

Country Name	The Project for Improvement of Radio Broadcasting Equipment
Cameroon	(La Projet d'Aménagement de L'Équipement pour la Radiodiffusion)

### I. Project Outline

Project Cost	E/N Grant Limit: 917 million yen	Contract Amount: 908 million yen
E/N Date	August 2007	
Completion Date	March 2009	
Implementing Agency	Cameroon Radio Television (CRTV)	
Related Studies	Basic Design Study: February 2006 – December 2006	
Contracted Agencies	Consultant(s)	NHK ITEC Inc.
	Contractor(s)	–
	Supplier(s)	Mitsubishi Corporation
Related Projects (if any)	[Japan's Cooperation] <ul style="list-style-type: none"> <li>Project for Expansion of Radio Broadcasting Network (Grant Aid, 1992 - 1994)</li> </ul> [Other Donors' Cooperation] <ul style="list-style-type: none"> <li>CRTV Equipment Digitization Project (China, 2012 – 2015)</li> </ul>	
Background	<p>In Cameroon, the diffusion rate of TV transmitter per household was 22%, while the diffusion rate of radio transmitter was approximately 80% and radio broadcasting was the most important tool to obtain information for those who live in rural areas. The Government of Cameroon placed the establishment of basic infrastructures, especially improvement of access to information by those in rural areas, as one of the priority policy tasks to be tackled. Cameroon Radio Television (CRTV), the only organization that provides public radio and television broadcasting services in the country, received radio broadcasting equipment for five (5) FM transmission stations in 1994 with the Japanese grant aid and as a consequence, the FM broadcasting services were improved. However, equipment of the other four (4) stations have been operated for more than 20 years and became considerably obsolete, thus FM transmitters could not be fully operated at the four (4) stations. In addition, program production at three (3) stations faced problems due to obsolete and damaged equipment. Therefore, it was necessary to immediately restore and update FM broadcasting facilities at these 4 stations; however, due to the limited budget it was difficult to carry out such tasks. Under these circumstances, the Government of Cameroon requested the Government of Japan for a grant aid project.</p>	
Project Objectives	<b>Outcome</b> To improve the radio broadcasting services by repairing radio broadcasting equipment that are considerably obsolete and damaged in Yaounde City in Central Region, Ebolowa City in South Region, Ngaoundéré City in Adamoua Region and Maroua City in Far North Region in Cameroon.	
	<b>Outputs</b> Japanese side <ul style="list-style-type: none"> <li>Procurement of equipment of FM broadcasting system for Yaounde, Ebolowa, Ngaoundéré and Maroua stations (10kW FM transmitter system, FM transmitter antenna system, Program preparation equipment, UHF studio transmitter link, Program supervision equipment, Electric power distribution switch, Measuring equipment, Equipment for maintenance)</li> <li>Others equipment (Equipment for Harmattan-control, Studio equipment, CDM equipment, Automatic voltage regulator, Spare parts)</li> </ul> Cameroonian side <ul style="list-style-type: none"> <li>Repair/improvement of transmission station buildings (Yaounde, Ebolowa, Ngaoundéré, Maroua)</li> <li>Repair/improvement of studio buildings (Yaounde, Maroua)</li> <li>Building of new studios (Ngaoundéré)</li> <li>Obtainment of frequency for UHF program transmission (Ngaoundéré, Maroua)</li> </ul>	

### II. Result of the Evaluation

#### Summary of the Evaluation

In Cameroon, CRTV, the only organization that provides public radio and television broadcasting services in the country, covered 11,400,000 people (approximately 70% of the entire population) in 1994 by FM broadcasting services of nine (9) stations. The figure, however, decreased to 51% at the time of project planning because of obsolete and damaged transmission equipment at Yaounde, Ebolowa, Ngaoundéré, and Maroua Stations. In particular, at Yaounde, Ngaoundéré, and Maroua Stations, program production faced problems because of the above reasons and it was an urgent task to restore and update the facilities for FM broadcasting.

