industry and trade, agriculture and financial sectors. The first three sectors above have been rated successful, but the financial sector achieved little. In fact, the Tanzanian economy hindered structural reforms because of weakness in the civil service, reduced morale in civil servants, stagnated economic growth, high inflation and an expanding deficit of balance of payments. Japanese grant aid and technical cooperation to Tanzania from 1990 to 1995 tripled from 43.40 million USD to 125.87 million USD. The Japanese Mission for Economic and Technical Cooperation in FY 1991 stated, "Tanzania was one of the few countries in Africa that achieved political and economic stability, and therefore, the aid to Tanzania must be increased." The expansion of Japanese aid to Tanzania from 1990 to 1995 was the result of this understanding and these agreements.

The same Mission carefully evaluated the results of structural reform policies of the Tanzanian government in late 1980s. It noted that "the success of reforms made in the last five years resulted from the initial efforts and the reform would face real difficulties in coming years in line with the progress on core reform issues of public enterprises and the exchange system." Nevertheless, its overall assessment was that "remarkable improvement had been made in the general situation of the Tanzanian economy."³

The Mission visited the Tanzanian government and IBRD office in Dar es Salaam and exchanged optimistic opinions on the future prospects of the Tanzanian economy. However, the World Bank evaluation report stated that the Bank and the donors did not take into account the severe weakness in the civil service and the linkage between reforms in different sectors.⁴ In fact, the low project implementation capacity caused by the administrative and fiscal weakness of the Tanzanian government, low growth and unstable economy, which was continuing at that time, had hindered the results expected from implementing development projects. In this situation, it was not possible to expect good performance only in the Japanese aid program.

Table 3.1 indicates that aid volumes from donors in the mid 1990s decreased because of insufficiency in development and aid receiving systems of the Tanzanian government and due to the negative performance of public sector reform under the IMF-WB-led Structural Adjustment Program. In this situation, Japan could have made more detailed analysis of Tanzanian politics and economy and prudent decision before expanding the grant aid and technical cooperation; MOFA and JICA Tanzania Office should have had functions to make such analyses. Although the Japanese aid to Tanzania in the early 1990s was in line with the development policies and plans of the Tanzanian government, support of the poor who had been suffering from long-lasting low growth and economic

³ The Record on a "High-Level Mission for Economic and Technical Cooperation," op cit.

⁴ World Bank, Tanzania Country Assistance Evaluation, September 13, 2000.

instability and promotion of infrastructure, development in Tanzania was not realized due to inefficient structural reforms.

Assistance in the Mid 1990s

According to the World Bank evaluation report, the macroeconomic imbalance reemerged in the early 1990s, privatization of public entities did not made much progress even though the Parastatal Sector Reform Commission (PSRC) was established in 1993, and “ghost” workers remained on payrolls.⁵ Development of an efficient financial system was impeded by the slow process of reforms in state-owned financial institutions, most importantly, the National Bank of Commerce (NBC), and accumulated losses. Fifty-eight percent of the population was under the poverty line, which was the worst of African countries.

In 1995, President Mkapa replaced President Mwini, and the new President started to tackle accumulated problems. In 1996, the Warioba commission presented a comprehensive survey of corruption and proposed measures to tackle it. The donors organized a group of experts led by Professor Hereiner and analyzed the past performance in order to determine why the huge amount of assistance provided to Tanzania since its independence had not realized the expected results. The group prepared the Hereiner Report in June 1995. This report pointed out the importance of Tanzanian ownership and cooperation between the Tanzanian government and donors to review public expenditure and policy formulation in close coordination. The consultative group meeting held in December 1997 confirmed that the assistance to Tanzania would be made in line with the proposal in the report.

At that time, Japan sent a High Level Mission for Economic and Technical Cooperation (Mizoguchi Mission) in February to March 1997 and exchanged opinions with the Tanzanian government on future economic cooperation. Japan had considered Tanzania as a priority country for its cooperation, since it acknowledged that Tanzania had played an active part in leading east and south African countries, had steadily implemented policies of structural adjustments and market-oriented economy including financial sector and public enterprises reforms since 1986, had introduced a multiple party system and promoted democratic election systems for the president and parliament, and had kept good diplomatic relations with Japan. In the cumulative total Japanese aid to Africa up to 1995, Tanzania was the second next to Kenya. In particular, Tanzania was chosen as one of the six countries to implement the “New Development Strategy” adopted by DAC in May 1996. The Mission pointed out that Tanzania ownership based on the New Development Strategy and close coordination with donors in preparing development objectives must be pursued steadily. Furthermore, the Tanzanian government and the Mission both confirmed the importance of coordination among donors in order to implement effective assistance and strengthen partnerships of donors.

In the same consultation meeting, the following sectors were selected as priority areas of cooperation between Tanzania and Japan:

⁵ World Bank, *Tanzanian Country Assistance Evaluation*, op cit.

- 1) Promotion of agriculture and small-scale industries,
- 2) Basic education,
- 3) Population control, HIV/AIDS prevention, children's health, and improvement of basic health and medical care,
- 4) Improvement of the living environment in urban areas through the development of basic infrastructure,
- 5) Forest conservation.

These priority sectors were selected as a result of exchanging opinions with high-level policy makers of the Tanzanian government. Japan has continued to provide grant aid and technical cooperation in these sectors. Clearly, more appropriate selection procedures were implemented than before.

The Mizoguchi Mission highly evaluated the Tanzanian government for promoting structural adjustment and market-oriented economic policies since 1986, including financial sector reform and public enterprise reform. However, the evaluations of the World Bank and other donors were contrary to Japan's evaluation as these institutions more severely assessed the slow progress of reforms.

The Mizoguchi Mission also pointed out the importance of regular monitoring the results of development in order to realize the development goals. Furthermore, it proposed that the Tanzanian government support monitoring and coordination among other donors and international organizations. However, the CPE Study Mission believes that the Tanzanian government has not yet made satisfactory progress in this respect.

Assistance since 1999

JICA's cooperation in Tanzania has been extensively transformed since 1999. The most remarkable change in JICA's cooperation process has been the formulation and implementation of a Country Program for Tanzania, which began in 1999.

JICA prepared a cooperation program for each priority sectors in the plan. This process of preparing and implementing cooperation programs is a marked departure from the previous project-oriented cooperation procedure to a program-oriented one. In the new process, a program is formulated of several complementary projects arranged in order to achieve certain program purposes.

Complementary projects were implemented to raise the effectiveness of a particular project. However, the program-oriented cooperation that began in 1999 was planned to implement several projects of different schemes and timing to realize the greatest synergistic effects of multiple projects.

The recent aid environment in Tanzania was initiated by the Tanzanian government and donors following the presentation of the Hereiner Report and has been changing very rapidly. The Tanzanian government prepared its long-term development plan, called "Vision 2025," with poverty reduction as the first-priority objective. The Vision 2025 concepts materialized in the Tanzanian Assistance Strategy (TAS) and Poverty Reduction Strategy Paper (PRSP). TAS (still in preparation) prioritized poverty

reduction as the highest priority issue for assistance, and PRSP included mid-term action programs for implementation.

TAS is expected to promote local ownership and leadership; it also frames the activities of partners in Tanzanian development. Furthermore, TAS reviews the Tanzanian government's efforts for reforms and the cooperative efforts by donors and how they have been effected since the presentation of the Hereiner Report. It describes the general progress of the government's macro-economic management and donor coordination, and indicates the following problems. (1) The donors' multiple assistance procedures force heavy burdens on the government. (2) Assistance for independent projects, which are not consistent with the policy direction of the government, decreases the efficiency and effectiveness of plan implementation. (3) Off-budget assistance has reduced the transparency and accountability of aid. These suggestions partially describe Japan's approaches of project-oriented and off-budget assistance, based on the best-mix principle.

The direction of TAS is basically the same as that in the "New Development Strategy" agreed upon and adopted by DAC in May 1996 and TICAD II in 1998, both led by Japanese initiatives. However, Japan has not yet participated actively within the TAS framework due to Japanese law restrictions. The donors in Tanzania understood the existence of the Japanese law restrictions. However, they also wanted Japan's active participation in SWAPs within the current aid framework of donor coordination in Tanzania. Many Tanzanian government officials interviewed by the CPE Study Team stated they would like to have a TAS-based aid systems rather than the best-mix aid systems advocated by Japan, which only a few officials considered a better system.

Relevance of JICA Programs to Trends of International Assistance to Tanzania

Economists generally consider three short-term policy objectives, reduction of the deficit in the balance of payments, control of inflation and reduction of unemployment, and three medium- and long-term policy objectives -- efficiency of resource allocation, sustained growth, and improved income distribution.

The structural adjustment program in Tanzania, which started in 1986, can be divided into the IMF-led Economic Stabilization Program and the IBRD-led Structural Adjustment Program (in its narrow sense). The objectives of the Economic Stabilization Program were to reduce the deficit in the BOP and control inflation. To achieve these two policy objectives, a deflation policy that retains total demand must be introduced. It would therefore be difficult to achieve the other policy objective of unemployment reduction, at least in the short term.

The objective of the structural adjustment program in its narrow sense was efficient resource allocation. The policy objective after the structural adjustment program was sustained growth stimulated by investments, including foreign direct investments. Reduction of the deficit in the balance of payments would be considered both a medium- and long-term issue in Tanzania since its economic structure is weak. It would also be included as a part of efficient resource allocation.

The macro-economic indicators that correspond to short-term objectives include the ratio of the deficit in the balance of payment to the GDP, which was 16.6% for 1991 to 1995, and the average annual rate of inflation, which was 27.7%. The same indicators for 1996-1999 were 9.3% and 14.3%; the decreases in the rates of inflation in recent years were particularly remarkable, at 7.9% in 1999 and 5.5% in 2000.

These figures indicate that economic stabilization was the major issue in the early half of the 1990's, and that stabilization was achieved to a certain extent in the latter half of the 1990's. The major policy for economic stabilization by restraining government expenditure (net) was -1.6% for 1991 to 1995, and it was -13.1% for 1996 to 1999.

The policy of suppressing total demand negatively impacts the rate of economic growth, which is the substitute indicator of unemployment reduction. The GDP rate was average 1.8% per year for 1991 to 1995 and 2.0% for 1996 to 1999. These low GDP growth rates indicate that the increase in unemployment is a significant issue in low-income Tanzania. The unemployment relates to medium- and long-term income distribution, and reduction of unemployment is an important policy objective for poverty reduction. JICA's assistance program was mainly directed to the poor people who suffered from the negative effects of structural adjustment. From this standpoint, it was appropriate to mitigate those negative effects.

The critical level for a deficit in the balance of payments in developing economies is generally considered to be -8%; Tanzania has remained at this level for the past ten years. The current account deficit without grants was more negative (-14% for the year 97-98). In particular, the value of exports was half that of imports, which indicates that Tanzania's economy is very weak in international competitiveness.

The IMF and IBRD initiated a structural adjustment plan to reduce Tanzania's significant amount of foreign debt. The ratio of cumulative foreign debt to the GDP exceeded 1,000% in 1991, making Tanzania an outstandingly indebted country among politically stable countries. While the ratio decreased to less than 600% in 1999, the weak export competitiveness and lack of foreign exchange continued for the entire 1990's. It is therefore necessary to vitalize the productive sectors in order to repay foreign debts and to invite foreign direct investments as short- and medium-term policies. JICA's grant aid toward the development of the economic infrastructure was targeted to have this effect. However, the assistance for developing the economic infrastructure was not necessarily linked to short- and medium-term vitalization of the productive sectors and the attraction of foreign investments; rather, its primary objective was to support the economy to prevent it from deteriorating further.

JICA's assistance policy measures were consistent with the policy direction of the structural adjustment plan, since the structural adjustment plan was to promote the private sector's initiatives for productive sector development and the public sector's initiatives for social services.

Program assistance and the elimination of off-budget expenditures, which are consistent with the structural adjustment program, are beneficial for supporting financial reform in Tanzania and the self-reliance of the Tanzanian government. JICA's assistance, as

well as that from other donors, requires further refinement in this regard.

b. Efficiency

The Efficiency of JICA's Assistance in Terms of Social and Economic Changes in Tanzania

This section analyzes if JICA's assistance program is flexible to social and economic changes as preconditions for development in Tanzania in the 1990's and whether this flexibility is efficiently reflected in program structure changes.

Tanzania suffered from severe draughts in 1992, 1997, and 1998 that caused negative or low growth in the agriculture sector. Obtaining technologies to cope with irregular weather and unstable crops and securing stable agricultural production were important policy directions for Tanzanian agriculture. Assistance for developing irrigation was targeted in this area. JICA's grant aid includes the large-scale irrigated rice production undertaken in the Kilimanjaro area since the 1970's and participatory small-scale irrigation projects. The small-scale projects include the Extension Program of the Bagamoyo Irrigation Development Project and the Irrigation Project in Cetral Wami River Basin. These were targeted to handle irregular weather conditions and to improve aid efficiency over the long term.

Tanzania's major agricultural production areas are situated in the border areas, and they are not physically linked to the domestic markets. JICA's grant aid for roads and bridges was intended to assist in linking the agricultural production areas and domestic markets, to improve the efficiency of such markets.

There were no tribal problems under the existing social and political conditions in Tanzania, and the transfer to a democratic system proceeded peacefully. The political situation remained relatively stable until the Zanzibar issue became critical. The country was a stabilizing power in East Africa, in spite of continuous destabilizing situations in Uganda, Ruanda, Brundi, and the Congo (former Zaire). However, the social indicators have not been improving. For example, the ratio of the population with access to safe water has deteriorated from 52% for the term from 1982 to 1985 to 49% for 1990 to 1996.

The ongoing deterioration in the balance of payment deficit increased. The coverage of import by foreign currency reserves averaged 2.1 months for 1991 to 1995 and 5.0 months for 1996 to 1999. The early half of the 1990's was spent in a critical situation, and the latter half was further worsened by the substantial amount of deficit in the balance of payment. This made it difficult to implement projects based on imported materials. Some projects supported by Japan's grant aid faced increases in the financial expenses for regular maintenance. This was the case whether import dependence was considered or not when projects were formulated. The deficit in Tanzania continued for the entire observation period, and the percentage of Japanese grant was substantial in development expenditures. Although it was feasible to implement each project, it was necessary to consider the total amount of grant aid by

taking into account the government's fiscal capacity and the ability to finance the local project costs.

The basic policy of privatizing the government sector and public enterprises was prepared in 1992. However, JICA's grant aid to projects in the electricity and telecommunication sectors was implemented after 1992. It was also necessary to analyze the significance of those aid projects in terms of the efficiency of the relevant organizations.

IBRD and IMF halted their structural adjustment financing in 1995-96 because the Tanzanian government could not meet the fiscal policy conditions, but Japan did not decrease the total amount of its assistance, and its grant aid to Tanzania was implemented continually. The continuation of assistance by Japan under such circumstances could be assessed as questionable from the standpoints of financial consistency and better coordination with other donors, although the contents and effects of each project depend on its detailed assessment¹.

Efficiency in Donor Coordination

JICA considers donor coordination to be essential to planning, implementing, and evaluating cooperation in the priority sectors, according to JICA's "Report on Cooperation to Tanzania," March 1977. The report stresses the importance of strictly selecting aid projects through donor coordination, since the implementation of many aid projects at that time was hindered by the fiscal crisis of the Tanzanian government. This tacitly indicates that the donor coordination at that time was not particularly satisfactory.

