

People’s Republic of China

Ex-Post Evaluation of Japanese ODA Loan Project  
“Broadcasting Infrastructure Improvement Project”  
(Jinan City, Shandong Province)

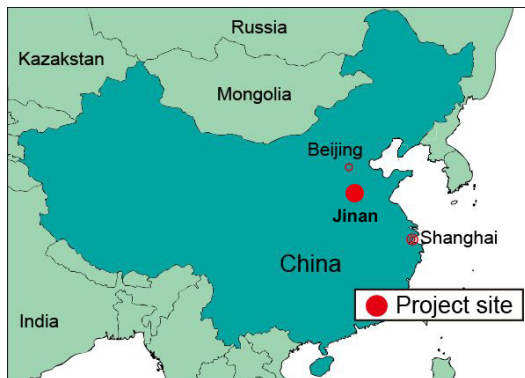
External Evaluator: Akemi Serizawa, Global Link Management, Inc.

**0. Summary**

The objective of this project was to contribute to the improvement of the broadcasting programs of Jinan both in quantity and quality by the innovation of equipment of the broadcasting stations as well as by training, and then to the knowledge enhancement and cultural enrichment of the citizens of Jinan and also to the promotion of their understanding about Japan. This project was highly relevant with China’s development plans, development needs and Japan’s ODA policy; therefore its relevance is high. While its effect on the promotion of the citizens’ understanding about Japan was limited, it has contributed to the improvement of the broadcasting programs in Jinan both in quantity and quality, and also to the knowledge enhancement and cultural enrichment of the citizens to a certain extent; therefore the effectiveness and impact are high. The project period was within the plan and the project cost exceeded the plan, therefore its efficiency is fair. No major problems have been observed in the operation and maintenance system, therefore its sustainability is high.

In light of above, this project is evaluated to be highly satisfactory.

**1. Project Description**



Project Location



High definition broadcasting van

**1.1 Background**

The broadcasting stations in China exist at the central, provincial, prefectural and county levels and are supervised by the corresponding governments. In 2001, the national percentage of population covered was 94% for the television and 93% for the radio, and broadcasting was

already fully integrated into the everyday life of the Chinese citizens. As broadcasting was vital for the information delivery to the citizens and the cultural enrichment, the Government of China had been working on the improvement of access to broadcasting in the remote areas.

This project aimed to improve broadcasting programs in Jinan both in quantity and quality in order to improve access of the citizens to the broadcasting programs, and then to contribute to the knowledge enhancement and cultural enrichment. The project was also expected to promote their understanding about Japan through the broadcasting programs. Also, the project planned to introduce Japanese broadcasting technology and equipment to China through the Special Terms for Economic Partnership (STEP) <sup>1</sup>.

## 1.2 Project Outline

The objective of this project was to improve the quantity and quality of the TV and radio programs in Jinan by the innovation of the broadcasting equipment and provision of training to the staff of the broadcasting stations, thereby contributing to the knowledge enhancement and cultural enrichment of the citizens in Jinan and also to the promotion of their understanding about Japan.

Approved Amount / Disbursed Amount	2,914 million yen / 2,913 million yen
Exchange of Notes Date / Loan Agreement Exchange Date	March 2004 / March 2004
Terms and conditions	Interest rate : 0.75% p.a Repayment period (Grace Period): 40 years (12 years) Bilateral-tied
Borrower / Executing Agency	Government of the People's Republic of China / People's Government of Jinan City
Final Disbursement Date	January 2010
Main Contractor (Over 1 billion yen)	-
Main Consultant (Over 100 million yen)	-
Feasibility Studies, etc.	F/S by Shandong Province Development Planning Commission Consulting Company (June 2003)
Related Projects (if any)	None

## 2. Outline of the Evaluation Study

### 2.1 External Evaluator

Akemi Serizawa (Global Link Management, Inc.)

<sup>1</sup> JICA approved other five broadcasting projects in China at the same time with the Jinan project. The target areas of these five projects were Qionghai Province, Yunnan Province, Anhui Province, Jilin Province and Ningxia Hui Autonomous Region.

## 2.2 Duration of the Evaluation Study

Duration of the Study: July 2011 – September 2012

Duration of the Field Study: 9 October – 22 October 2011, 21 February – 2 March 2012

## 2.3 Constraints during the Evaluation Study

None.

# 3. Results of the Evaluation (Overall Rating: A<sup>2</sup>)

## 3.1 Relevance (Rating: ③<sup>3</sup>)

### 3.1.1 Relevance with the Development Plan of China

The priority areas of the broadcasting sector in the Tenth Five-year Plan of China (2001-2005) included promotion of informatization, improvement of quality of cultural living, environmental conservation, protection of the ecosystems, improvement of education, consolidation of the legal systems, development of the system for the market-oriented economy, and improvement of the health and sanitation. The Tenth Five-year Plan of Radio, Film and Television and Science and Technology for the same period and the long-term plan 2010 of the State Administration of Radio, Film and Television of China aimed to improve the percentage of population covered of the television from 91% in 2000 to more than 97% and that of the radio from 92% in 2000 to more than 98% in the administrative villages. Jinan's Tenth Development Plan aimed to promote digitalization of broadcasting equipment and improve the quantity and quality of broadcasting programs.