This project has largely achieved its objectives of "i) increase in the number of population who are able to receive FM broadcasting service and ii) provision of stable FM broadcasting service in Central, South, Adamoua and Far North Regions". The number of population who are able to receive FM broadcasting service from targeted four (4) stations reached to 5,120,000 right after the project completion and broadcasting service hours and the number of programs increased by utilizing provided equipment. However, transmission capacity and areas of broadcasting service have been reduced from year to year due to breakdown of amplifier caused by frequent power failures and above-mentioned positive project effects have been declining at the time of ex-post evaluation. On the other hand, information concerning i) evacuation in case of

disasters and ii) education and health in the local language can now be obtained in the areas that have broadcasting service, which is recognized as an positive impact on the daily living. As for sustainability, although minimum daily operation and maintenance activities are carried out, some problems have been observed in terms of structural, technical, financial aspects and the current status of operation and maintenance due to i) insufficient technical staff, ii) improper technical skills for repairing equipment and iii) shortage of spare parts resulted from insufficient budget, which keeps broken-down amplifiers unrepaired. For relevance, the project has been relevant with Cameroon's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency, the project period was slightly exceeded the plan.

In the light of above, the project is evaluated to be unsatisfactory.

### 1 Relevance

This project has been highly relevant with Cameroon's development policy ("establishment of long-distance communication and development of IT technologies", specified in the Poverty Reduction Strategy Paper (2003) and "development of nationwide communication infrastructure" included in the Growth and Employment Strategy Paper (2009)), development needs ("enhancement of nationwide radio broadcasting services") as well as Japan's ODA policy ("establishment of basic environment including development of infrastructure, human resource and socioeconomic basis"), at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

### 2 Effectiveness/Impact

At the time of project completion, this project had largely achieved its objectives of "the increase in i) the number of population who are able to receive FM broadcasting service from 4 targeted stations, ii) local broadcasting service hours by CRTV in Ngaoundéré and Maroua and iii) local programs at Ngaoundéré and Maroua stations. The number of population who were able to receive FM broadcasting service from 4 targeted stations increased from 2,020,000 in 2006 to 5,120,000 in 2009 and local broadcasting service hours as well as local programs at Ngaoundéré and Maroua stations increased.

After the project completion, however, output from four (4) targeted stations was lowered than anticipated due to breakdowns of amplifiers associated with high load on transmitters by frequent power failures. As a consequence, areas that receive broadcasting services are being reduced year by year. The number of population who are able to receive FM broadcasting service from 4 targeted stations has decreased by 31% from 5,120,000 in 2009 to 3,540,000 in 2012. Above-mentioned project effects are reduced and positive impacts, which is discussed below, are limited in the areas that can receive FM broadcasting services at the time of ex-post evaluation. On the other hand, improvement is observed with regard to the broadcasting frequency and service hours. For instance, maintenance records of 4 stations show that there is almost no suspension of broadcasting in the targeted 4 areas; and the interviews survey with 20 residents in Yaounde City, Ebolowa City, Ngaoundéré City and Maroua City revealed that the time of broadcasting suspension has been reduced compared to that before the project implementation. As for other impacts, the increase in the number of radio programs on environment, agriculture, health and so forth provides benefits to daily living: for example, residents can obtain information concerning evacuation from radio broadcasting in case of floods; and knowledge among residents is enhanced through information on education and health in the local language.

Therefore, effectiveness/impact of this project is fair.

It should be noted that equipment of five (5) broadcasting stations, apart from targeted four (4) stations, also have been getting decrepit and accordingly the number of population who are able to receive FM broadcasting service in the entire country dropped from 11,420,000 (70% of the population) at the time of the project completion to 6,240,000 (31%) at the time of the ex-post evaluation.

#### Qualitative effects

	Baseline value (2006)	Target value (2009)	Actual value (2009)	Actual value (2011)
<b>Indicator 1</b> Number of population who are able to receive FM broadcasting service from 4 targeted stations (1,000 people)	2,020	Total: 5,120 (Central: 2,020 South: 330 Adamoua: 420 Far North: 2,350)	Total: 5,120 (Central: 2,020 South: 330 Adamoua: 420 Far North: 2,350)	Total: 3,540 (Central: 1,470 South: 310 Adamoua: 420 Far North: 1,260)
<b>Indicator 2</b> Increase in local broadcasting service hours by CRTV in Ngaoundéré and Maroua (hour/day)	0	19	19	19
<b>Indicator 3</b> Increase in local programs at Ngaoundéré and Maroua stations (number)	0	increased	Increased Ngaoundéré: 50 Maroua: 55	Increased Ngaoundéré: 72 Maroua: 55