When the High Level Mission visited Tanzania in March 1999, some donors commented regarding Japan's presence in Tanzania that the "Japanese voices were not loud enough. We expect more positive participation by Japan in the discussions." However, when the CPE Study Team visited donors, they generally commented that the Japanese mission in Tanzania had been recently speaking actively at various donor meetings held in Tanzania, and that Japan's position on various policy issues was understood by the Tanzania government and donors and was very clear. Some donors further commented that Japan could act in concert with other donors on such issues as basket funding.

Even though Japan's positions on various policy issues were understood by other donors, this does not mean that donor coordination was successfully implemented. There was a considerable gap between the following two stages in donor coordination:

- 1) Conveying information regarding the opinions of the country at the donor meetings and making them correctly understood by the other participants, and
- 2) Gaining the approval of the opinions from other donors to promote policies and strategies based on the opinions and to contribute to forming donors' mutually

¹ On this evaluation, Project Monitoring and Coordination Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

agreed-upon policies and decisions.

Japan's contribution to donor consultations is still in the first stage described above. It is necessary to contribute further to efficiently advancing donor coordination to the second stage in order to realize Japan's goals of cooperation.

The Public Expenditure Review (PER) prepared in 1999 by the government of Tanzania considers five priority sectors, education, health, water, transportation, and agriculture, and emphasizes integrating donor assistance gradually with the budget process. Toward this end, the government, with the participation of the donors, introduced sector programming in the health sector and is reforming the sector. The education sector is also in the process of reform, and donors, such as the European Union and the United Kingdom, have introduced sector programming in the process. However, it has not yet reached the level of the health sector.

In agriculture, the most important productive sector in Tanzanian economic development, the accumulation of information has generally been considered insufficient for preparing an agricultural development strategy. Therefore, Japan, as a core member, and other donors began preparing a sector development strategy.

The direction of donor assistance to Tanzania will proceed to budget support, which is envisaged by the donors as IBRD. Although some donors, including Japan, are currently not completely in favor of introducing budget support, further improvements of the transparency of government's financial management practices may increase the number of donors that will adopt budget support. In this regard, Japan should start studying the possibility of introducing such aid.

(2) Notes on the assistance to Tanzania

Issues in current JICA programs

Currently, in Tanzania and African countries in general, the term "program approach" is often used among donors and by the recipient country. In this case, the question is what program (including the whole process ranging from preparation of the sector plan, selection of projects to compose the program, timing of implementation, budgeting, implementation of projects, procurement, monitoring, and evaluation) should promote the development of the whole sector. The program in this case means the sector-wide program. Although this term is used in the health sector in Tanzania and another term is used in the education sector and reform of local administrations, sector-wide means are pursued in both cases.

In contrast, the term "program" used in the JICA country program means an issue of development extracted for each sector based on an analysis of the issues in the sector. The current programs are organized by allocating existing assistance (classified by project) and planned assistance to them. Therefore, these programs are not prepared in the initial stage to achieve sector-wide coverage and should rather be called issue-oriented programs. Development in Tanzania (or developing countries in general) involves many complexly interacting factors. There are thus few problems that can be

solved by implementing a single project. Instead, problems should be solved by means of mutually complementing projects. Therefore, from the viewpoints of effectiveness, efficiency, and sustainability of individual projects, the transition from assistance with individual projects to assistance with issue-oriented programs represents a major transformation, from which improved future results can be expected.

The current JICA program seeks to resolve and improve the main components of those sector-wide goals that cannot be achieved with individual projects with issue-oriented programs consisting of multiple and mutually complementing projects. Such projects will be very effective if the program objectives to be achieved are clearly specified and appropriate timing and form of program implementation are selected for each project so that mutual complementarity is fully assured.

However, as are indicated in changes between the programs and projects composing each program in the JICA Country Program as of fiscal 1999 and those in the JICA Country Program as of fiscal 2000. Current programs are not being prepared according to the following procedures:

Sector analysis ⇒ Extraction of development issues in the sector ⇒ Setting objectives of the program sector ⇒ Selection of a group of projects.

These programs are not equal in the degree of completeness as a program. They may also contain projects whose inclusion in the same program is questionable from the viewpoint of relationships and complementarity with other projects.

Indeed, these matters often occur when a new system is introduced and, when viewed comprehensively, JICA's new approach to issue-oriented programs clearly enables resolving and improving issues in each sector more systematically than conventional approaches seeking to gather related individual projects.

For Japan to anchor this issue-oriented program as a more effective method in the future and somewhat independent from sector-wide programs promoted by the Tanzanian government or other donors, it is necessary to prepare programs through the following procedures:

- 1) Sector analysis: Review the sector development process, investigate and analyze the present status and issues of the sector, and assign priorities to the issues in the sector.
- 2) Analyze activities of other donors: Examine the consistency with assistance policy, sector assisting plans, project assisting plans, etc. of other donors (or donor groups) to give assistance to the pertinent sector.
- 3) Organize the program: Organize an issue-oriented program (including setting the program objectives, selecting projects to compose the program, and preparing the program PDM) considering the above information.
- 4) Coordination within the sector: Explain the JICA assistance program to the Tanzanian government as the owners and to other donors, and coordinate with the sector plan (to be prepared by the Tanzanian government and other donors prior to implementing the sector-wide program).
- 5) Monitoring: Conduct a sector review (including the progress of programs of the

government and other donors), review the implementation of the program, confirm the consistency between both programs, and modify the JICA program and/or introduce new cases as required.

- 6) Evaluation: Evaluate the program upon completion and conduct a post-evaluation at an appropriate timing according to the implementation period of the program.

Among these procedures, “1) Sector analysis” is always performed by the Tanzanian government and those other donors who participate in the basket program when preparing the sector-wide program. When JICA is to implement an issue-oriented program, JICA should perform its own sector analysis based on Japanese technology while fully referring to the sector analysis implemented by the Tanzanian government and other donors. Based on its analysis, JICA should then organize an issue-oriented program by using Japanese technology as the base. Such sector analysis will be implemented as a development study to cover the pertinent sector in Tanzania. The analysis is intended to serve not only as the base for organizing the issue-oriented program but also as input to help the Tanzanian government understand that sector.

A particularly important key in this stage is “5) Monitoring.” The progress and problems of the projects composing the program must be understood at all times, the progress of assistance from other donors must be monitored, necessary measures should be taken by judging the necessity of additional input, and scheduling for the whole program must be coordinated efficiently. Imposing such tasks on the current small number of office personnel will create an excessive workload. It is thus necessary to assign additional personnel or long-term experts to the local JICA office in order to execute monitoring effectively and sufficiently.

In addition to daily monitoring, programs prepared and implemented will be reviewed for possible modification by experts in the pertinent sector at intervals of about five years (or according to the breaks of projects contained in the program).

A point to be noted in this case is restrictions in the current system that prevent multiyear commitments. Therefore, even though JICA actually have a multiyear program, JICA cannot present it to the Tanzanian government or other donors. Currently, the approach with issued-oriented programs, which are prepared as internal documents for Japanese use, has obviously advanced further than conventional assistance through individual projects. Since JICA has not presented issue-oriented programs to the Government of Tanzania and other donors, they may consider that Japan is complying with the assistance system using conventional individual projects. There is some doubt whether coordination between sectors and between donors are truly possible under those restrictions. It would be appropriate to remove such restrictions in the system so that JICA’s issue-oriented programs are recognized by the Tanzanian government and other donors.

If it becomes possible to publish such issue-oriented programs, it is necessary to consider whether Japan alone can provide assistance by selecting its own high-priority projects for the sector, while many other donors are working collectively in sector-wide programs. It is also necessary to consider whether it is time-efficient to obtain the approval of the Tanzanian Government and other donors for Japan’s assistance in those

fields. If Japan participates in basket funding and sector-wide programs and develops its activities, the CPE Study Team considers that greater “visibility” of Japanese assistance should be realized (assuming that the above-mentioned restrictions in the system have been removed).

Involvement in the basket funding and/or sector-wide programs

With regard to involvement in basket funding and/or sector-wide programs, the attitude of GTZ of Germany, which is in a position similar to that of Japan, will provide us a good guide.

There were numerous domestic arguments in Germany because basket funding was a new action for Germany, and there was a question as to whether such funding could even be implemented legally. However, Germany finally made a high-level decision to participate in basket funding by handling it as an exception to the current system. It should be noted, though, that the annual amount of assistance to the health sector is 6 to 7 million DM, and that the amount provided to the basket funding is 1.5 million DM/2 years, accounting for 10 to 12% of assistance to the Tanzanian health sector. Furthermore, Germany decided to participate in basket funding on a trial basis for a limited period of three years. In addition to GTZ’s 25 million DM annual assistance to Tanzania, kfw also provides assistance of 25 to 30 million DM annually, so this amount is quite small compared with the total amount of assistance provided by Germany. Thus, several donors intend to participate in the basket and conventional project assistance in parallel, including EU and CIDA. In contrast, some donors intend to focus on project assistance for the present, including France.

Germany cited the following reasons for their decision to participate in the basket funding: (1) the sector-wide approach itself is considered suitable for Tanzania, (2) the risk of participation is small, (3) participation enables Germany to attend the basket funding operation committee meetings, express their opinions and ensure they are reflected in decisions, (4) participation in the funding will give them a chance to accumulate experience (they say that they will increase the amount of their provision to the funding if monitoring demonstrates good results), and (5) Germany was able to attach conditions such that Germany will provide in a limited field of reproductive health alone and the amount provided shall not be allocated to current expenses in order to avoid the infringement of German laws (though it has no substantial meaning because of fundability).

In connection with the issues of transparency of assistance funds and accountability, other donors we visited, such as Norway and Sweden, said that a particular donor may demand a report from the Tanzanian government in a special format required by the system of the donor’s own country. This special format was separate one from the report on expenses that had a uniform format for the fund. However, they said that about 90% of the contents of the report are covered by the uniform format.

They also questioned whether sufficient quality staff can be secured to operate the fund and whether precise accounting can be accomplished. In addition to the problems noted by GTZ, it is commonly pointed out that it is necessary to enhance the

cooperation among the parties interested in the pertinent sector and pursue a good organizational form for the sector coordination to achieve desired results. However, if too strict an organizational form is required, some donors may drop out of the sector coordination group, making the originally intended sector coordination impossible.

Thus, the assistance scheme for the sector-wide approach, which Germany decided to adopt after various considerations, also imposes many difficult problems on assistance from Japan. Japan's major target for assistance has traditionally been East Asia. In this area, Japan was able to assume that the recipient country had a certain assistance-absorbing ability, including the ability to formulate projects and develop plans (though the ability differed from one country to another). The basic requisites for assistance from Japan, such as the principle of response to requests and support to self-help efforts, were viable only based on such a proposition.

In Africa, however, it is difficult to assume that the recipient country shares such assistance-absorbing ability (including formulating projects and developing plans). In many African countries, including Tanzania, there has been a transition of focus of donors' assistance from the macro economy level to the sector level. In those countries with successful structural adjustment, macro adjustment advanced to some extent. Likewise, macro support is also transiting from support of the international balance of payment to the budget support. However, weakness in the government's tax collecting ability has not yet been overcome even in such countries. Stricter management of annual expenses within the government's ability is thus being emphasized.

Tanzania's improved performance in the macro economy is highly evaluated by donors. However, Tanzania has not yet been free from needs for support to deficit in its balance of payment (comment from the President, Tanzanian Central Bank). Furthermore, it is understandable that, since the sector development plan was actually consisted of various assistance projects implemented independently by various donors, it would have been difficult for Tanzania to effectively control the development expenses and interlocked current expenses. Some donors who have decided to participate in the basket funding are actually questioning whether they can manage annual expenses properly on the sector level.

Nevertheless, Tanzania intends to shift the focus to program assistance based on the concept that individual projects should not be implemented independently but should be organically related to each other. If so, this is the same as JICA's concept of an issue-oriented program. Therefore, the issue-oriented programs must not only be used for mutual relations between the projects supported by Japan but must also be presented positively to the Tanzanian government and other donors so that they can acquire a due position in the sector plan prepared by the government and those donors participating in the basket fund (with involvement of Japan in preparation if possible).

Therefore, assuming that Japan will be partially involved in the basket funding and sector-wide program, the following orientations can be considered as future policies.

- 1) Participating in the basket fund (for part of assistance to the pertinent sector) on a

trial base after setting conditions to enable Japan to participate as GTX did. In this way, Japan would secure a voice in the basket funding and endeavor to take the initiative in preparing the sector plan.

- 2) The sector-wide program cannot be considered a temporary assistance system because it is based on the reflection on structure adjustment. Japan will thus develop systems to provide for the case where full-scale participation becomes necessary while monitoring the state of trial participation.

4.3. Evaluation at the Program Level

4.3.1 Rural Development/Agriculture

(1) Relevance and Efficiency

a. Relevance

JICA's cooperation in rural development over the past ten years (under Agricultural Technology Improvement Program, Irrigated Agriculture Improvement Program, and Micro/Small Enterprise Promotion Program) can generally be considered adequate in terms of the relevancy, with some exceptions for the reasons explained below.

- There was consistency between the development issues in agricultural sector emphasized in Aid Policy for Tanzania of the Ministry of Foreign Affairs and Country Program of JICA in general. Also, JICA's activities have been in line with these programs.
- New projects have been formulated so as to maintain consistency with main Tanzanian Policies, with recognition of the lessons learned through cooperation in Lower Moshi.
- The project structure of JICA's Programs was relevant in terms of timing and content, with some exceptions.
- Efforts have been made to develop projects that meet the needs of beneficiaries.

With respect to KRII¹, it is necessary to continue a comprehensive study on its role in the Irrigated Agriculture Improvement Program, on understanding the need for fertilizers, agricultural chemicals, and machinery; and on its positive implications for the final beneficiaries².

¹ KRII is a scheme of Ministry of Foreign Affairs (MoFA) of GOJ. Under the supervision of MoFA, JICA plays a role to facilitate its implementation. In this evaluation study, KRII is primarily included by JICA as a component of its cooperation in "*Irrigated Agriculture Improvement Program*", and thus KRII is covered in this study. In concrete terms, responsibilities of JICA are mainly: 1) preparation of procurement, 2) monitoring of implementation, and 3) appraisal of the request for KRII inputs from recipient governments. In respect of 1), Japan International Cooperation System (JICS), since 1996, has been undertaking "preparation of procurement" commissioned by recipient governments, and of 3), JICS, since 1989, has had contracts with JICA for "appraisal of the request for KRII" as research activity (based on information of Grant Aid Management Dept., JICA) On this footnote, Fourth Project Management Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

² On this evaluation, Fourth Project Management Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

Consistency with the Aid Plan of Japan

In order to assess consistency between the Aid Policy for Tanzania of the Ministry of Foreign Affairs and Country Program of JICA, this study made comparison between the former and the latter. Extracts of the two are shown below.

The Ministry of Foreign Affairs of Japan describes the aid plan as follows: (June 2000)

(4) Priority Areas and Direction of Assistance by Issues

a) Promotion of agriculture and small-scale enterprises

.... From the perspective of agriculture and rural development, it is important to establish an agricultural infrastructure such as small-scale irrigation facilities on which operation and maintenance can be carried out by beneficiaries and roads for the transport of agricultural products; and also to transfer agricultural technologies. The government of Japan have made a contribution to agricultural development in the Kilimanjaro Region with an organic combination of grant aid, loan aid, and technical assistance. It is difficult to provide new yen loan aid, as Tanzania is entitled to debt reduction, but effective assistance should be provided through grant aid and technical cooperation based on the past experiences. On the other hand, from the viewpoint of giving relief to poor farmers, it is effective to provide support that is directly beneficial to such farmers, such as through promotion of the establishment and development of cooperative associations and the promotion of micro credit.