The 11th national Five-year Plan (2006-2010) aimed to improve the news programs, broadcasting technologies and infrastructure. The current national 12th Five-year Plan (2011-2016) promotes informatization through the improvement of the broadcasting infrastructure and cultural enrichment through broadcasting. Jinan's 11th Five-year Plan emphasized cultural development and aimed to strengthen the impacts of radio and television. Its current 12th Plan prioritizes digitalization of the broadcasting equipment and aims to strengthen creativity of the programs for cultural enrichment.

This project was in line with these policies as it aimed to improve the broadcasting programs both in quantity and quality and to contribute to the knowledge enhancement and cultural enrichment of the citizens, both at appraisal and ex-post evaluation.

### 3.1.2 Relevance with the Development Needs of China

Jinan is the capital of Shandong Province and an economic center in the region with machinery, automobile, electric and chemical industries. Jinan needed to upgrade its

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<sup>2</sup> Overall rating: A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>3</sup> Rating: ③: "high", ②: "fair", ①: "low"

broadcasting programs in order to strengthen information delivery to the citizens and then to promote regional economy, to which this project was expected to contribute through the innovation of broadcasting equipment. At the time of appraisal, Jinan TV Station and Jinan Radio Station had not been able to upgrade the equipment due to insufficient budget despite Jinan's 8th Five-year Plan (1991-1995). They were not able to upgrade the technology and infrastructure, which hindered production of quality broadcasting programs.

At ex-post evaluation, the broadcasting stations felt the needs of continuous innovation of broadcasting equipment and improvement of technology in all aspects including production, editing and broadcasting. In particular, high definition technology is in demand. Broadcasting plays an important role to deliver useful information to the citizens such as knowledge about economy, culture and information on the everyday life. Broadcasting is essential for the development of the city and the knowledge enhancement and cultural enrichment of Jinan citizens.

From the above, the needs of innovation of broadcasting equipment and the improvement of technology in Jinan were high both at appraisal and ex-post evaluation.

### 3.1.3 Relevance with Japan's ODA policy

Japan's Economic Cooperation Program for China (October 2001) aimed to develop the environment to promote the market economy, to improve the livelihood to promote social development in the inland areas and to enhance economic activities in the private sector. The Overseas Economic Cooperation Implementation Policy (April 2002 – March 2005) of JICA (JBIC at that time) emphasized human resource development and considered the reduction of information gap in the developing countries was important for the reduction of the income disparities. Broadcasting delivers information to the people of different backgrounds, and it can contribute to the human resource development, promotion of economic and cultural activities and regional revitalization. Therefore, this project to upgrade broadcasting equipment and improve technology was in line with the Japan's ODA policies. At the same time, this project was expected to contribute to the promotion of understanding of Chinese citizens about Japan through the Japanese broadcasting programs. It was in line with Japan's Economic Cooperation Program for China, in which promotion of mutual understanding between the Chinese and Japanese was highlighted.

From the above, the improvement of broadcasting in quantity and quality as well as the knowledge enhancement and cultural enrichment of Jinan citizens accord with the development plans and needs of China and Japan's assistance policy. The promotion of citizens' understanding about Japan was in line with Japan's policy.

The project has been highly relevant with the country's development plan, development

needs, as well as Japan's ODA policy; therefore its relevance is high.

### 3.2 Effectiveness (Rating:③)

The effectiveness of this project was examined from the quantitative and qualitative viewpoints. Quantitative effects were measured by the operation and effect indicators such as number of viewers and listeners, percentage of population covered, number of programs and broadcasting hours. Qualitative effects such as the improvement of the programs were grasped from the opinions of the executing agencies and beneficiaries. The details are described below.

#### 3.2.1 Quantitative Effects (Operation and Effect Indicators)

##### (1) Quantitative improvement of TV and radio programs

The five indicators in Table 1 were agreed with the executing agencies to measure the improvement of the broadcasting programs (number of viewers and listeners, percentage of population covered, share of independently produced programs, number of programs related to education, broadcasting hours per day of programs related to education). Data for the original target year (2008) were not available because the project was complete in December 2008. Instead, the actual figures of 2011 were compared with the targets as the target year was supposed to be two years after the completion of the project. The targets were achieved by 2011.