Source: CRTV

Note: Service areas of four (4) targeted stations are; Central Region South Region, Adamoua Region and Far North Region

### 3 Efficiency

Although the project cost was within the plan (99% against the plan as 15m-panzer mast was not required), the project period was slightly exceeded the plan (104%) because of the unexpected delay in the bidding procedures, approval by the Cameroonian Government, transportation of equipment, customs clearance, and so forth. Outputs were produced mostly as planned. Therefore, efficiency of this project is fair.

#### 4 Sustainability

The facilities and equipment provided by this project are maintained by CRTV. Regarding structural aspect, decrease in the number of technical staff is evident since i) few technicians has been newly employed since 1988 and ii) no replacement was conducted after the retirement of relevant staff. According to interviews with CRTV, however, staff for operation and maintenance are secured. As for technical aspect, training concerning operation and maintenance for CRTV technical staff was conducted by this project (but not including repair of amplifier). Although technical staff of each station have been conducting daily maintenance and inspection of equipment by utilizing knowledge and skills obtained by the training, it is not clear if those limited number of staff would be able to keep relevant techniques for a long term and succeed them to the future generation. With regard to financial aspect, according to interview with CRTV, minimum budget is secured for operation and maintenance at each station. However, the entire budget of CRTV is being reduced and the negative influences are observed, which causes insufficient budget for spare parts of amplifiers and suspended new employment of technical staff, for instance. As for the current status of operation and maintenance, daily operation and management and periodical inspection of provided equipment, which are placed in a transmission center and studio at each broadcasting station, are properly conducted. However, no effective measures are taken for repair and replacement of amplifiers since (i) there is no import agent in Cameroon that deals with repair service and spare parts purchase of the provided equipment and (ii) budget is limited for purchasing spare parts as mentioned above.

The project has major problems in financial aspect and the current status of operation and maintenance of the executing agency and has some problems in structural and technical aspects. Therefore, sustainability of the project effect is low.

### III. Recommendations & Lessons Learned

#### Recommendations for Implementing agency

- It is recommended that causes of breakdowns of amplifiers be investigated and that the prompt purchase of necessary spare parts be promoted. The number of population who are able to receive FM broadcasting service is expected to recover to the level that was recorded at the project completion, provided that functions of amplifiers at each targeted station are recovered. In order to secure budget for those spare parts, it is necessary to consider prioritized allocation of the Cameroon's own budget for CATV's equipment repairs and also to look for possible finance assistance from other donors in case of insufficient budget on the Cameroonian side. By conducting the above recommendation, it is expected that the number of population who are able to receive FM broadcasting service be 6,750,000 (Central Region: 2,890,000, South Region: 440,000, Adamoua Region: 540,000, Far North Region: 2,870,000).
- It is necessary for CATV to make every effort to employ relevant staff at each broadcasting station because further shortage of technical staff is concerned due to every-year reduction of CATV's entire budget. In this process, it is important to establish a system that ensures operations conducted with certain technical level through transfer of skills and knowledge to newly employed personnel. In addition, for the equipment that cannot be repaired by the existing system, it is desirable to consider utilizing outside resources such as manufacturers and private repair experts.

#### Lessons learned for JICA

- Considering sustainability, particularly in case of provision of equipment by grant aid, it is essential to carefully consider, at the time of basic design study, i) possibility of local procurement of equipment and spare parts and ii) procurement routes and procedures in case spare parts need to be imported from abroad or to be repaired by manufacturers. At the same time, it is important to share such information with project counterparts by preparing manuals. It is also necessary to improve the future training contents, by including training concerning equipment repair as well as operation and maintenance. In addition, the implementing agency (technical staff who carry out daily management and inspections) needs training that contributes to the enhancement of its own technical skills to conduct repair of equipment, as far as the repair can be dealt with by themselves.



Transmission Equipment for Ngaoundéré Station



Equipment for Studio at Maroua Station