In addition, the government of Japan will consider assistance for the promotion of processing techniques to increase the added value of agricultural and forestry products; for technical development and training in fields in which skills are relatively easy to learn, such as sewing, milling, leather work, metallic processing, and ceramics; and for micro credit to support entrepreneurs, which is believed to effectively reduce poverty through the promotion of small businesses.

Note: Above is a translation by the CPE Study Team from an original MOFA paper written in Japanese.

JICA describes the Country Program for Tanzania as follows: describes the aid plan as follows: (June 2000)

(2-1 JICA's Cooperation project implementation

(1) Support for promotion of agriculture and micro enterprises

..... In concrete terms, there is a need to offer farmers an incentive to produce marketable crops by strengthening rural infrastructure and improving social services. And while introducing technology for effective use of rainwater, it is also important to select irrigated regions and regions with potential for irrigated agriculture and transfer technology necessary for higher productivity since more stable output can be expected from these regions. At the same time, it is necessary to pay due attention to the effectiveness of traditional agricultural technology in Tanzania and to provide support with a view to sustainable operation.

The economic growth path pursued by the government demands growth not only in agriculture but also in manufacturing. The informal sector provides 21% of the employment for the working population in mainland Tanzania and accounts for 31.6% of the total added value in the Tanzanian economy. In manufacturing, commerce and service industries, the informal sector creates more added value than the formal sector while creating jobs and producing income. Micro enterprises including this informal sector add cash income to households dependent on agriculture and wage labor and thereby plays an important role in alleviating absolute poverty. It is therefore necessary to promote aid that helps realize the aims of policies promoting such micro enterprises.

The comparison between plan of the Ministry of Foreign Affairs and that of JICA reveals that contents almost identical, notwithstanding some differences in expressions used. JICA's descriptions are less specific than those of the Ministry, and the priority is not clear in the extract shown above. Nonetheless, its compliance can be confirmed with the development problem matrix and a rolling plan attached to the plan that refer to nearly all of the details of the Ministry's issues (shown above the JICA plan). However, the JICA plan makes no reference to micro financing and does not mention any specific past or future projects.

Table 4.6 shows whether each of the development issues mentioned in the programs has actually been implemented. It indicates that all factors except for micro-credit were or are in operation.

Table 4.6
Main Points of the Ministry of Foreign Affairs and JICA Plans
and Past Implementation

Development factors	MOFA	JICA	Past Cooperation (91-00)	Ongoing Cooperation (00-)
Construction of small-scale Irrigation	○	○	Exist	Ongoing
Construction of infrastructure in rural area	○	○	Exist	Ongoing
Transfer of agricultural technology	○	○	Exist	Ongoing
Strengthening of farmer's association	○	○	Exist	Ongoing
Promotion of micro-credit	○			
Technical training for small industry	○	○	Exist	Ongoing
Promotion of entrepreneurship by micro-credit	○	○		Ongoing

Consistency with Tanzanian Macro Plans

In the effort to maintain compliance with the policies, particularly those regarding agricultural and rural development, of the Tanzanian government, the JICA's programs conducted from 1991 to 2000, specifically the Agricultural Technology Improvement Program, Irrigated Agriculture Improvement Program, and Micro/Small Enterprise Promotion Program, were of great significance³. However, individual projects that constitute the programs are and were flexibly formulated within a frame of policy or strategy, rather than being formulated strictly following the main programs or specific strategies of GOT and GOJ. This partly reflects the fact that neither of the governments had specific or well-defined strategies in agricultural sector⁴.

Tanzania with limited capital resources has made efforts to guarantee a supply of food for its population by improving agricultural productivity, and to achieve better living standards by increasing income. The government has also worked to empower rural community associations in order to allow the resources in rural areas to be freely used for the betterment of society and for economic development, in a situation in which a majority of the population lives in rural areas. Reflecting these principles, Japan's cooperative activities have been conducted for the past ten years

³ With respect to the promotion of small industries, compliance with upper plans or programs cannot be evaluated here due to the lack of specific policies of the Tanzanian government at the time of the project's implementation. SIDP, 1996-2020 may fall into a kind of policy, but its description concerning the promotion of micro/small enterprise constitutes a limited part of the policy paper.

⁴ Specific rolling plans and strategies have been newly included in JICA's Country Program for FY2000.

without conflict with the Tanzanian government's policies⁵ on rural and agricultural development.

Constitution of Projects in Rural Development/Agriculture

Below is a review of major agricultural projects supported by JICA from the late 70's with the initiation of a project in Lower Moshi.

Japan has aimed at improving the quality of the lives of its farmers through a huge investment in the Lower Moshi district since the Kilimanjaro Region was positioned as cooperation target in the Nyerere Administration, although such geographical role divisions no longer exists in the 1990s. A series of projects, starting with the Kilimanjaro Agricultural Development Center (KADC) project (Project-type Technical Cooperation) at the end of the 1970s, have consequently improved the quality of life of farmers, as can be seen from the past evaluations⁶.

The KADC project, the first project for the Lower Moshi, ran for seven-and-a-half years, but required the establishment and extension of cultivation and water-management techniques to sustain its benefits. As 1,100 hectares of irrigation facilities constructed with yen loans were nearing completion, the KADC project was handed over to the Kilimanjaro Agricultural Development Project (KADP) (Project-type Technical Cooperation).

KADP, which eventually lasted seven years including an extension period, made a substantial improvement in agricultural productivity and income, and therefore in the living standards of farmers⁷. However, CHAWAMPU, the farmer's organization to which the project was handed over, did not have the capabilities necessary to manage

⁵ Major policies include Agricultural Policies (1983), Agricultural and Livestock Policies (1997), and Cooperative Society Policies (1997), while strategies and plans include the National Food Strategy (1984) and the National Irrigation Plan (1994).

⁶ JICA, Kilimanjaro Agricultural Development Project: JICA-CIDA Joint Evaluation Report, March 1998/JICA, IFIC, Kilimanjaro Agricultural Development Center Project/Kilimanjaro Agricultural Development Project: Project-Type Technical Cooperative Activity Case Series, March 1994/JICA, Kilimanjaro Agricultural Development Project Evaluation Report, March 1991

⁷ "Substantial improvement in agricultural productivity and income" is verified by past evaluation reports. For example, income of farmers are 6.3 times on the before and after basis of the projects, productivity improved from 1.5t/ha to 6.5t/ha according to "Lower Moshi Agricultural Development Project - Project Evaluation Report by JBIC. Other sources which verified improved productivity and income in Lower Moshi are:

- JICA, JICA-CIDA Evaluation Study on The Kilimanjaro Agricultural Development Project, 1998.
- JICA, The Kilimanjaro Agricultural Development Project - Post Evaluation Report(in Japanese), 1991.

the project. In addition, there was a conflict over water rights between the project area, which faced a water shortage, and another area not covered by the project that obtained its water from the upstream of the same water source. CHAWAMPU plays a certain short-term role, including mediation in this type of conflict, but it does not have adequate functions for long-term such as operation and maintenance of the irrigation, micro-credit for agricultural inputs, marketing and other necessary functions. An expert in management of cooperatives from JICA, presently, is at the site in order to support capacity building of CHAWAMPU.

To resolve problems such as these, The Study on Lower Moshi Integrated Agriculture and Rural Development Project (Development Study) was carried out. The study also covered agricultural support services and the reinforcement of farmers' associations to respond to actual problems. The results of the Development Study have yet to be utilized.

A series of projects in Lower Moshi that were launched at the end of the 1970s involved the problem from the planning phase that their implementation was not driven by the farmers themselves, and was not sufficiently made with the involvement of the Tanzanian side.

The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) (Team Project) involved farmers' organizations from the initial stage to good effect. With The Project for Mwega Smallholder Irrigation in Morogoro (Grant), Japan is to be involved only in the primary canal; the secondary canals and laterals are to be built by farmers, with the maximum introduction of the farmer-driven approach.

It is recommended that the lessons learned should be not only utilized as reference but also sometimes directly reflected in formulation of a new project after doing deep analyses to establish a method for rural and agricultural projects. The same recommendation is applicable for lessons learned or to be learned from The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) (Team Project) and The Project for Mwega Smallholder Irrigation in Morogoro (Grant).

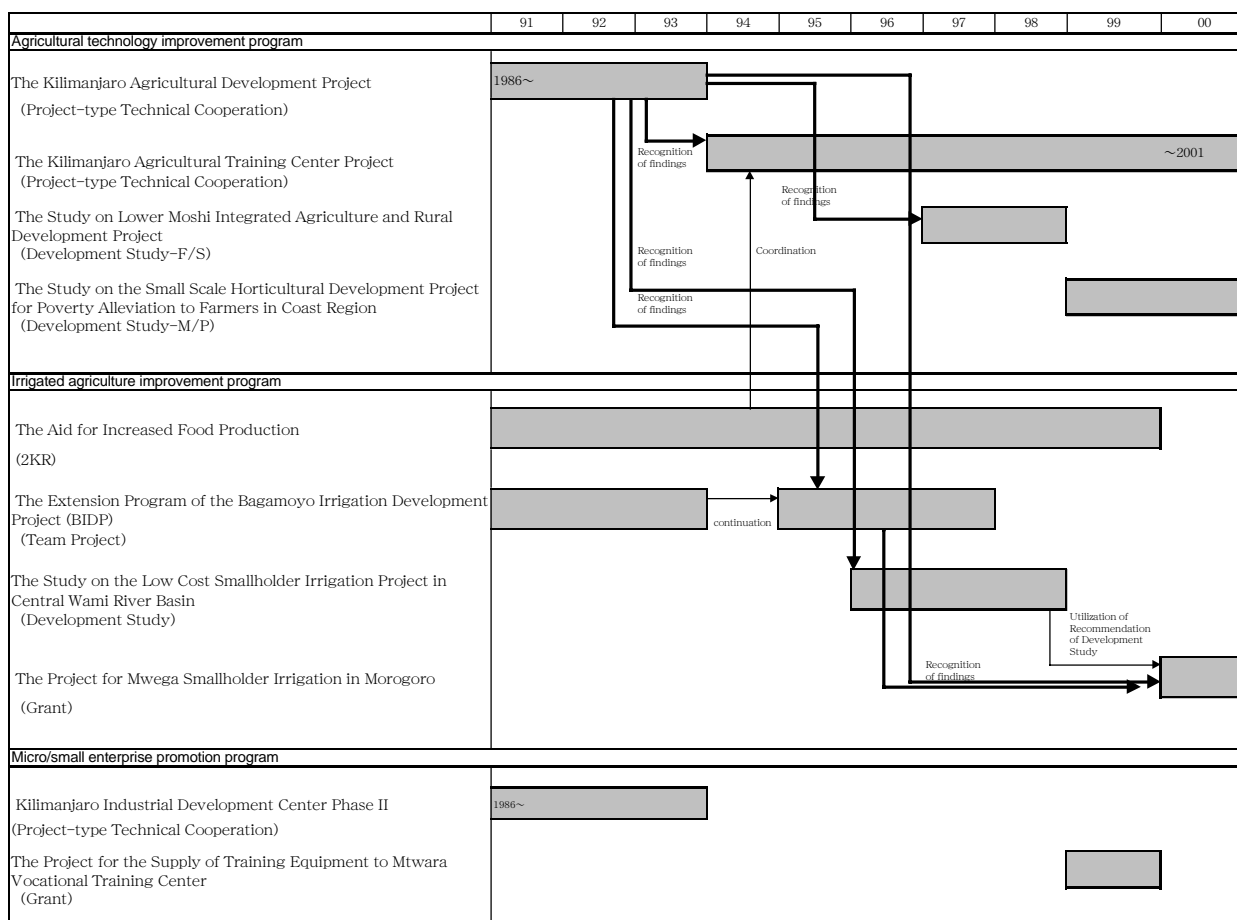


Figure 4.1 Incorporation of Past Lessons Referred into Other Projects

Note: The figure is only for projects with an aid amount of at least 200 million yen.

As mentioned, strategies or programs of the GOT and GOJ for agricultural development have been an all-inclusive type and have not been concrete enough, therefore any projects could be in line with the strategies or programs. Therefore, verifying consistency between the strategies or programs of the GOT and GOJ and past projects as a part of evaluation is somehow meaningless. However, in Tanzania, Agricultural Sector Development Strategy (ASDS) is at present on the process of its establishment, thus verification of the consistency will make sense in the near future. After establishment of ASDS based on which JICA's program can be formulated, it will be possible to verify consistency between ASDS and JICA's program and so as JICA's program and projects supported by JICA, taking into account activities by other donors as well.

Components of each program

The composition of projects in JICA Programs can generally be considered appropriate, except for the lineup of projects in the Irrigated Agriculture Improvement Program, which involved some bias.

Agricultural Technology Improvement Program

The composition of projects in the Agricultural Technology Improvement Program is considered appropriate. This program included a series of projects for Lower Moshi and rural development type Development Studies.

A series of projects supported by JICA in Lower Moshi have continued since the late 70's up to present. In the 1990's was a stage to disseminate the achievement of this series of agricultural development to the entire country, with the Kilimanjaro Agricultural Training Center (KATC) project (Project-type Technical Cooperation). Both the Japanese and Tanzanian sides learned many lessons and accumulated experiences from KADC and KADP in Lower Moshi. KATC disseminates the agricultural technology throughout country by means of training based on the experiences accumulated. In the other words, KATC distributes development benefits obtained through a series of projects and concentrated in the Lower Moshi district, to other regions.

It was also in the 1990s that the projects for agricultural development began to take not only on agricultural aspects but also on rural development aspects in more holistic manner. The Study on Lower Moshi Integrated Agriculture and Rural Development Project (Development Study) and The Study on the Small Scale Horticultural Development Project for Poverty Alleviation to Farmers in Coast Region (Development Study), both of which were included in the program, take the approach of strengthening farmers' organizations and community-based participation.

In addition, more than twenty experts were dispatched to Sokoine University of Agriculture between 1991 and 2000 to develop participatory rural-development methods (SUA methods), with consideration given to existing technologies suitable for the natural and traditional environment of Tanzania. This kind of study to establish a methodology is vital in the agricultural sector, although it remains to be determined how the study could be used to reduce poverty.

Irrigated Agriculture Improvement Program

The composition of the projects included in the Irrigated Agriculture Improvement Program was unbalanced. This program involves projects to establish small and medium-scale irrigation systems and KRII.

Regarding the establishment of small-scale irrigation systems, it can be evaluated that the projects were appropriate, in the sense that the projects involve farmers' associations in its initial stages, they were in accordance with the policies of the Tanzanian government, and they produced or are expected to produce a certain level of effect.

On the other hand, no less than 7.15 billion yen was poured into KRII during the period from 1991 to 2000. Above all, KRII accounts for a very significant proportion of the total input: 88% of the resources injected into projects that fall under the Irrigated Agriculture Improvement Program (excluding the dispatch of experts or JOCV), or 66% of the total investment in the agricultural sector (excluding the dispatch of experts or JOCV), both in the period between 1991 and 2000⁸.

It is difficult to conclude that the injection into KRII was appropriate either as part of the Irrigated Agriculture Improvement Program or as part of the Japanese intervention into agricultural sector. Because i) its effectiveness is questionable, as sufficient counterpart funds were not accumulated⁹. Also, ii) its impact on the increase in food production is unclear. In addition, iii) with the cost of fertilizers too high for the average farmer following the 1993 reduction in fertilizer subsidies, it is unlikely to support the poor to be economically independent and reduce poverty.¹⁰

Firstly, following data which cover 1990-1998 accumulation of counterpart funds evidence the fact that sufficient counterpart funds¹¹ were not accumulated.