**Table 1. Quantitative and qualitative improvement of TV and radio programs  
(Indicators agreed between the two countries)**

Indicators	TV/ Radio	2003 actual (baseline)	2008 target (2 years after the project completion)(*)	2011 actual
Number of viewers/listeners (The population of Jinan was 6.81 million in 2011.)	T	884,000 households	900,000 household (TV and radio were not distinguished)	980,000 households (5.8million people)
	R	6 million people		8 million (including surrounding areas)
Percentage of population covered		T+R 98.3%	T+R 99.0%	T 100% (98.3% if calculated based on the number of people)
				R 100%
Share of independently produced programs	T	23.6%	35.0%	45%
	R	77.8%	85.0%	90%
Number of programs related to education	T	3/week	5/week	12/week
	R	6/week	9/week	15/week
Broadcasting hours per day of programs related to education	T	2hours/day	5 hours/day	10hours/day
	R	3 hours/day	7hours/day	14hours/day

T=Jinan TV Station. R=Jinan Radio Station

Note (\*): According to the appraisal documents, the target year was 2008 (two years after the completion of the project). However, it was not consistent with the original plan to finish the project by December 2009.

Source: appraisal documents, questionnaire responses, interviews with the executing agencies

Table 2 shows other indicators which were selected by the Japanese side as supplementary indicators. Most of them have achieved the targets except for the number of programs produced in other countries (including Japan) that were broadcasted by Jinan TV Station. They did not broadcast any foreign programs as the purchase and broadcasting of foreign programs were restricted by the central government.

**Table 2. Quantitative and qualitative improvement of TV and radio programs (other indicators)**

Indicators	TV/ Radio	2003 actual (baseline)	2011 target (JICA appraisal documents)	2011 actual
Number of independently produced programs	T	43/week	60/week	65/week
	R	93/week	110/week	600/week
Number of channels (note)	T	Jinan TV: 6 (+ of other TV stations: 43)	8	Jinan TV: 8 (+ of other TV stations: 90)
	R	4	1	6
Broadcasting hours	T	44,100 min/week	58,380 min/week	58,880 min/week
	R	18hours/day	20 hours/day	24hours/day
Number of programs related to disaster management	T	2/week	3/week	8/week
	R	1/week	5/week	5/week
Number of programs related to environmental conservation	T	2/year	3/year	52/year
	R	2/year	4/year	6/year
Number of programs related to public health	T	2/year	5/year	360/year
	R	2/week	8/week	8/week
Number of programs related to the development of market economy	T	3/week	4/week	21/week
	R	3/week	6/week	6/week
Number of programs produced in other countries	T	12/year	17/year	0
	R	0/year	6/year	8/year
Number of programs produced in Japan	T	6/year	15/year	0
	R	0/year	4/year	4/year
Number of programs targeting minority ethnic groups	T	5/year	8/year	10/year
	R	3/month	5/month	5/month
Number of programs targeting women	T	5/week	8/week	21/week
	R	7/month	10/month	30/month
Number of programs targeting children	T	7/week	15/week	43/week
	R	5/week	10/week	10/week

T=Jinan TV Station. R=Jinan Radio Station

Note: Jinan TV Station has eight channels: news, urban life, films, variety, life, business, children and mobile. They are going to add high definition channel soon.

Source: Appraisal documents, questionnaire responses

Table 1 and Table 2 above show the quantitative improvement of broadcasting programs, such as the increase in numbers of viewers and listeners, increase in population covered, and increase in numbers of broadcasting programs.

### 3.2.2 Qualitative Effects

The quality of TV and radio programs has been improved: program production and editing technology has been upgraded and diversified; sound and screen images have been

improved; program contents became diversified and richer; and the viewers and listeners have been satisfied with the programs. The details are explained below.

(1) “Hard” aspects

By the innovation of the infrastructure and equipment, the broadcasting stations were able to promote digitalization and networking, upgrade and diversify the program production and editing technology, and improve the efficiency of the work. For example, it became possible to combine recorded materials with live programs, which has diversified the structures of the programs.

Jinan TV Station was awarded “1st prize of scientific technology innovation” from the State Administration of Radio, Film and Television of China for its integrated production-broadcasting network. It also won 3rd prize for its broadcasting general control system and the high definition broadcasting van.

(2) “Soft” aspects

Training has contributed to the capacity development of the staff of Jinan TV Station in operation of equipment and in program editing. They now use more diversified technology for program production. The increase in numbers and share of independently produced programs also indicates their improved capacity. They became more creative as shown in their own programs featuring Jinan and the regional culture, as listed below:

- Documentaries about regional culture: The World of Spring City<sup>4</sup>; Wonderful Jinan; etc.
- Wonderful Folk Culture of China (2007): It featured folk culture artists. The program became very popular and attracted attention from other broadcasting stations in China including CCTV (China Central Television).
- Heroes of Shandong Clapper Ballads (2008): Shandong clapper ballad is a folk art of story-telling. More than 50 performers competed in the elimination tournaments held in five big cities in China including Jinan and Beijing. The participants became popular and Shandong clapper ballad became widely known.
- Dance in Tokyo (2007): It is a documentary featuring Zhong Xue, a dancer from Shandong Province and had lived in Japan for 20 years. She has contributed to the promotion of mutual understanding between Chinese and Japanese as a creator and performer as well as an instructor of Chinese dance. The program was broadcasted in Jinan and in Japan.

According to Jinan TV Station, these programs featuring regional culture were well accepted by the viewers and other broadcasting stations, and the themes and performers

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<sup>4</sup> Jinan is also known as Spring City. It has many springs.

appeared in the programs became widely recognized. These programs have raised interest of the public in the folk arts and in Jinan and Shandong Province. Some of these programs were broadcasted in Hong Kong and Taiwan in order to project a good image of Jinan for its promotion as a tourist destination.

According to the beneficiary survey in which 100 people in Jinan participated<sup>5</sup>, 92% of the respondents said that the programs of Jinan TV had improved since 2008, and 83% reported the same about Jinan Radio. They pointed out following improvements:

#### TV

- Programs became more diversified.
- More programs respond to the needs of the viewers. Programs became closer to the viewers and their everyday life.
- The quality of the screen images and the sound has been improved.
- Broadcast reception became more stable.

#### Radio

- The radio station has many programs targeting different types of listeners.
- More programs respond to the needs of the listeners. The programs became closer to the listeners and their everyday life. The listeners have more opportunities to participate in radio programs.
- People have access to useful information for the everyday life through radio programs, such as transport information and weather forecast.

From the above, it can be concluded that the quality of the TV and radio programs have been improved as planned.



Inside of the broadcasting van



Inside of the broadcasting van

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<sup>5</sup> Sixty-three men and 37 women participated. The age is from teenagers to 60s. They include employees, business owners, government staff, etc.



### 3.3 Impact

#### 3.3.1 Intended Impacts

(1) Knowledge enhancement and cultural enrichment of Jinan citizens

According to the beneficiary survey results, the TV and radio programs are deeply integrated in the life of Jinan citizens, and they use information from the broadcasting programs in their everyday life.

**Table 3. Beneficiary survey results Impacts from the broadcasting programs**

I use information from TV programs in the everyday life.	77%
I use information from radio programs in the everyday life.	71%
TV and radio programs give positive impacts on myself, my family and the community.	69%
There are no negative impacts from TV or radio programs.	82%

The respondents explained what kind of information from the TV and radio they used in their everyday life. The responses included weather forecast, transport information, market information, legal information about business, domestic matters and real estates, crime-prevention measures, food safety, health information, and government information, among others. They also mentioned about positive impacts from TV and radio programs, such as a successful conflict solution in the family or community using information they obtained from broadcasting programs. No specific examples of negative impacts from TV or radio were available from the survey.

(2) Promotion of Jinan citizens' understanding on Japan

As explained in the section of Efficiency below, the soft components for the promotion of Jinan citizens' understanding on Japan were "collaboration with Jinan's friendship cities in Japan (Yamaguchi and Wakayama)", "purchase of Japanese broadcasting programs", and "co-production of programs with Japanese broadcasting stations." The documentary program "Dance in Tokyo" was co-produced between Jinan TV Station and a Japanese TV program production company whose representative is a Chinese, and was broadcasted in both countries. The viewers of this program were likely to have deeper understanding of the other country. Since it was the only co-produced program in this project, however, its impact on the promotion of citizens' understanding on Japan was limited. "Collaboration with the friendship cities" and "purchase of Japanese programs" were not implemented because of the reasons explained in the section of Efficiency.

At the same time, 40% of the beneficiary survey participants said that their impression about Japan had changed by TV or radio programs. They are interested in various things related to Japan, such as cartoon films, advanced technologies, politics, the big earthquake and the nuclear plant crisis in March 2011, culture (literature, music, fashion and beauty) and tourism,

which shows that they are well informed of Japan. It is likely that they obtain information about Japan from regular TV or radio programs such as news shows, rather than from particular programs featuring Japan. They were also able to list up their favorite Japanese programs including well-known cartoon films and variety shows. However, these programs were old ones that had been broadcasted well before this project started. Therefore, Jinan citizens' high level of interest in Japan and Japanese culture is not likely to be directly related to this project.

As explained above, the realized soft components were only training and a co-produced program. Therefore, this project has had limited impact on the promotion of Jinan citizens' understanding on Japan. Since the project has greatly contributed to the improvement of TV and radio programs in quantity and quality and to the knowledge enhancement and cultural enrichment of the citizens, however, the effectiveness and impact of this project are considered high.

### 3.3.2 Other Impacts

#### (1) Impacts on the natural environment

The project was implemented in the sites of Jinan TV Station and Jinan Radio Station, and the provided broadcasting equipment did not have functions to give negative impacts on the natural environment. Jinan Municipal Environmental Protection Bureau also confirmed that there were no negative impacts on the natural environment by this project such as air pollution, noise and airwaves.

#### (2) Land Acquisition and Resettlement

There was no land acquisition or resettlement by this project.