⁸ On this evaluation, Fourth Project Management Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

⁹ Based on documents received in an interview with the JICA Grant Aid Management Department held on February

¹⁰ On this evaluation, Fourth Project Management Division and Project Monitoring and Coordination Division, Grant Aid Management Department of JICA made comments. Please refer to 4.4 of this chapter.

¹¹ Amount of "sufficient counter fund" is based on information appeared in a document of Grant Aid Management Department of JICA.

Table 4.7 Accumulation of counterpart fund (C/F) and its utilization (1990-1998)

	(Million Yen)
Expected Accumulation of C/F	2,002
Actual Accumulation of C/F	764
Recovery Rate	38.2%
Utilized out of Actual Accumulation	530
C/F to be Utilized	235
C/F (utilization is decided)	225
C/F (utilization is undecided)	9

* Data are based on 115Yen/US\$, 800Tshs/US\$

**"Expected Accumulation of C/F" is figures of the Embassy of Japan in Tanzania

Source: Grant Aid Dept, JICA, December 7, 2000

The main reasons¹² of low recovery in C/F are:

- 1) In order to diminish damages of crops by Quelea-quelea (a small bird), agricultural chemical (Fenthion) by KRII has been splayed on grant basis, rather than selling out, to the deprived areas in which damages of crops seriously affect livelihood of farmers.
- 2) The price of agricultural inputs were adjusted to the market price since market distortion occurs if inputs are sold at the price set by the rule of KRII (2/3 of FOB price) between Japan and Tanzania. Thus, actual amount of C/F recovered is lower than planned.
- 3) There is a time lag between the timing that inputs are sold and that C/F is accumulated. Therefore, recovery rate sometimes does not reflect returns out of actual amount sold.

Due to the situation that there is a gap between the rule of KRII for C/F and actual situation, GOJ has already started reviewing the rule¹³.

Secondly, reasons that impact on the increase in food production through KRII is unclear are: i) agricultural inputs are distributed through market mechanism, ii) inputs (fertilizer, chemicals, and machinery) through KRII do not account for significant proportion of total availability of the inputs in Tanzania, thus it is difficult to see impacts of KRII at national level (e.g. fertilizer in market through KRII/ availability of fertilizer in Tanzania in 96/97-98/99 was 10-20%), iii) agricultural inputs are only one of the factors to improve agricultural productivity since there are other factors

¹² Based on information of Grant Aid Dept. of JICA

¹³ Based on information of Grant Aid Dept. of JICA

that give significant influence on agricultural productivity such as labor productivity, and climates and others.

Table 4.8
Fertilizer provided through KRII and Availability of Fertilizer in Tanzania;
Stock of Fertilizer

	96/97				97/98				98/99			
	2KR(a)		Stock (95/96)	Availability in TZ(b)	2KR		Stock (96/97)	Availability in TZ	2KR		Stock (97/98)	Availability in TZ
	a/b(%)				a/b(%)				a/b(%)			
UREA	10,000	29%	3,495	35,015	7,116	14%	13,305	50,405	6,315	14%	14,960	43,574
SA	4,788	12%	25,904	39,555	1,277	4%	18,400	29,830	1,804	8%	6,005	22,209
CAN	0	0%	9,496	38,300	4,561	23%	9,600	20,200	7,217	28%	7,802	25,662
DAP	5,000	47%	5,596	10,696	4,561	59%	3,022	7,783	4,511	57%	4,036	7,849
Others	0	0%	51,563	29,972	0	0%	63,500	49,473	0	0%	34,851	26,763
合計	19,788	13%	96,054	153,538	17,515	11%	107,827	157,691	19,847	16%	67,654	126,057

Source: MAC, Basic Data: Agriculture and Livestock Sector, 2000 and JICA's documents

Old fertilizer is still in stock when new fertilizer is provided through KRII and productivity of paddy and maize in 93/94-98/99 is not improving (Figure 4.2, 4.3 below). In such situation, it is not clear how much KRII has contributed to increase in productivity and thus stabilize food security.

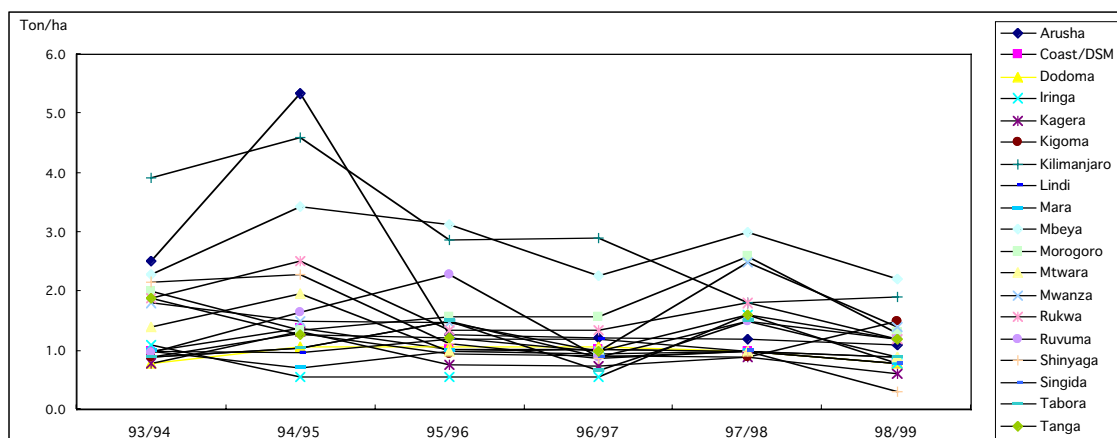


Figure 4. 2 Production of Paddy (t/ha, 93/94-98/99)

Source: MAFS, Basic Data: Agriculture and Livestock

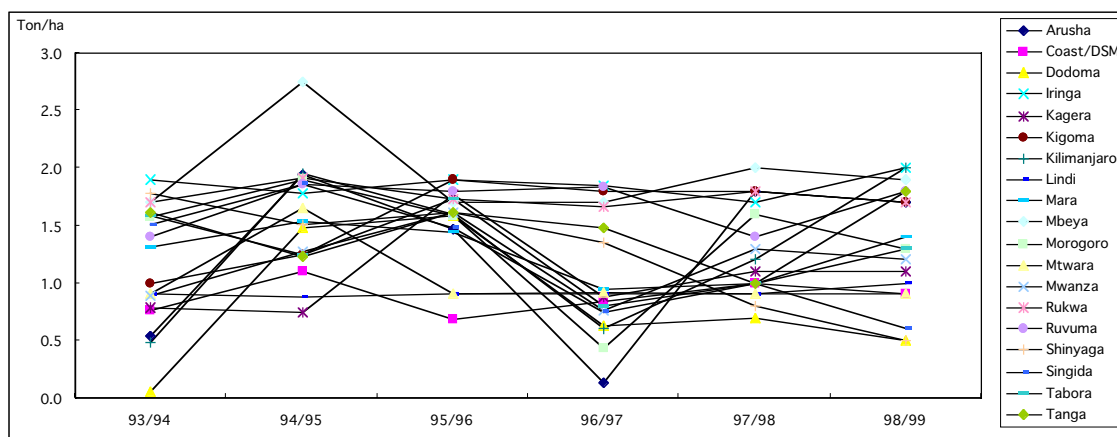


Figure 4.3 Production of Maize (t/ha, 93/94-98/99)

Source: MAFS, Basic Data: Agriculture and Livestock

Moreover, what KRII is not supporting the poor to be economically independent is related to high price of agricultural inputs and low incentive for farmers to purchase them.

Liberalization of marketing and price of agricultural inputs is being promoted, to be more concrete, participation of the private sector in agricultural input market is legally liberalized, import of the inputs is also being liberalized, and subsidies and control of price on the inputs is abolished. In the mechanism of such free market economy, it is inevitable that the poor with less capital and low access to market cannot have an incentive to purchase such expensive agricultural inputs. Hence, the role of the government, in this case the role of KRII should be deliberated¹⁴.

According to *Report of A Study on KRII in 1997(JICA)*, there is an expectation of GOT, in a document of request on KRII by GOT, to increase productivity of agricultural crops twice as much as that in 1997 in the near future¹⁵. The stance taken by the report is “it is judged that KRII will largely contribute to agriculture in Tanzania although it is not likely to achieve the improvement of productivity in such a short term period. However, it is possible to gradually increase productivity by continuously providing agricultural inputs, eliminating of vermin on crops, and creating environments to improve productivity¹⁶.”

¹⁴ On this evaluation, Fourth Project Management Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

¹⁵ JICA, *Report of A Study on KRII in 1997*, p23 - Team Leader: Kenzo ITSUMI (Professor, University of Towa-eiwa-Jyogakuin) .

¹⁶ Ibid.

However, on the other hand, there is an aspect that farmers can not become positive about utilization of agricultural inputs. For example, utilization rate of fertilizer by farmers was 27% in 1991/92, but went down to 15% in 1994/95¹⁷. According to the result of research done by the Ministry of Agriculture and Cooperatives, the reasons of a fall of fertilizer utilization in the 90's are i) a rise in purchasing price of fertilizer by farmers after subsidy cut by the government in 1993, ii) lack of accessibility for farmers associations or farmers to financial services, iii) low incentives for farmers to purchase agricultural inputs with no confidence of gaining adequate returns out of purchased inputs due to lack of marketing access, iv) higher price of agricultural inputs in the marginal area due to lack of infrastructure for transportation¹⁸. Even if a farmer has adequate capitals to purchase agricultural inputs, "the decision for a farmer to use fertilizer is based on returns per monetary unit spent (Value Cost Ratio)¹⁹."

The Ministry of Agriculture and Cooperatives emphasized in Agricultural and Livestock Policy, 1997 that the government supports where the private sector can not support while the government promotes private sector's participation in where the government used to take a role. Marketing of agricultural inputs is liberalized as seen in private sector's participation in fertilizer and agricultural chemicals market, liberalized import of these inputs, and removal of fertilizer subsidy; thus it is necessary for private sectors to play a principal role in order not to distort agricultural input market. Therefore, the role of the government should be promotion of the private sector's participation and the one that the private sector can not support, in other words support to promotion of accessibility of farmers in the marginal area to agricultural inputs and marketing.

Above all, under the circumstances that agricultural inputs cannot be effectively utilized by average farmers, thus impacts of KRII are hardly confirmed, it is necessary to make clear what is expected role and effectiveness of KRII at the initial planing stage. If expected roles and effectiveness of KRII, taking into account contexts regarding agricultural inputs in Tanzania, are clear, then appropriateness of KRII can be evaluated as fair. Hence, this evaluation concludes that KRII

¹⁷ World Bank, Agriculture in Tanzania Since 1986: Follower or Leader of Growth?, June 2000, p39.

¹⁸ Ministry of Agriculture and Cooperatives, Agricultural Inputs Market Review(1997/98), December, 1999.

¹⁹ According to the study conducted by Mowo J.G, "If yield increase resulting from the application of fertilizer is less than twice the cost of fertilizer the farmer is usually reluctant to apply fertilizer"(MAC, Agricultural Inputs Market Review(1997/98),1999).

implemented in 1991-99 in Irrigated Agriculture Improvement Program was not appropriate due to lack of adequate clarification of its expected roles and effectiveness at initial stage²⁰.

Micro/Small Enterprise Promotion Program

The composition of projects in the “Micro/Small Enterprise Promotion Program” was appropriate overall. All projects aimed at the same objective to promote micro and small-scale enterprises. Major inputs in this program include the Kilimanjaro Industrial Training Center (KITC) Project (project-type technical cooperation), two research projects, and The Project for the Supply of Training Equipment to Mtwara Vocational Training Center (Grant). Kilimanjaro Industrial Development Center Phase 2 was a successor to Phase 1 which was conducted under the Kilimanjaro Integrated Development Plan in 1970s. The project was concluded in 1993 with the completion of Phase 2. The research projects (in 1992 and 1997) provided reports on situation analysis, proposals, and project findings in the mining and manufacturing sector, as well as in the promotion of small and medium size businesses, from expert perspectives. The Project for the Supply of Training Equipment to Mtwara Vocational Training Center (Grant) has just been launched. In the project, VETA constructs a school building and Japan grants equipment for vocational training. The project was initiated after an assessment of effectiveness in promotion of small-scale business through vocational training by utilizing provided equipment; therefore the project was judged appropriate at this stage²¹. However, it will be necessary to continuously monitor the effectiveness and outcomes based on preliminary studies.

Reflecting the Needs of Beneficiaries

All projects in the Agricultural Technology Improvement Program, Irrigated Agriculture Improvement Program, and Micro/Small Enterprise Promotion Program were implemented within specific scopes figured out through workshops to assess needs, and based on an understanding of the local situation through field research in preliminary studies. It can be said that they are relevant in terms of their response to the needs of beneficiaries.

Particularly in KADP and The Study on Lower Moshi Integrated Agriculture and

²⁰ On this evaluation, Fourth Project Management Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

²¹ Based on interview with VETA on February 27.

Rural Development Project (Development Study), beneficiaries' needs are considered taken into account to a certain extent. In these two projects, the actual situation was well known from past projects. In The Study on the Small Scale Horticultural Development Project for Poverty Alleviation to Farmers in Coast Region (Development Study), the needs were figured out through participatory appraisal such as PRA and PCM. In The Study on the Low Cost Smallholder Irrigation Project in Central Wami River Basin (Development Study) as well, the needs of the beneficiary farmers were determined through interview sessions. In addition, The Project for Mwega Smallholder Irrigation in Morogoro (Grant) is based on recommendations of The Study on the Low Cost Smallholder Irrigation Project in Central Wami River Basic (Development Study). All projects included a component to figure out needs of beneficiaries, however it is necessary at the initial stage to take more time for conversation with stakeholders, particularly beneficiaries or key persons in beneficiaries of project; thereby, in such a project type aid, ownership of beneficiary is promoted and thus sustainability as well²².

In KIDC (Project-type Technical Cooperation), however, the structural adjustment program started when Phase 2 was to begin, and at the end of the project the promotion of small and medium size enterprises in the machinery, metal, and ceramic industries covered by KIDC was no longer relevant due to low competitiveness of Tanzanian industry under liberalized market²³. It is doubtful whether it fully examined the impact of the structural adjustment program at the initial stage.

b. Efficiency

It can be concluded that JICA's Program in agricultural and rural development over the past ten years (Agricultural Technology Improvement Program, Irrigated Agriculture Improvement Program, and Micro/Small Enterprise Promotion Program) were generally efficient, with some exceptions, for the following reasons:

²² In most of the time when GOT establishes strategies or programs, there are workshops to reflect opinions from stakeholders into them. However, a workshop is often held only to have the evidence that a workshop is held (so that the GOT is able to say in public that a strategy or a program reflected the stakeholders' opinions). In such a situation, the constitution of participants in a workshop is sometimes biased in terms of occupation, gender, and social stratification due to carelessness of participant selection.

There is a possibility for a stakeholder workshop in Development Study as well, thus this point should be taken into account whenever a workshop is held.

²³ This point was also raised by KITC when evaluation team had an interview with personnel of KITC on February 24.

- Most of the projects in the programs above have attained their expected objectives²⁴, with some exceptions.
- The projects are or were implemented without problems throughout their processes of implementation.
- Inputs into most of the projects can be regarded as efficient, in the sense that the projects produced/are producing certain outputs that reflect the input, with some exceptions.

However, KRII failed to fully produce the expected outputs, and thus cannot be considered sufficiently efficient²⁵. In addition, an in-depth evaluation of the outcomes on final beneficiaries can be made on a project basis which scope should be narrower than that of a country level evaluation, as it is difficult in some ways to evaluate whether the input has had an appropriate effect to final beneficiaries²⁶.

A series of injections into Lower Moshi had substantial success in improving the productivity and income of farming households, but the injections were huge in scale. It cannot be concluded that the series of the projects in Lower Moshi was efficient in input-output/outcome terms.

Another project of questionable efficiency is KIDC (Project-type Technical Cooperation). Although the project achieved a certain level of primary targets of improving the skills of trainees and enhancing the quality of the center itself, it failed to fully disseminate the transferred technology to the context outside the center. The injection amount was not appropriate for a technology transfer limited to specific personnel in the Center without dissemination to promote micro/small enterprise in the local context.

1) Outputs

In terms of effectiveness, the Agricultural Technology Improvement Program fully attained its goals, while the Irrigated Agriculture Improvement Program and Micro/Small Enterprise Promotion Program can be considered to have made

²⁴ See Table 4.10 for expected "objectives."

²⁵ On this evaluation, Project Monitoring and Coordination Division, Grant Aid Management Department of JICA made comments. Please refer to 4.4 of this chapter.

²⁶ On this paragraph, Fourth Project Management Division and Project Monitoring and Coordination Division, Grant Aid Management Department of JICA made comments. Please refer to 4.4 of this chapter.

sufficient achievements²⁷, with certain exceptions.

Agricultural Technology Improvement Program

Every project that constitutes the Agricultural Technology Improvement Program has achieved its output target (see Table 4.10). Good results have been attained in KADP, KADC, The Study on Lower Moshi Integrated Agriculture and Rural Development Project, and The Study on the Small Scale Horticultural Development Project for Poverty Alleviation to Farmers in Coast Region.

Irrigated Agriculture Improvement Program

The Irrigated Agriculture Improvement Program has fully achieved its output target, with some exceptions. Good results have been attained in The Study on the Low Cost Smallholder Irrigation Project in Central Wami River Basin, as well as in The Extension Program of the Bagamoyo Irrigation Development. KRII cannot be evaluated as effective, as it did not accumulate sufficient counterpart funds and therefore did not make full use of such funds²⁸. It is difficult to evaluate the effectiveness of The Project for Mwega Smallholder Irrigation in Morogoro, as the procedure for facilities provision was incomplete at the time of the evaluation.

Micro/Small Enterprise Promotion Program

The Micro/Small Enterprise Promotion Program has generally attained its output targets, except for its failure to fully achieve the development of technologies for factory management in KITC. The input for projects other than KITC, such as that for research on the promotion of small and medium size enterprises by experts, has had attained its output targets, in the sense that the research produced high-quality

²⁷ JICA does not have a clear goal at program level thus effectiveness of program is measured by examining effectiveness of projects composing a program from integrated point of view. Table 4.10 explains goals of projects included in programs.

²⁸ 1) As explained in Table 4.10, "Outputs" of KRII are: i) C/P fund at the agreed level between Japan and Tanzania is deposited, ii) C/P fund is appropriately utilized, and iii) fertilizer, agricultural chemicals, and agricultural machinery are sold and utilized by farmers. According to these, this study judges, "KRII cannot be evaluated as effective".

The main reasons of low recovery in C/F are explained in *Irrigated Agriculture Improvement Program of Composition of projects in JICA Programs*.

2) On this evaluation, Fourth Project Management Division and Project Monitoring and Coordination Division, Grant Aid Management Department of JICA made comments. Please refer to 4.4 of this chapter.

3) In addition, on this footnote, Fourth Project Management Division made a comment as well. Please refer to

reports. It is difficult to evaluate the effectiveness of The Project for the Supply of Training Equipment to Mtwara Vocational Training Center (Grant) , as the procedure for facilities provision was incomplete at the time of evaluation.

2) Efficiency of implementation process

Efficiency in implementation processes can be considered high in three programs: the Agricultural Technology Improvement Program, Irrigated Agriculture Improvement Program, and Micro/Small Enterprise Promotion Program.

Agricultural Technology Improvement Program

A high degree of efficiency in projects in the Agricultural Technology Improvement Program is confirmed in their implementation processes²⁹. Several factors can be identified that help to explain the efficiency of these projects. First, a series of projects at Lower Moshi in the Kilimanjaro region were effectively linked with one another. KADP used the irrigation facilities established using OECF yen loan and the farming equipment provided in KRII to produce local development effects for Lower Moshi, and KATC began to spread the benefits to the entire country, to good effect³⁰. Second, the implementation suited the local conditions, with stakeholders' opinions reflected and good cooperation established between the C/P team and the Japanese team. Third, particularly with Project-type Technical Cooperation, the results of the monitoring during the implementation period and the evaluation conducted at the end were properly reflected in the activities.

Irrigated Agriculture Improvement Program

The efficiency of projects in the Irrigated Agriculture Improvement Program was also high during their implementation stage³¹. These projects were based on a

4.4 of this chapter as well.

²⁹ Based on the results shown in the Evaluation Matrices in the Appendix, the descriptions in which are based on replies to questionnaires for each project and on interviews with those involved

³⁰ According to a document of KITC, "Outline of KITC," 2001(Japanese Written), KITC achieved: 1) improvement of management capacity of personnel for KITC itself, 2) implementation of a number of training (for paddy production-125 persons from 19 regions, for water management-123 persons, for agricultural machinery of paddy production-39 persons, tractor operation-45 persons, for improving capacity of key farmer-471persons, undertaken course-470 persons, and other out-reach course).

³¹ Based on the results shown in the Evaluation Matrices in the Appendix, the descriptions in which are based on replies to questionnaires for each project and on interviews with those involved.

cooperative relationship between the C/P team and the Japanese team, and the operation process fully reflected the ideas of stakeholders. Above all, The Extension Program of the Bagamoyo Irrigation Development Project (Team Project) was carried out in good compliance with local conditions. Moreover, The Project for Mwega Smallholder Irrigation in Morogoro (Grant) adopted a system in which the local contractors were advised by the Japanese contractors. It was a good decision in terms of ensuring efficient operations³².

Micro/Small Enterprise Promotion Program

The projects in the Micro/Small Enterprise Promotion Program have been implemented with generally high efficiency during the processes³³. KITC (Project-type Technical Cooperation) was in almost all respects effectively carried out, with stakeholders' intentions accurately reflected and without any overlap with other projects. It is impossible to evaluate the effectiveness of The Project for the Supply of Training Equipment to Mtwara Vocational Training Center (Grant), as it has just been launched.

3) Cost-Effectiveness Analysis

In terms of cost-effectiveness, it has been made clear that there are some projects in the Agricultural Technology Improvement Program, Irrigated Agriculture Improvement Program, and Micro/Small Enterprise Promotion Program with inputs that cannot be justified by their effectiveness.

Agricultural Technology Improvement Program

The amount of inputs in all projects in the Agricultural Technology Improvement Program is thought to have been appropriate given the achievements attained³⁴, except

³² One comparative case can be seen in River Basin Management and The Smallholder Irrigation Improvement Project of the World Bank which faced some mismanagement and substantial delays as a result of implementation made for build irrigation facilities only by local contractors in the first year to meet the demands of the Ministry of Agriculture and Cooperatives, according to an official in the Tanzania Office of the World Bank (March 7).

³³ Based on the results shown in the Evaluation Matrices in the Appendix, the descriptions in which are based on replies to questionnaires for each project and on interviews with those involved

³⁴ "Substantial improvement in agricultural productivity and income" is verified by past evaluation reports. For example, income of farmers are 6.3 times on the before and after basis of the projects, productivity improved from 1.5t/ha to 6.5t/ha according to "Lower Moshi Agricultural Development Project - Project Evaluation Report by JBIC. Other sources which verified improved productivity and income in Lower Moshi are:

- JICA, JICA-CIDA Evaluation Study on The Kilimanjaro Agricultural Development Project, 1998.

for a series of injections³⁵ in Lower Moshi of the Kilimanjaro region. With massive amounts of resources injected, the cost effectiveness cannot be considered sufficient, despite the substantial progress made in improving the productivity and income of farmers.

The inputs of the World Bank as a case will be examined to enable a comparison to be made with the inputs for irrigation projects. A report by the World Bank³⁶ shows that the Bank poured an average adjusted unit cost of approximately 31,000 dollars per hectare into irrigation projects for Sub-Saharan Africa. This figure is quite high compared to that for projects in other regions (Table 4.8). This is presumably due to the fact that irrigation projects in the Sub-Saharan area require a massive initial investment. Although this indicates that Sub-Saharan irrigation projects are costly, the total injection into the Lower Moshi Agricultural Development Project (Loan, completed in 1987, costing 3.3 billion yen), the Kilimanjaro Agricultural Development Center (KADC) Project (Project-type Technical Cooperation in 1978-85 costing 1.2 billion yen)³⁷, and the Kilimanjaro Agricultural Development Project (KADP) (Project-type Technical Cooperation in 1986-93 costing another 1.2 billion yen)³⁸ already amounts to 5.7 billion yen, which corresponds to approximately 43,000 dollars per hectare³⁹. With KRII and expert dispatched prior to KADC (1974-1977) taken into account, the input per hectare is clearly higher than the average investment in the Sub-Saharan area made by the World Bank.

• JICA, The Kilimanjaro Agricultural Development Project - Post Evaluation Report(in Japanese), 1991.

³⁵ “A series of injections” here refers to the projects exclusively for Lower Moshi, which include the Kilimanjaro Agricultural Development Center Project (KADC) (Project-type Technical Cooperation, 1978-85), the Lower Moshi Agriculture Development Project (Loan, completed in 1987), and the Kilimanjaro Agricultural Development Project (KADP) (Project-type Technical Cooperation, 1986-93).

³⁶ William I. Jones, OED, A World Bank Operations Evaluation Study - The World Bank and Irrigation, p98

³⁷ Approximate value based on JICA data

³⁸ Ibid.

³⁹ Based on an exchange rate of 120 yen to one US dollar (Approximate rate at period of evaluatio period)

Table 4.9 Average Cost on Irrigation Projects by the World Bank

	Unit cost (\$/ha)	Number	Adjusted unit cost (\$/ha)	Number	Adjusted /unadjusted ratio
All	4,837	191	7,950	184	1.64
Satisfactory	2,643	128	2,906	125	1.10
Unsatisfactory	9,294	63	18,637	59	2.01
Gravity	5,584	113	10,355	112	1.85
Pump(mostly from ground water)	3,766	52	4,415	112	1.17
Mixed	3,727	26	3,846	46	1.03
New construction	7,740	86	12,915	81	1.67
Rehabilitation	1,633	34	5,258	34	3.22
Rehabilitation and extension	3,171	55	3,834	54	1.21
Paddy	6,374	73	11,063	72	1.74
Non Paddy	3,886	118	5,950	112	1.53
Selected areas					
East and South Asia	2,831	112	4,694	107	1.66
East Asia	4,291	56	7,379	56	1.72
South Asia	1,370	56	1,746	51	1.27
India	1,421	30	1,596	27	1.12
Europe	4,743	17	4,759	17	1.00
Middle East	5,026	9	4,663	7	0.92
Africa	12,925	30	20,833	30	1.61
North Africa	4,911	12	5,226	12	1.06
Sub-Saharan Africa	18,269	18	31,238	18	1.71
Latin America	3,923	20	10,283	20	2.62

a. Two measures of unit cost are used. Unit cost is defined as actual cost(us\$) measured at evaluation divided by the completion command area (ha) measured at evaluation. Adjusted unit cost is unit cost with the denominator adjusted by the completion achievement of construction target(%) measured at evaluation. Two projects, Lake Chad Plders (Chad) and Black Bush Irrigation(Guyana), had completion command area measured at evaluation equal to zero. This resulted in infinite measures of unit cost, and thus they were not included in the calculation of averages.

Source: William I. Jones, OED, A World Bank Operations Evaluation Study - The World Bank and Irrigation,

p98

However, the Kilimanjaro Agricultural Training Center (KATC) Project (Project-type Technical Cooperation in 1994-2001 costing 1.15 billion yen) has been conducted with a view to disseminating the achievements obtained through inputs to the rest of the country and to other countries. Although this project has made some accomplishments⁴⁰, further promotion of its effects may justify the series of very large outlays in terms of the balance between effectiveness and total costs⁴¹, including those

⁴⁰According to a document of KITC, "Outline of KITC," 2001(Japanese Written), KITC achieved: 1) improvement of management capacity of personnel for KITC itself, 2) implementation of a number of training (for paddy production-125 persons from 19 regions, for water management-123 persons, for agricultural machinery of paddy production-39 persons, tractor operation-45 persons, for improving capacity of key farmer-471persons, undertaken course-470 persons, and other out-reach course).

⁴¹ Definition of "cost-effectiveness" in this section is different from generally accepted concept of "cost-benefit." In "cost-benefit" analysis, both "cost" and "benefit" can be expressed in monetary terms, and on the other hand, in cost-effective" analysis, only "cost" can be expressed in monetary terms, but "effectiveness." "Effectiveness" can be expressed by qualitative and quantitative indicators. One way to measure "effectiveness" is the method to compare two projects with the same level of effectiveness. Comparison will be made between inputs in monetary terms of the two projects, and it will be concluded that the one with less input is more effective. In the case of a series of projects in Lower Moshi, "inputs" are "inputs on a series of projects in Lower Moshi + inputs on KATC", "effectiveness" is "effects, in other words, impacts from a series of projects on Lower Moshi + impacts made by activities of KATC + impacts which will be made by KATC in the future." In this aspect, the larger is the impacts made from KATC in the future, the lesser is the ratio of inputs / effectiveness. Hence, "further promotion of its effects (from KATC) may justify the series of very large outlays (on Lower Moshi) in terms of the balance between effectiveness and total costs.

for this project.

Irrigated Agriculture Improvement Program

In the Irrigated Agriculture Improvement Program, the input was generally efficient in relation to the effectiveness obtained, with some exceptions. The enormous sum injected into KRII cannot be regarded as sufficiently efficient. As previously mentioned, its input, which amounted to 7.15 billion yen in total for the period from 1991 to 1999 (see Table 4.10), constitutes a large portion (66%) of the total input for projects in the agricultural sector (excluding dispatches of individual experts, JOCV, and research, in addition to project formulation studies). With respect to KRII, as already explained previously, it has not accumulated sufficient counterpart funds and was used for unclear purposes, with some exceptions. In addition, the positive and negative effects do not clearly arise from the sale and grant of machines, fertilizers, and chemicals. In order to maintain the KRII scheme, it is necessary to strengthen i) monitoring of distribution in agricultural inputs, ii) safe and appropriate usage of them, and iii) clarification of the positive and negative effectiveness⁴².

Micro/Small Enterprise Promotion Program

Among the projects in the Micro/Small Enterprise Promotion Program, the input into KIDC (Project-type Technical Cooperation) must be regarded as inappropriate due to its result of transferring technology to a limited number of people without dissemination, although it achieved its output target. With improvements in the skills of trainees and the enhancement of the quality of the center itself as its output target⁴³, the KIDC project failed to sufficiently disseminate techniques to outside the context of the Center. On the other hand, it is unable to evaluate the relevance of the input into The Project for the Supply of Training Equipment to Mtwara Vocational Training Center (Grant), which seeks to “strengthen the ties between the local community and local industry” (see Table 4.10)⁴⁴, as little time has passed since its launch; therefore no results can be confirmed. It must be monitored carefully in the future, as it is clear that the legitimacy of the initial input depends greatly on whether it will make a significant contribution to local business, and whether it will

⁴² The concept of this is based on logic discussed in footnote before.

⁴³ This was also revealed in the interview with KIDC held on February 24.

⁴⁴ JICA, and Intem Consulting, INC., Basic Design Study Report on The Project for the Supply of Training Equipment to Mtwara Regional Vocational Training and Service Center in The United Republic of Tanzania, March 2000, p3

produce reasonable diffusion effects through the technological transfer⁴⁵.