#### (3) Other impacts

The Jinan project was complete first among the six similar JICA STEP broadcasting projects in China. The Ministry of Finance of China and JICA jointly organized a meeting in June 2006 to share the experiences from the Jinan project with other five projects. The Jinan project shared the key factors for successful project implementation such as "scientific management and efficient implementation of the project", "selection and procurement of appropriate equipment matching to the identified needs", "regular monitoring of the progress of the project by the government leaders", and "promotion of mutual understanding between the Chinese project team and JICA through frequent meetings." According to the executing agencies, Jinan's experiences in the international competitive bidding process and preparation of bidding documents, and those in delivery inspection of the equipment were particularly useful for other five projects.

No particular negative impacts were observed.

From the above, this project has largely achieved its objectives, therefore its effectiveness and impacts are high.

### **3.4 Efficiency (Rating: ②)**

#### **3.4.1 Project Outputs**

The planned and actual project outputs are compared in Table 4. Main points are as follows:

##### (1) “Hard” components

- At the planning stage, 12 packages were to be procured by the JICA fund, of which ten were for the TV Station, one was for the Radio Station, and another was for the Network Center. Five of these packages, four of which were for the TV Station and one was for the Network Center, were procured by the Chinese fund before the start of procurement by the JICA fund, and another package for the TV station (high definition equipment) was added to be procured by the JICA fund. Therefore, eight packages were actually procured by the JICA fund, seven of which were for the TV Station and one was for the Radio Station. The procured equipment on the whole was same as the plan in terms of the purposes and functions.
- The spec and the price of each of the procured equipment were different from the plan because of the advancement of the technology and change of the prices during the two years between the project planning and procurement. On the whole, the purchased equipment was more advanced and more expensive than the plan (please refer to Table 5 as well). The equipment purchased by the JICA fund was selected according to the spec and price so that the total price would not exceed the approved amount of JICA loan.
- The spec and the price of each of the procured equipment by the Chinese fund were also different from the plan because of the same reasons. It was not possible to compare the planned packages and the actually-procured packages because the packages were largely reshuffled and the executing agencies were not able to identify each of the purchased equipment with the original packages.

##### (2) “Soft” components

- The original plan was to train eight people from the three broadcasting stations, six of which were from the TV Station, one was from the Radio Station and another was from the Network Center, and each training course was supposed to last one month. The training was conducted for 20 people only from the TV Station for 12 days (the total person-days are 240 and same as the plan). As the most of the procured equipment was for the TV station, the training focused on the operation and maintenance of such equipment.

- Other soft components were “purchase of broadcasting rights of Japanese programs”, “collaboration with Jinan’s friendship cities in Japan (Yamaguchi and Wakayama)”, and “co-production of programs with Japanese broadcasting stations.” Among these components, only one documentary titled “Dance in Tokyo” was co-produced by Jinan TV Station and a Japanese broadcasting program production company, as explained above. Other components were not implemented because of the restrictions by the Chinese broadcasting policy.
  - “Purchase of broadcasting rights of Japanese programs”: it was not implemented because it was difficult for broadcasting stations at the municipality level to purchase and broadcast foreign programs. The central government restricts foreign programs for the purpose of protection of Chinese culture and the broadcasting industry.
  - “Collaboration with the friendship cities”: In the plan, the broadcasting stations in Yamaguchi and Wakayama were among the candidate venues for the training for the staff of Jinan broadcasting stations. NHK Science and Technology Research Laboratories in Tokyo, not broadcasting stations in Yamaguchi or Okayama, was appointed as the training venue for its capacity to respond to the training needs of Jinan TV Station. The exchange of programs was also difficult because of the restrictions of foreign programs.

**Table 4. Project Outputs (procured/implemented by the JICA fund)**

		Plan	Actual
“Hard” components	Jinan TV Station	(10 packages) • Renovation of studio • Equipment (digital cameras, recorders, editors, monitors, etc.) • Broadcasting van	(7 packages) (*) • Renovation of studio • Equipment (digital cameras, recorders, editors, monitors, etc.) • Broadcasting van
	Jinan Radio Station	(1 package) Equipment (digital cameras, editors, work stations, mixers, etc.)	(1 package) Equipment (digital cameras, editors, work stations, mixers, etc.)
	Jinan Broadcast and TV Information Network Center	(1 package) Cable TV equipment (cable modem systems, receptor stations, servers, etc.)	None (*)
“Soft” components	Jinan TV Station	• Training (program production, editing, operation and maintenance: 2 staff each x 1 month = 6 staff) • Collaboration with the friendship cities of Jinan (Yamaguchi and Wakayama) • Purchase of broadcasting rights of programs produced in Japan	• Training (program production, editing, operation and maintenance: 20 staff x 12 days). Conducted in NHK Science and Technology Research Laboratories in 2007 divided in two batches. • Collaboration with the friendship cities was not implemented.