⁴⁵The concept of this is based on logic discussed in footnote 41.

Table 4.10 Inputs, Outputs, and Objectives of Projects in Programs

Promotion of agriculture and micro enterprises to boost income										
Program	Agricultural technology improvement program				Irrigated agriculture improvement program				Micro/small enterprise promotion program	
Projects	1.The Kilimanjaro Agricultural Development Project (Project-type Technical Cooperation)	2. The Kilimanjaro Agricultural Training Center Project (Project-type Technical Cooperation)	3. The Study on Lower Moshi Integrated Agriculture and Rural Development Project (Development Study-F/S)	4. The Study on the Small Scale Horticultural Development Project for Poverty Alleviation to Farmers in Coast Region (Development Study-M/P)	5. The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) (Team Project)	6. The Study on the Low Cost Smallholder Irrigation Project in Central Wami River Basin (Development Study)	7. The Project for Mwega Smallholder Irrigation in Morogoro (Grant)	8. The Aid for Increased Food Production (2KR)	9. Kilimanjaro Industrial Development Center Phase II (Project-type Technical Cooperation)	10. The Project for the Supply of Training Equipment to Mtwara Vocational Training Center (Grant)
Year	1986-93	1999-2001	1997-98	1999-2000	1990-93 1995-98	1996-98	2000 (E/N)	1991, 92, 93, 94, 95, 96, 97, 98, 99	1986-93	2000 (E/N)
Objectives	Irrigated agriculture with modern agricultural machinery is expanded to Lower Moshi area	Technical standard of irrigated agriculture of Tanzanians (such as agricultural trainers, agricultural extension officers, officers in charge of water management, officers in charge of agricultural machinery, and key farmers) is improved; and at the same	An integrated agriculture and rural development plan in Lower Moshi (including an agricultural development plan, a land use plan, a crop production plan, an agricultural supporting services strengthening plan, an institutional development plan, an irriga	A master program for small-scale horticulture for poverty reduction in Coast region and action plans for the priority areas are established	Through development of 110ha of a pilot farm, training of key farmers, and extension of irrigated agriculture for paddy production, smallholders improve their living standard from technical, economical, and social aspects.	A development plan for irrigated agriculture in the central Wami river basin is established and feasibility of projects in the priority areas are examined	Productivity and production are increased by expanding cultivation area and stabilizing water supply for irrigation	Foods for people are secured through increase in agricultural productivity	Based on achievements through phase I, human resources in the field of machinery, metalwork, ceramics and factory management are strengthened	Improving the vocational training function of Mtwara RVTC by supplying training equipment, and thus imparting basic and specialized skills to youth in Tanzania as well as strengthening the ties between regional community and the local industry.
Outputs	1. The system of project management is established 2. Training courses and curriculum in KADC are planned 3. The modules and training materials for training courses in KADC are prepared 4. Trainers of KADC are trained 5. Agricultural engineers are train	1. Technical standard of agricultural trainers is improved 2. Training methods are improved 3. Training materials are improved 4. Trainings for key farmers and government officials such as extension workers are offered 5. Extension method is improved 6. Prepara	1. A present state* in Lower Moshi and vicinity is clarified (* conditions such as about metro-hydrology, soils and land suitability, agriculture, agricultural supporting services, irrigation and drainage, rural infrastructure, O&M executing agency, farm	1. A present state of horticulture in Coast region is clarified through research, interviews to farmers, PRA, e.t.c. 2. External factors to hinder development of horticulture in Coast region are specified 3. Priority areas for development of horticulture	1. Irrigation facilities are constructed and offered to farmers 2. Training on seed growing and plant protection are done for farmers and the governmental officials 3. Training on O&M of irrigation facilities and post harvest techniques are done for farms	1. The most prioritized areas are selected from the priority areas through research from technical, socio-economical, and environmental aspects, and rural economic survey 2. Aerial pictures are taken and a land survey is conducted 3. A topographical map i	Construction of head works, irrigation canals, and rehabilitation of rural roads and a river are executed in the target area (580ha)	1. C/P fund at the agreed level between Japan and Tanzania is deposited 2. C/P fund is appropriately utilized 3. Fertilizer, agricultural chemicals, and agricultural machinery are sold and utilized by farmers	1. Skills and knowledge of trainees in factory management are improved 2. Skills and knowledge of trainees in machinery design, design for production line, and management for design are improved 3. Skills and knowledge of trainees in casting, heat treatm	1. Upgrading vocational training function and capacity 2. Development youth in southeastern area in Tanzania into skilled labor 3. Promoting self-entrepreneurship of people in Mtwara area
Inputs (million Yen) (Including cost on dispatch of expert, provision of facilities/equipment, acceptance of trainee to Japan)	220	1,153	445	750	293	374	285	7,150	238	339
Total inputs by programs* (million Yen)	2,778				8,117				589	
Total inputs by sector* (million Yen)					10,895				589	
Input/Total inputs by programs (%)	2%	11%	4%	7%	3%	3%	3%	66%	40%	58%

*Costs for project finding missions, experts, and JOCVs are not included. Figures of amount of inputs are based on information from Office of Evaluation and Post Project Monitoring, Japan International Development Agency (JICA)

**On this evaluation, Project Monitoring and Coordination Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

- (REFERENCE)
1. JICA, *JICA-CIDA Evaluation Study on The Kilimanjaro Agricultural Development Project*, 1998 / JICA, *The Kilimanjaro Agricultural Development Project - Post Evaluation Report* (in Japanese), 1991
 2. KATC, *Summary of KATC* (in Japanese), Feb., 2001 / JICA, *The Kilimanjaro Agricultural Training Center Project - Post Evaluation Report* (in Japanese), 1999.
 3. Nippon Koei CO., LTD. and Pasco International INC, *The Study on Lower Moshi Integrated Agriculture and Rural Development Project-Main Report*, 1998
 4. Taiyo Consultants Co., LTD. and Nippon Giken INC., *The Study on Small-scale Horticultural Development Project for Poverty Alleviation to Farmers in Coast Region, Tanzania - Main Report*, 2000.
 5. Wise Association, *The Extension Program of the Bagamoyo Irrigation Development Project (BIDP)*, 1999.
 6. Nippon Koei CO., LTD. Pacific Consultants International INC. and Pasco International INC, *The Study on Smallholder Irrigation Project in Central Wami River Basin, Morogoro-Main Report*, 1998
 7. JICA and Nippon Koei CO., LTD., *Basic Study Report on The Project for Mwega Smallholder Irrigation in Morogoro*, 2000
 8. JICA, *Report on The Aid for Increased Food Production (KR2)* (in Japanese), 1994~1997.
 9. JICA, *The Kilimanjaro Industrial Development Center Phase II - Post Evaluation Report* (in Japanese), 1993.
 10. JICA and Intem Consulting, INC., *Basic Design Report on The Project for the Supply of Training Equipment to Mtwara Vocational Training Center*, 2000

Source: The Study Team

Note1: The reasons that "Output" includes "C/P fund at the agreed level between Japan and Tanzania is deposited" are:

- 1) Tanzanian government, by law, ought to deposit 2/3 of the FOB price of KR11 grant from Japan in monetary terms, and
- 2) Supposed that ag

(2) Sustainability (Case Study)

a. Projects for Case Studies on Sustainability

JICA's cooperation with Tanzania in the rural and agricultural development sector has mainly focused on increasing productivity and income through improvements in irrigation. Therefore, the review on sustainability has specifically covered all cooperation schemes related to irrigation farming⁴⁶. JICA has been engaged in the following major projects regarding irrigation farming over the past ten years:

- 1) The Kilimanjaro Agricultural Development Project (KADP) (Project-type Technical Cooperation, 1986-1993)
- 2) The Kilimanjaro Agricultural Training Center Project (KATC) (Project-type Technical Cooperation, 1994-2000)
- 3) The Study on Lower Moshi Integrated Agriculture and Rural Development Project (Development Study, 1997-98)
- 4) The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) (Team Project, 1990-93 and 1995-98)
- 5) The Study on the Low Cost Smallholder Irrigation Project in Central Wami River Basin (Development Study, 1996-98)
- 6) The Project for Mwega Smallholder Irrigation in Morogoro (Grant, 2000)

Among the projects specified above, 1), 2), 4), and 6) are particularly well suited for verifying the sustainability of irrigation-farming (extension) projects but Development Studies⁴⁷. The four projects can be divided into two groups based on their nature. Projects 1), 4), and 6) fall into a group of projects for improving the agricultural productivity and income of farmers through cooperation in enhanced irrigated agriculture in specific target areas. The second group of projects are for the broad dissemination of irrigation-farming technologies through training sessions, and project 2) is among these. Here, the sustainability of the first group of projects, on which Japan's cooperative activities in the agricultural sector have centered, will be evaluated and verified.

⁴⁶ The Inception Report initially focused only the Irrigated Agriculture Improvement Program for a case study to verify sustainability, but in order to review a range of aspects this study on sustainability also covered the projects of the Agricultural Technology Improvement Program, which are related to irrigated agriculture. However, KRII in the Irrigated Agriculture Improvement Program was excluded for the following reasons: 1) its sustainability was difficult to verify, and 2) it was less directly related to irrigated farming than were other projects, with more foci on agricultural inputs, although its counterpart funds were used for assistance in irrigation.

⁴⁷ Projects 3) and 5), as Development Studies, cannot be reviewed in terms of their sustainability until study results are materialized as projects. Project 3) is not yet at the materialized stage, and 5) is materialized to 6). We will therefore cover 6) instead of 5).

Table 4.11 Three Projects for the Evaluation and Verification of Sustainability

Kilimanjaro Agricultural Development Project (KADP)	Project Type Cooperation	1986-1993
The Extension Program of the Bagamoyo Irrigation Development Project (BIDP)	Team Project	1990-1993 1995-1998
The Project for Mwega Smallholder Irrigation in Morogoro	Grant	2000 (E/N)

It should be noted that other donors implement a number of similar irrigation-farming projects. Projects of the World Bank, FAO, DANIDA, and other organizations are currently underway (see Table 4.11, 4.12). Review of sustainability will refer to these projects operated by other donors, particularly those listed below, which were obtained during the course of this evaluation study.

Table 4.12 Reference Projects of Other Donors

River Basin Management and Smallholder Irrigation Improvement Project / Smallholder Irrigation Component (The World Bank)	Loan	1996-2001
Agricultural Sector Programme Support / Irrigation Component (DANIDA)	Grant and Technical Cooperation	1998-2002
Special Programme on Food Production in Support of Food Security /irrigation scheme included in Pilot Phase (FAO)	Grant and Technical Cooperation	1995-1998

Table 4.13 Irrigation Projects of Other Donors

Programs	Donor	Period	Geographic area	Type of support	Organizational Set up
RBMSIIP	World Bank	1996-2001	Rufiji Pnagani river basin	Small holder irrigation (loan)	Based in Dar es Salaam (DSM)
PIDP	IFAD	2000-2005	Dodoma region Tabora region Shinyanga region Arusha region	Support to smallholder irrigation/water harvesting (Loan)	Based in Dodoma
TIP	SNV	1988-2001	Pangani basin	Smallholder irrigation (Grant)	Based in Moshi
ASDS /Irrigation Component	Danida	1998-2002	Mbeya region Iringa region Morogoro region	Smallholder irrigation (Grant)	IS/ Ministry of Agriculture. ZIU's in Morogoro, Mbeya, Kilosa, Iringa, Mbozi districts
SPFS (Pilot Phase)	FAO	1999-2000 (1995-1998)	Morogoro region Morogoro rural district - Mkindo scheme (Morogoro & Dodoma)	Smallholder irrigation (Grant)	Based in FAO office, DSM
SMUC	DFID	1998-2001	Usangu plains	Study on Upper catchment of Ruaha river (Grant)	Based in Rujewa, Mbeya region
Madibira	ADB	1994-2000	Madibira scheme Mbeya region	Improvement of smallholder irrigation	Based in Madibira

Source : DANIDA, Agricultural Sector Programme Support- Irrigation Component : Component Implementation Plan 2000-2002, July 2000, Annex V.

b. Results of the Examination of Sustainability

Table 4.13 shows the results of the verification of the sustainability of JICA's projects for improvement of irrigated agriculture.

Table 4.14 Examination Results on Sustainability

Projects	Technical Aspect	Organizational Aspect	Financial Aspect
Kilimanjaro Agricultural Development Project (KADP)	High (CHAWAMPU)	Low (CHAWAMPU)	Low (CHAWAMPU)
The Extension Program of the Bagamoyo Irrigation Development Project (BIDP)	Not High (TFICS)	Not High (TFICS)	High (TFICS)
The Project for Mwege Smallholder Irrigation in Morogoro	It is difficult to examine sustainability since the project is still ongoing		

* Based on 3 scale: High / Not High / High

The sustainability of the Kilimanjaro Agricultural-Development Project (KADP) has not proven to be high. It is indeed high in terms of its technical aspects, but is low in terms of its organizational and financial aspects. KADP was handed over to CHAWAMPU, a farmers' association for rice farming founded in March 1993, at the time of the project's termination in 1993. At present, its operation still depends on support from JICA's experts, although it has the support of the KADP department of the Kilimanjaro regional government. With less than 50% of the farmers registered with CHAWAMPU, it cannot raise sufficient funds for its operation. It cannot even afford spare parts for the tractor donated in KRII. Worse, it experienced a loss of operation funds⁴⁸.

The major reason for the lack of growth in membership is water shortages⁴⁹. Unless this problem is resolved, farmers have no incentive in a situation in which rice cannot be actively cultivated as it is when there is an abundant water supply, and in which they cannot expect any benefit from payment of registration or membership fees⁵⁰.

On the other hand, The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) (Team Project) are generally thought to have a high degree of sustainability⁵¹. The Tegemeo Farmer's Irrigation Cooperative Society (TFICS), a farmers' organization, has undertaken the operation and maintenance of these projects as cooperative associations. Although there are still some concerns about

⁴⁸ Information on CHAWAMPU is based on discussions with CHAWAMP members in our on-site research conducted on February 24, and on information obtained from local specialists

⁴⁹ Water intake at the upper reaches of the water source for the project site (1,100 ha), due to rice production that spread upstream, has resulted in a water shortage.

⁵⁰ Information on CHAWAMPU is based on discussions with CHAWAMP members in our on-site research conducted on February 24, and on information obtained from local specialists

⁵¹ Results on the sustainability of The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) are based on the Wise Association, Bagamoyo Irrigation Development Project (BIDP) - Mini-Projects,

its financial management, it adequately fulfills its role as an association for a 100-hectare project site, and has experienced no problems in terms of its organization. Financially independent, it can cover all costs for operation and maintenance, farming machinery, and fertilizers and chemicals with membership fees from farmers. Its technical abilities are thought to have reached a certain level following implementation of the project, and its knowledge and skill in the use of post-harvest processing techniques, distribution systems, and other elements are expected to further improve.

It should be noted that the sustainability of the project for The Project for Mwega Smallholder Irrigation in Morogoro (Grant) could not be evaluated at the time of this review, as it is still underway.

c. Consideration on Sustainability: Ownership and Sustainability

This section examines the relationship between ownership and sustainability in cooperative activities in agricultural irrigation, in order to define the keys to success⁵² in irrigation projects.

Table 4.14 specifies the decision-makers in the project activities, or in other words ownership⁵³, of irrigation projects supported by JICA both when they are ongoing and after their implementation. In KADC and KADP, implemented in the 1970s and 1980s, respectively, JICA and local government organizations were the decision-makers for the project activities concerned, without any involvement of farmers' organizations or the farmers themselves in the decision-making processes. Upon termination of the projects, the farmers' association CHAWAMPU was founded, and the projects were handed over to it.

In contrast, the implementation of The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) (Team Project), which were carried out in the 1990s, involved a farmers' association and the farmers themselves. After implementation, the farmers' organization continues to be responsible for operation and maintenance as a decision-maker in project activities.

1999.

⁵² "Success" as used here means high sustainability in the technical, organizational, and financial aspects.

⁵³ "Ownership" as used here refers to the people with responsibility to make decisions on project activities.

Table 4.15 Position of Ownership

Decision making entities regarding project activities during implementation stage							
	Year	JICA (Including Experts and JOCVs)	Ministry of Agriculture and Cooperatives Ministry of Agriculture and Food Security (2000-)	Regional Government	District Government	Farmer's association	Farmers
The Kilimanjaro Agricultural Development Center Project (KADC)/The Kilimanjaro Agricultural Development Project (KADP)	78-85 /86-93	○		○ (Kilimanjaro Region)			
The Extension Program of the Bagamoyo Irrigation Development Project (BIDP)	90-93 /95-98	○		○ (Coast Region)		○ (TFICS)	○
The Project for Mwega Smallholder Irrigation in Morogoro	2000(E/N)-	○	○		○ (Kilosa District)	?	?
Decision making entities regarding project activities after completion of the project							
The Kilimanjaro Agricultural Development Center Project (KADC)/The Kilimanjaro Agricultural Development Project (KADP)	78-85 /86-93			○ (Kilimanjaro Region)		○ (CHAWAMPU)	○
The Extension Program of the Bagamoyo Irrigation Development Project (BIDP)	90-93 /95-98			○ (Coast Region)		○ (TFICS)	○
The Project for Mwega Smallholder Irrigation in Morogoro	2000(E/N)-	-	-	-	-	-	-

Source: The Study Team

Looking back at the verification of sustainability, KADC and KADP discussed in the previous section have been rated as “not high,” while The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) have been rated as “generally high.” This leads us to conclude that farmers’ involvement in decision-making processes during the project implementation period (or prior to implementation) results in a high degree of sustainability following implementation, or that the greater the share of ownership held by direct beneficiaries of a project, the greater the possibility of the project’s success⁵⁴.

A number of different factors are thought to affect the level of ownership of direct-beneficiary farmers. The four items specified will be examined below as key influential factors.

First, there must be an organization that plays a major role in activities for increasing farmers’ productivity, such as the operation and maintenance of irrigation facilities and the collection of water fees. This organization increases ownership when “*farmers voluntarily establish it, join it, and register with it.*”

Second, the project must be run by the farmers themselves, with “*technical support provided by Extension Workers for dissemination of agricultural.*” Improvement in

⁵⁴ “Success” as used here means high sustainability in the technical, organizational, and financial aspects.

the technical level of the farmers themselves leads to greater ownership in the sense that they can implement projects using their own technical capabilities.

Third, ownership can also be increased when “*farmers themselves directly participate in the construction of irrigation facilities,*” despite the limitations on their participation imposed by their relative lack of technical ability.

Fourth, “*improvement in existing irrigation systems*” is more likely to increase ownership than the construction of new irrigation facilities, due to farmers’ familiarity with the existing systems.

In Table 4.15, these factors in increasing ownership were applied to three JICA projects that were selected for verification of their sustainability, as well as to three projects operated by other donors, and the following four aspects in each of the projects were being looked for:

- 1) The foundation of associations, participation in them, and registration with them have been made or will be made at the farmer’s willingness at the initial stage.
- 2) Extension workers provide technical instructions.
- 3) Farmers have taken part or will take part in major irrigation-facility construction.
- 4) There is an aspect in which the existing irrigation facilities involved are improved.

Consequently, among the projects completed, the four standards are met by The Extension Program of the Bagamoyo Irrigation Development Project (BIDP), and irrigation scheme of the Special Program on Food Production in Support of Food Security (Pilot Phase), which is run by the FAO. All have proven “high” (successful) in terms of sustainability⁵⁵.

On the other hand, the Kilimanjaro Agricultural Development Project, which did not involve “the foundation of associations, participation in them, and registration with them made of the farmer’s willingness at the initial stage,” and whose irrigation facilities were not constructed by the farmers themselves, received a rating of “not high” for sustainability.

Among other projects, the Small-Scale Irrigation Project in The Project for Mwega

⁵⁵ Results on the sustainability of The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) are based on the Wise Association, Bagamoyo Irrigation Development Project (BIDP) - Mini-Projects, 1999, and on interviews with the Ministry of Agriculture and Food Security held on February 26. The results on the sustainability of the Special Program on Food Production in Support of Food Security (Pilot Phase) are based on an interview with FAO held on March 7, as well as on FAO documents.

Smallholder Irrigation in Morogoro, Smallholder Irrigation Improvement Project component (RBM-SIIP), and Irrigation Component of Agricultural-Sector Programme Support (ASPS)- Pilot Stage, which generally satisfied the criteria for farmer ownership, albeit with some exceptions, are thought to have good future prospects in terms of sustainability.

Incidentally, there is another aspect that the two successful projects have in common: their small size. The Extension Program of the Bagamoyo Irrigation Development Project (BIDP) conducted an experiment using an eight-hectare field, before the 100-hectare pilot project was conducted. The FAO's Special Programme on Food Production in Support of Food Security (Pilot Phase) is also a small-scale project, and is run as a pilot project. Being small in size has certain advantages. For instance, it makes operation easier, and allows a farmers' organization as a whole to make a commitment to the implementation of projects. Smaller projects are more likely to be successful, though they have a lesser impact, while larger-scale projects are less likely to be successful, although the impact of their success may be great. At any rate, successful projects must be of a size suited to the ability of farmers and their organizations to run and manage those organizations.

The above examinations lead us to the conclusion that high sustainability can be expected when the following conditions are satisfied and the farmers themselves or farmers' associations organized by the farmers have ownership from the beginning:

- 1) The foundation of associations, participation in them, and registration with them have been made or will be made at the farmer's willingness at the initial stage.
- 2) Special personnel provide technical instructions.
- 3) Farmers have taken part or will take part in major irrigation-facility construction.
- 4) The existing irrigation facilities involved are improved in some way.
- 5) The size of projects is appropriate for the operational and management abilities of farmers or their associations.

It is highly possible that there exist other conditions for success, i.e., securing high sustainability, therefore, it is appropriate to conduct further studies on the conditions.

Table 4.16 Sustainability of Irrigation Projects by JICA and Other Donors

	Donors	Size	Inputs by Donors (us\$, million)	Establishment, joining of membership, and registration of a farmer's group were done/are being done by farmers from the initial stage of the project	Technical Assisatances were done/are being done by extension workers	A part of construction of irrigation facilities were done/are being done by farmers themselves	The project includes/included a component of rehabilitation on existing irrigation facilities	Sustainability
Kilimanjaro Agricultural Development Project (KADP)	JICA	1,100ha in Moshi, Kilimanjaro (rice, vegetables)	1.8* + α (Inputs on Lower Moshi before KADP) (Grant)	N	Y	N (Both main and secondary canal were constructed by Japanese contractor)	N	Not High
The Extension Program of the Bagamoyo Irrigation Development Project (BIDP)	JICA	100ha in Bagamoyo, Coast (rice, vegetables)	2.4*(Grant)	Y	Y	Y	Y	High
The Project for Mwega Smallholder Irrigation in Morogoro	JICA	580ha in kilosa, Morogoro (rice, maize, onions, tomato)	2.1*(Grant)	Y	Y	Y (Secondary canal and lateral)	Y	Cannot judge yet
River Basin Management and Smallholder Irrigation Improvement Project /SIIP component	World Bank	It depends on selected projects (16 projects have been selected so far)	26.3(Loan)	Y "Registration of a farmer's group" is on conditionality to receive a loan	Y	N (The 1st Year - Construction by local contractors The 2nd Year - Construction by Japan and Chinese contractors)	Y	Cannot judge yet
Special Programme on Food Production in Support of Food Security (Pilot Phase)	FAO	103 farms (maize) 0.5ha× 84 farms (rice)	0.5(Grant)	Y	Y	Y	Y	High
Agricultural Sector Programme Support (ASPS) (Pilot Stage)	DANIDA	300ha in Mbeya (maize, vegetables) 750ha in Mbozi (rice) 300ha in Irringa (maize, onions) 150ha in Irringa (maize, onions, vegetables) 550ha in Morogoro (rice, beans, onions)	2.5(Grant)	Y	Y	Y (Only minor work)	Y	Cannot judge yet

*1\$=120

Source: The Study Team

4.3.2 Infrastructure Development

(1) Relevance and Efficiency

a. Relevance

Consistency with the Aid Plan of Japan

The Ministry of Foreign Affairs of Japan describes the aid plan to Tanzania as follows: (June 2000)

(4) Priority Areas and Direction of Assistance by Issues

a) Improvement of the living environment in urban areas through the development of basic infrastructure

Inadequacies exist in the basic infrastructure, such as the transportation system of roads and bridges, telecommunication, power transmission and distribution systems, water and sewage systems, and waste treatment facilities in urban areas, due to the rapid population growth. In response to these, Japan will extend support through cooperation with other bilateral and multilateral donors and by demarcating the roles among them. In particular, although Japan's support in Dar es Salaam has developed 20% of the total road pavement, 40% of the total expansion of power transmission and distribution, and 30% of the extension of telephone subscriber lines, the level of the infrastructure of the city is inappropriate for a capital. Therefore, Japan will consider continual support.

Infrastructure development in the main cities and between those cities is also important from the standpoints of improving the living standards of people living in poverty in the cities as well as prevention of population inflows of such people to the capital. In addition, an extended infrastructure development, including the neighbor countries of Uganda, Zambia, and Malawi is important for promotion of economic cooperation within the region. Specifically, Japan will consider support for development of main trunk roads and of water resources in the south.

Note: Above is a translation by the CPE Study Team from an original MOFA paper written in Japanese.

JICA describes the Country Program for Tanzania as follows: (June 2000)

...Hence, there is a need for infrastructure development to combat poverty, e.g. water resources development and farm path maintenance in rural areas and housing, health, sanitation, water works, sewerage and education in urban areas. As infrastructure for industry, it is necessary to establish supply support transport systems, communication systems and electric power systems in rural and urban areas in order to stimulate domestic industry.

JICA has never implemented aid projects in the fields of rural roads, housing, sewerage, or logistic systems in Tanzania, which are included in the above plan. In addition, JICA has not assisted logistics, power supply, or telecommunications between urban and rural areas.

Since public health and education are also included in the basic infrastructure, the relationship with the basic education support in (2) of 2-1 of the same paper is unclear.

In contrast to the MOFA plan, which emphasizes urban infrastructure, the JICA plan is too wide to focus on anything in particular. The title “Living Environment Improvement” contradicts its contents and refers to industrial infrastructure. To improve the living environment, the infrastructure of urban roads and water should be emphasized. In contrast, regional trunk roads are significant on an industrial basis.

However, these two plans do not contradict existing projects by JICA. They also support two ongoing projects started after the plan. The table below shows the relationships among them.

Table 4.17 Priority Fields by JICA and MOFA

Subsectors	MOFA	JICA	Past Cooperation (91-00)	Ongoing Cooperation (00-)
Roads, Bridges	Urban		Exist	Ongoing
Telecommunications	Urban		Exist	
Power	Urban		Exist	Ongoing
Water Supply	Urban	Urban	Study only	
Sewerage	Urban	Urban	None	
Waste Treatment	Urban		Study and small grant	
Trunk Roads	Regional	Regional	Exist	Ongoing
Water Resources	South	Rural	Exist	
Feeder Roads		Rural	None	
Housing		Urban	None	

Source: Study Team

JICA prioritizes sewerage, housing, and feeder roads, areas in which JICA has never assisted. In addition, there is no perspective for realizing some projects in the fields.

The MOFA plan is consistent with previous and ongoing projects as it extends the priority area from past contributions of roads, power, and telecommunications in urban areas. In contrast, the JICA plan is irregular because it is not in accord with previous cooperation.

Consistency with Tanzanian Macro Plans

Vision 2025 (February 2000)

Vision 2025 prioritizes road network construction for rural development. Additionally, energy, water, and telecommunications play important roles to stimulate local and foreign investments and to generate wealth and employment (Planning Commission. 1999. pp.20).

The road development policy and strategy are:

- Increase the investment in trunk roads by the government,
- Promote investments in transportation facilities by the private sector,
- Promote investments in rural roads by investment initiatives and efforts by local governments and communities, and
- Establish a sustainable system for routine maintenance of trunk roads and rural roads.

Since JICA has been cooperating in the infrastructure of roads, energy, and telecommunications, it is consistent with the plans of the government of Tanzania.

Components of the Infrastructure Program

The JICA Cooperation Program for Tanzania describes the infrastructure program. JICA prepared the program in the late 1990s, and thus it had not oriented the JICA activities from 1991 to the time of its formulation. This evaluation study assumed several programs, listed below, based on the stream of project groupings for evaluation purposes. Table 4.18 shows a comparison between JICA programs and the program for evaluation purposes.

Table 4.18 Program and Subprograms for Infrastructure Sector

JICA Program		Program for Evaluation	
Program	Subprogram	Program	Subprogram
Transportation	Strengthen transport sector	Transportation	DSM Urban Road
	Collection of original financial sources such as tolls		Trunk Road Bridge
	Integrated planning		
Tele-communications	Telephone network development	Tele-communications	None
	Improvement of communication service		
	Improvement of payment collection		
Electric Power	Strengthen electric power	Electric Power	None
	Stable power supply		
	Improvement of payment collection		
Water Resources	Develop water resources	Water Resources	None
	Water resources supply		
Living Environment	Equipment for waste treatment	Solid waste	None
	Institution building		

Source: JICA

Transportation Program

Dar es Salaam Urban Road Subprogram

1) Component

The Dar es Salaam Urban Road Subprogram intends to improve urban roads in Dar es Salaam City. It consists of two development studies, road construction by aid from two grant aid, and long-term experts. The two development studies proposed several projects, which were financed later by the grant aid. The two projects financed by grant aid were the following:

- Dar es Salaam Road Improvement and Maintenance Project (DRIMP, 1991-1996)
- Dar es Salaam Road Improvement Project (DRIP, 1997-2001)

(See Appendix and Table 4.19 below.)

Table 4.19 Components of DRIMP and DRIP**DRIMP**

Phase	Area/Road Name	Length	Project/Amount E/N Mil.JPY	Contract Period
I	3-Kinondoni Area Road Ocean Road and Central Area Road and Others	27.4km	896	91/12-92/12
II	Ali Hassan Mwyinyi New Bagamoyo Road	9.8km	987	92/12-94/3
III	Morogoro Road	5.7km	1,333	93/12-95/3
IV	Kariakoo Area Road Changonbe Road	18.1km	886	95/2-96/3
	Total	83.6km	4,102	

DRIP

Phase	Area/Road Name	Length	Project/Amount E/N Mil.JPY	Contract Period
I	Ilala Area Sinza Area Mwanayamala Area	15.5km	1,089	97/12-98/12
II	New Kigoro Road	2.8km	1,068	98/12-00/3
III	Kawawa Road including missing link	4.3km	1,436	99/10-01/3
	Total	22.6km	3,593	

Source: JICA

2) Relevance

The City of Dar es Salaam worked as a counterpart of DRIMP with involvement of MOW. In contrast, DRIP had MOW as its counterpart.