		Plan	Actual
		<ul style="list-style-type: none"> <li>Co-production of programs with Japanese broadcasting stations</li> </ul>	<ul style="list-style-type: none"> <li>Broadcasting rights of Japanese programs were not purchased.</li> <li>A documentary titled "Dance in Tokyo" was co-produced by Jinan TV and a Japanese program production company.</li> </ul>
	Jinan Radio Station	Training (radio technology): 1 staff x 1 month	None
	Jinan Broadcast and TV Information Network Center	Training (network technology): 1 staff x 1 month	None
Consulting services	Technical assistance in procurement	<ol style="list-style-type: none"> <li>Preparation of detailed design (D/D) and pre-qualification (P/Q) documents</li> <li>Evaluation of P/Q results</li> <li>Preparation of tender documents</li> <li>Evaluation of tender results</li> </ol>	<ol style="list-style-type: none"> <li>Preparation of detailed design (D/D) documents</li> <li>Preparation of tender documents</li> <li>Evaluation of tender results</li> </ol> <p>P/Q was not conducted.</p>
	Technical assistance in training	<ol style="list-style-type: none"> <li>Training in Japan</li> <li>Co-production of programs with Japanese broadcasting stations</li> <li>Purchase of Japanese programs and broadcasting rights</li> </ol>	<ol style="list-style-type: none"> <li>Training in Japan</li> </ol>

Source: Appraisal documents, PCR, questionnaire responses

Note (\*): Equipment not procured by JICA fund was procured by the Chinese fund. The equipment was procured as planned on the whole using both sources of funding.



Jinan TV Station: Studio 1



Jinan Radio Station: Recording a program

### 3.4.2 Project Inputs

#### 3.4.2.1 Project cost

The estimated project cost at appraisal was 4,176 million yen, of which the Japanese loan was to be used only for the foreign currency portion amounting to 2,914 million yen and the rest was to be funded by the broadcasting stations. The actual project cost for “(part a) the eight packages of the equipment procured by the JICA fund, training and consulting services” was 4,185 million yen, of which JICA fund covered the foreign currency portion in full amounting to 2,913 million yen and the rest was financed by the broadcasting stations. The actual cost of “part a” was 100% of the estimated cost for the whole project in Japanese yen, and 99% of that in Chinese yuan. As stated in the previous section, the spec and the price of the procured equipment were higher than the plan because of the advancement of the technology and change of the prices during the two years between the project planning and actual procurement. Regarding “(part b) the equipment procured by the Chinese fund and excluded from the JICA fund”, the executing agencies were not able to calculate the actual amount as the procurement packages had been reshuffled.

As shown in Table 6, the actual total amount of “part a” (the equipment procured by the JICA fund) exceeded the total planned cost of the corresponding packages. It is reasonable as the spec and price of the procured equipment were higher than the plan in general and a new package (No.13: high definition equipment) was added. Regarding the equipment procured by the Chinese fund (part b), it was not possible to decide whether the actual cost was appropriate compared to the procured equipment, and it was also difficult to compare the planned and the actual costs as the details of the actual spec and price were not identified. Therefore, the total actual cost of the whole project (“part a” plus “part b”) was not known, and there was not sufficient information to show that the total actual project cost was reasonable compared to the procured equipment. It is clear at least that the total actual cost for the whole project exceeded the planned cost as the cost of “part a” was almost the same as the total estimated cost for the whole project. The project cost is rated “moderate” (sub rating ②) as there is no sufficient information to show that the higher project cost than the plan was reasonable for the modified outputs.

**Table 5. Project cost**

	Plan					Actual				
	FC*	LC**		Total		FC	LC		Total	
	Mill. yen	Mill. yuan	Mill. yen	Mill. yuan	Mill. yen	Mill. yen	Mill. yuan	Mill. yen	Mill. yuan	Mill. yen
Broadcasting Equipment	2,579	84	1,201	264	3,780	2,855	88	1,272	285	4,127
Training, etc.	55	0	0	4	55	16	0	0	1	16
Consulting services	62	0	0	4	62	39	0	0	3	39
Price escalation	83	0.1	1	6	84	-	-	-	-	-
Contingency	135	4	60	14	195	-	-	-	-	-
Loan administration	-	-	-	-	-	3	0	0	0.2	3
<b>Total</b>	<b>2,914</b>	<b>88</b>	<b>1,262</b>	<b>292</b>	<b>4,176</b>	<b>2,913</b>	<b>88</b>	<b>1,272</b>	<b>289</b>	<b>4,185</b>

Source: Appraisal documents, PCR, questionnaire responses

Note: FC\*: Foreign currency, LC\*\*: Local currency

Exchange rate: 1 yuan=14.3 yen at appraisal. 1 yuan = 14.46 yen at ex post evaluation (average during the loan period)

According to the record of JICA, the disbursement has not finished yet. The last disbursement was made on 4 April 2009, with the balance of 1 million yen between the accumulated total of disbursed amount and the approved loan amount. The executing agencies do not have an intention to use the remaining 1 million yen, therefore the disbursement is practically complete. Exchange rate at ex-post evaluation was calculated based on the assumption that the disbursement finished in April 2009.