Although IRP-I, which was an upper plan, had not counted the JICA projects at the beginning, some of the DRIMP projects were incorporated at a later stage (Table 2.17). The IRP focused on national trunk road development but did not refer to urban roads. The DRIMP project counted in IRP was a part of the trunk road development in urban areas. Thus, the Urban Road Subprogram was inconsistent with IRP, which focused on national trunk road network development.

However, it is also a fact that the road conditions in Dar es Salaam City were very bad around 1990. The Subprogram was relevant in light of the reality rather than the higher plan.

Trunk Road Bridge Subprogram

1) Components

Trunk road bridges play very important roles in Tanzania, where many trunk roads intersect with rivers. In the 1990s, local downpours from El Niño, in addition to overage problems, struck and washed out many bridges, which have been replaced by

only temporary bridges.

The Trunk Road Bridge Subprogram consists of dispatch of long-term bridge experts and grant aid for bridge construction.

2) Relevance

The Bridge Survey by ERP clarified the necessity for bridge construction in 1988. The survey indicated that all 476 bridges in Tanzania have some problems and led to the request for bridge experts from Japan.

The bridge expert initially intended to transfer bridge construction technology to the Bridge Team in MOW. MOW has constructed bridges on the route between Kibiti – Lindi and Songea – Manbabwe by direct construction since 1989. Through gradual improvement of technology, MOW continued to construct bridges at a pace of almost one bridge per year. During construction, some non-project grant aid from Japan was allocated to cement materials.

Along with the above projects, the Bridge Team was reorganized as the Bridge Unit in 1991. Grant aid for the Trunk Road Bridge Project started later, in 1996.

Four bridges, lost in a local downpour in 1990, were located between Mingoyo and Mtwara. This section, as well as East Coast Road and Mingoyo and the inland road, is a part of the international corridor leading to Malawi and Mozambique (Figure 4.4 below). Unfortunately, the degraded condition of East Coast Road by natural disasters and unfinished road construction work by other donors between Masashi and Mbamba isolated the section of Mtwara and Mingoyo that was in good condition.

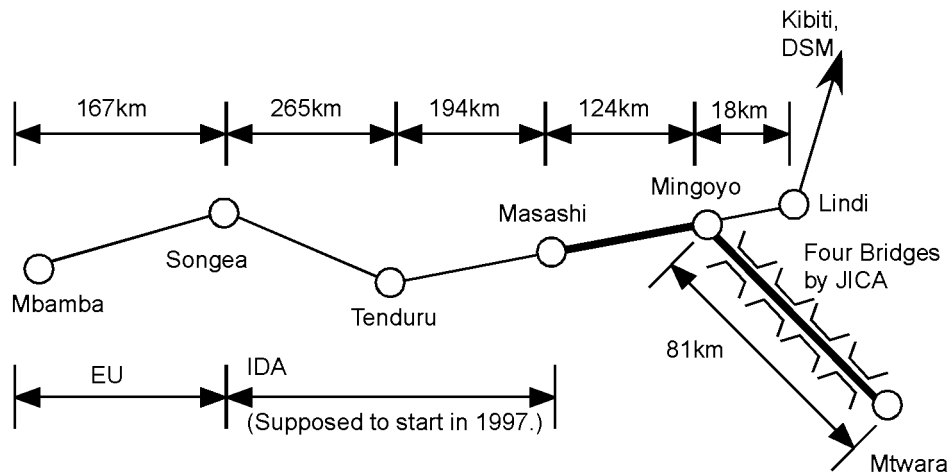


Figure 4.4 Southern Corridor and Donor Demarcation (as of 1996)

The Trunk Road Bridge Subprogram, highly relevant at the outset, cannot exhibit the anticipated effects due to the external conditions of delays by other donors. The traffic volume also supports the diminished impact. The average traffic volume was expected to be 300-400 vehicles/day (12-hour average daily traffic) but the Evaluation Study Team estimated only around 200 vehicles/day in March 2001.



Photo 4.1 Mkwaya Bridge

Electric Power Program

1) Components

The Electric Power Program consists of development studies and grant aid, which are concentrated on the transmission and distribution systems around Dar es Salaam City. Outside of the city, there are projects in Kilimanjaro (see also Appendix).

2) Relevance

Power supply in Tanzania depend largely on hydraulic power generation. There are substantial problems on the generation side, which is supported by the World Bank, but Japanese cooperation has been limited to transmission and distribution. Under the aid program by the World Bank, the power sector has an unambiguous demarcation and Japan's role has been very clear. Thus, the program was very relevant.

In contrast, JICA is little concerned about the managerial aspects of TANESCO, such as toll collection. The present prepaid system was introduced from South Africa. In addition, it is unclear how to cooperate with TANESCO under the privatization trend.

Telecommunications Program

1) Components

The Telecommunications Program has been well coordinated under the Telecommunications Restructuring Program (TRP). The program has two grant aid projects. One project focused on the subscribers system in the port and industrial areas, and the other installed a digitized main switching unit in central Dar es Salaam and improved the subscriber system (see Appendix).

2) Relevance

The program has been highly consistent with the other programs under TRP. Nonetheless, TTCL has been facing difficult and complex issues. While TTCL attempts to improve rural telecommunication as a common problem in developing countries, it also must provide state-of-the-art technologies, including Internet, data communications such as ISDN, and value-added technologies such as mobile phones. TTCL is a top runner of privatization, and private operators provide a portion of

telecommunications service on a license basis. TTCL may not be eligible for ODA-based cooperation after complete privatization, and it is unclear how to provide basic telecommunications services universally. It is necessary to consider the types of cooperation that are required and possible.

Water Resources Program

1) Components

The Water Resources Program consists of five development studies and one grant aid (see Appendix).

2) Relevance

Each project was relevant to the needs of the time. The internal linkage is very weak from the standpoint of the program because it includes mutually unrelated projects in urban water treatment, ground water development, and integrated water resources planning. JICA realized only one project proposed by the studies, "The Project for Improvement of Water Supply and Medical Service in Refugee-Affected Areas," which is isolated and for an emergency, without any relation to other projects in the program.

At the same time, the development studies have been greatly appreciated. The study on the Rehabilitation of DSM Water Supply (F/S, 1989-91) was selected as a project by the World Bank after a follow-up study. The Ministry of Water requested a project for Kidunda Dam proposed by Water Resources Development in the Ruvu River Basin (M/P, 1993-94).

Waste Treatment Program

1) Components

The Waste Treatment Program consists of one development study, the "Study on Solid Waste Management for Dar es Salaam City (1996-97)," and grant aid (1997-98) (Appendix).

2) Relevance

Waste treatment in Dar es Salaam was an emergency issue because the city has the largest urban population with an improved living standard. In addition, the City

Council had such a weak financial base that there were many problems with waste treatment. Thus, it was a very appropriate and relevant target for a development study.

The study revealed that the projects for F/S showed a high internal rate of return of 20-25%, with eight preliminary conditions. Some of the conditions have not yet been satisfied. However, the city government experienced significant restructuring, including the commissioner system, after the study. The commissioner system privatized many operations and required waste collection to be BOT-based, which does not fit with the results of the development study.

b. Efficiency

Transportation Program

Urban Road Subprogram

This program is very efficient because the projects are well organized under the program. JICA enabled the proposed projects of construction work through grant aid, but not the software-type projects, such as traffic management.

Almost all construction work is rehabilitation of existing roads with widened lanes. The land acquisition is relatively small and this led to smooth implementation.

The DRIP included not only trunk roads, such as Morogoro Road and New Bagamoyo Road, but also district roads in Ilala District. District roads, which have fewer beneficiaries than trunk roads, should not have been prioritized in terms of total aid resource allocation since the financial resources are limited.¹

Economic externalities apparently emerged as many shops and markets appeared along the routes. In addition, the program provided many business opportunities for local transport operators.

A positive social impact is also recognized. The road construction reduced the commuting time of some students in Kinondoni and Temeke Districts by half. In addition, enrollment increased and more students arrive on time (IDeA.2000.pp.6-1).

Trunk Road Bridge Subprogram

Although MOW had the ability to implement the bridge construction work directly with non-project assistance in the early 1990s, JICA did not utilize the resources and implemented the bridge construction through grant aid. The direct construction work by MOW indicates the ability for organization and engineering and to supervise contractors. In contrast, bridge construction by Japanese grant aid requires little involvement on the MOW side except for some supervisory work because Japanese consultants and contractors undertook the design, construction, and supervision. “Grant Aid” does not mean a grant for the budget and does not require Tanzanian

¹ On this evaluation, Fourth Project Management Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

ownership in bridge construction. From this aspect, the program was diminished in the late 1990s in terms of Tanzanian ownership.

However, it should be noted that the engineering difficulties are different and Japanese grant aid is basically tied to procurement. There was no suitable cooperation scheme on the Japanese side to meet the engineering level and budget shortage appropriately and efficiently.

The bridges now sustain less traffic than anticipated due to external reasons, primarily the delay by other donors. The specifications of the four bridges are too high in regard to the current traffic volume.²

Electric Power Program

The program has been implementing highly efficient cooperation by concentrating on Dar es Salaam City. The demarcation with other donors is also successful and efficient, including the engineering standard.

Ongoing studies focus not only on Dar es Salaam but also on the local cities of Arusha and Moshi. This is also efficient in regard to existing conditions.

Telecommunications Program

The Program has been implemented efficiently with internal linkage and donor coordination.

TTCL Dar es Salaam has a total capacity of 30,000 lines in its digital main switching unit (MSU). Out of the 30,000 lines, a 20,000-line capacity is enabled by JICA grant and a 10,000-line capacity is financed by AfDB. However, only 13,000 lines of the 20,000-line capacity enabled by JICA are in use while the industrial area waits for subscriber lines. This indicates a certain inefficient usage.

Since it is relatively easy for the telecommunications service to recover the cost, it is

² On this evaluation, Fourth Project Management Division, Grant Aid Management Department of JICA made a comment. Please refer to 4.4 of this chapter.

expected to improve the overall productivity and to provide new services by MSU through JICA

Water Resources Program

Although this evaluation study categorized a Water Resources Program, the internal linkage is very weak, and the program is consequently inefficient. Counterparts of the projects are scattered as DAWASA, Ministry of Water, and MRALG.

Waste Treatment Program

No conclusion has been utilized since the reform of Dar es Salaam City went beyond the expectations of the development study.

The equipment obtained by grant has no direct relationship with the development study, and there is little linkage within the program.

(2) Sustainability (Case Study)

Transportation Program

Dar es Salaam Road Development Program

Road construction work is not technically difficult, but the Tanzanian side has many issues of technical sustainability, such as quality control. In particular, construction work was technically difficult since the Middle Ring Road included a box culvert and a new section.³

There has been no obligation of repayment since all components of the program are grant based. Additionally, the local cost burden is a key to financial sustainability since the urban roads are not toll roads.

The government of Tanzania is responsible for service provision and local cost sharing. Services include an existing condition survey, entry permit preparation for Japanese staff, tax-exempt documentation on labor and materials, security, and data provision. It also includes the following items with cost sharing:

³ On March 17, 2001, an Opening Ceremony was held for the missing link on the Middle Ring Road (Kawawa Road between Uhuru Rd. and Nyerere Rd.). Although the Master Plan suggested a flyover, the actual

- Land acquisition (compensation and transfer of housing and public utilities)
- Fence and gate for the construction site
- Road construction outside of the site
- Supply of power, water, and telecommunications lines to the site

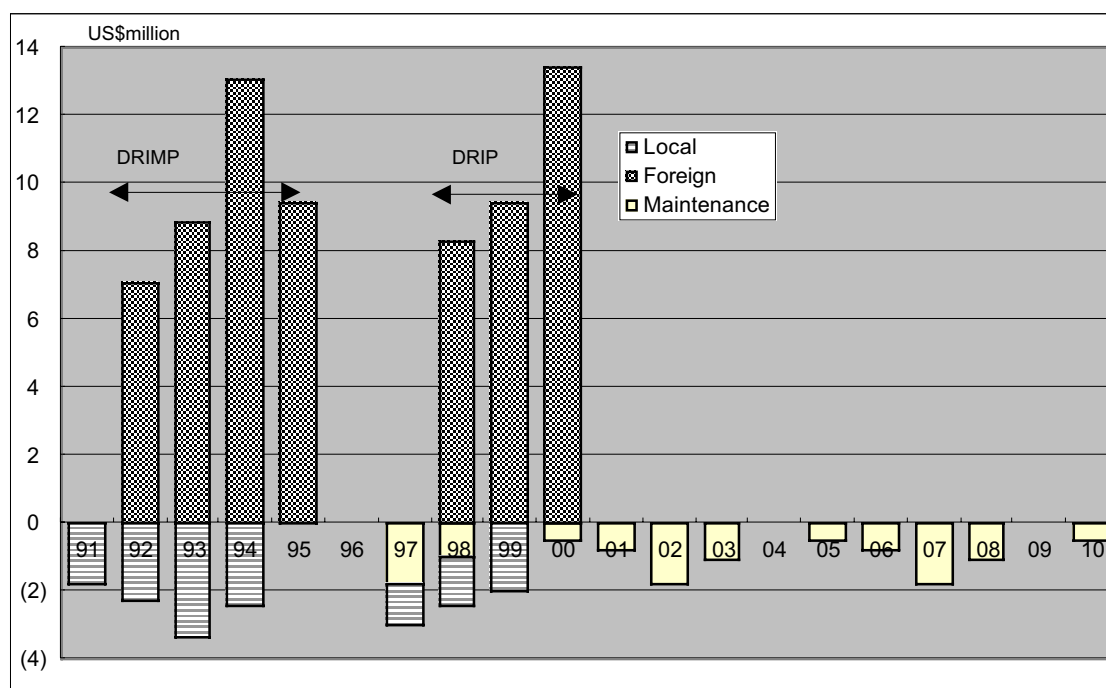


Figure 4.5 Occurrence and Magnitude of Grants, Local Costs, and Maintenance

Among the local costs, the land acquisition cost was Tsh 3.5 billion for DRIMP and Tsh 2.98 billion for DRIP. These numbers are 25% (DRIMP) and 14% (DRIP) of the foreign cost by Japanese grant and are within the range of the M/P expected numbers.

MOW is also responsible for maintenance costs after the project. Recurrent costs for cleaning and rehabilitation (surface overlay) every five years are at least necessary. Figure 4.5 illustrates the occurrence and magnitude of the costs for the roads, except district roads.⁴ The recurrent cost is not substantial, but the five-year rehabilitation cost is required continually at US\$ one to two million per annum. This number is equivalent to 5-10% of the annual budget, US\$ 20 million, of

construction employed a grade-crossing.

⁴ The land acquisition cost was supposed to occur in the previous year of implementation. The recurrent cost was supposed to occur on only trunk roads but not district roads. The cost is estimated as \$1,029/km for recurrent costs and \$17,800/km for 5-year periodic repair costs. Both are quoted from the Master Plan (1994).

TANROADS, so it is difficult to prepare the cost amount. Without a budget allocation for maintenance, the subprogram has no clear perspective for sustainability.

Trunk Road Bridge Subprogram

Norway has been cooperating with bridge inventory for the national bridge maintenance and operation system. JICA experts have cooperated in preparing an inspection and repair manual. Thus, the institutional aspects of bridge maintenance have been well established.

Although PC bridges are already classified as a basic technology in Japan, the technologies, such as prestressed concrete and quality control of high strength concrete, are difficult to repeat under Tanzanian ownership.

Lengths of the four bridges supported by JICA are not so long that the maintenance costs are limited. However, Mtwara Office of TANROADS must allocate its budget of about Tsh one million to maintain the four bridges, while the office has a budget of Tsh seven million for the 60 bridges within the territory. The office estimates the allocation is not at a sufficient level for maintaining the four bridges adequately.