The condition of STEP (Special Terms for Economic Partnership) was applied to this project. Main procurement contracts were bilateral-tied and the share of the equipment and materials of Japanese origin was required to be 30% or more of the total contract amount. The STEP condition was duly observed in this project, and the share of the equipment and materials of Japanese origin was 32.19% of the total contract amount, while it was lower than the original plan (63.20%). The executing agencies felt that STEP condition limited choices of contractors and reduced price competition as the number of the tender participants was less than that in similar tenders in China. The executing agencies managed to select the best contractors in terms of price and quality from as many candidates as possible even though the tender participants were limited. This is likely to have led to the lower share of the materials and equipment of Japanese origin at 32.19%, which still satisfied STEP condition (30%).

**Table 6. Procurement packages: comparison between the plan and actual**

Package	Plan			Actual		
	Total amount (mill. Yen)	Products of Japanese origin (mill. Yen)	Share of products of Japanese origin (%)	Total amount (mill. Yen)	Products of Japanese origin (mill. Yen)	Share of products of Japanese origin (%)
1. Radio station recording equipment (*1)	111.68	56.02	50.16	257	91	35.46
2. Network equipment (*2)	189.56	82.93	43.75	Self-financed. The actual amount is not identified as the procurement packages were reshuffled.		
3. Mobile TV vehicle	351.51	297.08	84.52	350	184	52.70
4. Elevator, etc.	348.57	170.32	48.86	161	0	0
5. Stationwide assets administration system	92.24	92.24	100.00	Self-financed. The actual amount is not identified as the procurement packages were reshuffled.		
6. Satellite vehicle, video equipment, etc.	148.99	73.97	49.65	596	72	12.21
7. Broadcast and transmission equipment	217.83	85.19	39.11	273	82	30.27
8. News center video/audio equipment	105.05	72.22	68.75	Self-financed. The actual amount is not identified as the procurement packages were reshuffled.		
9. High resolution production equipment	124.62	114.62	91.98	Self-financed. The actual amount is not identified as the procurement packages were reshuffled.		
10. Studio audio production system	153.28	112.73	73.55	237	30	13.08
11. Earlier stage and late stage production equipment	516.08	416.98	80.80	Self-financed. The actual amount is not identified as the procurement packages were reshuffled.		
12. General art and visual studio video equip, .etc.	219.22	71.35	32.55	486	49	10.27
13. High resolution production equipment	In the original plan, it was not included in the equipment to be procured by the JICA fund.			491	406	82.79
<b>Total</b>	<b>2,578.63</b>	<b>1,645.65</b>	<b>63.82</b>	<b>2,851</b>	<b>918</b>	<b>32.19</b>

Note: (\*1) is for the radio station. (\*2) is for the network center. The rest is for the TV station.

Source: Appraisal documents, PCR, questionnaire responses



Jinan TV Station: monitoring room



Jinan TV Station: monitoring room



#### 3.4.2.2 Project period

The project period was shorter than planned. The project period planned at appraisal was 70 months from March 2004 (signing of the Loan Agreement) to December 2009 (completion of all project components<sup>6</sup>). The actual project period was 58 months from March 2004 (signing of the Loan Agreement) to December 2008 (completion of all project components), which was 83% of the plan.

Procurement of the equipment was to start in October 2004 and to finish in June 2008. Its actual commencement was in December 2005 and finish was in December 2008. During the period between the signing of Loan Agreement and the start of procurement, the Chinese and Japanese parties held discussions to review the equipment to be procured and make necessary adjustment. As explained above, some of the equipment that was originally to be funded by JICA was purchased by the Chinese fund during this period. The procurement by the JICA fund proceeded more quickly than the plan because Jinan Municipal Government closely monitored the progress and the executing agencies had frequent discussions with JICA China Office to promote mutual understanding. Training in Japan was held in 2007, and the consulting services were provided at the same time as the procurement of equipment.

#### 3.4.3 Results of Calculations of Internal Rates of Return (IRR)

It was not possible to calculate Internal Rates of Return at appraisal and also at ex-post evaluation because the effects of this project cannot be grasped quantitatively.

Although the project period is within the plan, the project cost exceeded the plan, therefore the efficiency of the project is fair.

### 3.5 Sustainability (Rating: ③)

#### 3.5.1 Structural Aspects of Operation and Maintenance

As planned, Jinan TV Station and Jinan Radio Station are responsible for operation and maintenance of the respective equipment procured by this project.

Jinan TV Station has 331 staff members. Production Department, Rebroadcast Department and Broadcast Department are responsible for operation and maintenance of the equipment procured by this project and these three departments have 84 staff members in total. Jinan Radio Station has 137 staff members. Production and Broadcast Department and Transmission Department are responsible for operation and maintenance of the equipment procured by this project and they have 40 staff members in total. Both broadcasting stations

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<sup>6</sup> The completion of the procurement of equipment was defined as the completion of delivery by the contractors. The completion of training was defined as the day on which the Chinese training participants returned from Japan to China (appraisal documents).

have sufficient number of staff for operation and maintenance in view of the good condition of the equipment. These departments implement regular checkups and repair either weekly, monthly, semi-annually or annually according to the needs of each machine, the frequency of which varies. If the broadcasting stations are not able to repair damages themselves, they contact the manufacturers' agents based in China for necessary actions.

It was not possible to obtain information about the current operation and maintenance structure of Jinan Broadcast and TV Information Network Center because it was transferred from Jinan Municipal Government to Shandong Provincial Government in June 2011 and it was not involved in the JICA-funded portion of this project.

### 3.5.2 Technical Aspects of Operation and Maintenance

The number of engineers responsible for operation and maintenance of the TV and radio stations is shown in Table 7. They were trained by the manufactures on operation and maintenance of the procured equipment at delivery. Also, twenty engineers from the TV station participated in the training in Japan (one of the “soft” components) on operation and maintenance of the equipment provided by this project. Both broadcasting stations have regular training sessions about operation and maintenance of equipment including the high definition broadcasting van and digital broadcasting equipment. Both stations have sufficient number of engineers who are capable of operation and maintenance.

**Table 7. Number of engineers responsible for operation and maintenance  
(Jinan TV Station and Jinan Radio Station)**

(Unit: person)

	Department	Senior engineers	Middle-level engineers	Total
Jinan TV	Rebroadcast	4	10	14
	Broadcast	2	10	12
	Production	3	8	11
Jinan Radio	Production and broadcast	8	12	20
	Radio transmission	6	10	16

Source: Questionnaire responses

In March 2012, eight engineers from Jinan TV Station, together with their counterparts from Liaoning Province, participated in JICA training in Japan on high definition and 3D technologies at Japanese broadcasting equipment manufacturers. Jinan TV Station feels that this training was useful to strengthen program production skills for high definition televisions as they are becoming more and more popular in China.

### 3.5.3 Financial Aspects of Operation and Maintenance

The financial status of Jinan TV Station and Jinan Radio Station is shown in Table 8 and Table 9 respectively. Their source of income is only advertisement, and they do not receive

subscription fees from viewers or listeners or any subsidies from Jinan Municipal Government. Both have operational profit and have been able to secure sufficient fund for operation and maintenance.

**Table 8. Financial Status of Jinan TV Station**

(Unit: million yuan)

Year	2006	2007	2008	2009	2010
Annual sales (gross revenue) (only from advertisement)	132	137	129	167	157
Selling, general and administrative expenses	127	124	120	132	143
<i>Of which, cost for operation and maintenance</i>	20	25	22	29	30
Operational profit	5	13	9	35	14

Source: Questionnaire responses

**Table 9. Financial Status of Jinan Radio Station**

(Unit: million yuan)

Year	2006	2007	2008	2009	2010
Annual sales (gross revenue) (only from advertisement)	44	50	59	62	84
Selling, general and administrative expenses	37	42	45	52	68
<i>Of which, cost for operation and maintenance</i>	21	16	33	18	19
Operational profit	7	8	14	10	16

Source: Questionnaire responses

#### 3.5.4 Current status of operation and maintenance

The equipment procured by this project functions well and no particular problems were observed. The equipment is expected to operate in good condition for several years until replacement, the earliest of which is planned in 2016 by the broadcasting stations.

No major problems have been observed in the operation and maintenance system, therefore sustainability of the project effect is high.

## 4. Conclusion, Lessons Learned and Recommendations

### 4.1 Conclusion

The objective of this project was to contribute to the improvement of the broadcasting programs of Jinan both in quantity and quality by the innovation of equipment of the broadcasting stations as well as by training, and then to the knowledge enhancement and cultural enrichment of the citizens of Jinan and also to the promotion of their understanding about Japan. This project was highly relevant with China's development plans, development needs and Japan's ODA policy; therefore its relevance is high. While its effect on the promotion

of the citizens' understanding about Japan was limited, it has contributed to the improvement of the broadcasting programs in Jinan both in quantity and quality, and also to the knowledge enhancement and cultural enrichment of the citizens to a certain extent; therefore the effectiveness and impact are high. The project period was within the plan and the project cost exceeded the plan, therefore its efficiency is fair. No major problems have been observed in the operation and maintenance system, therefore its sustainability is high.

In light of above, this project is evaluated to be highly satisfactory.

## **4.2 Recommendations**

### **4.2.1 Recommendations to the Executing Agency**

None.

### **4.2.2 Recommendations to JICA**

JICA held a training session mainly on high definition technology for the engineers of Jinan TV Station in March 2012 as a response to their needs to strengthen their capacity in this technology. JICA might want to consider continue such training courses for other broadcasting stations in China because they are also likely to have same needs. As Japan has a comparative advantage in high definition technology, such training courses could also lead to business opportunities of Japanese manufacturers.

## **4.3 Lessons learned**

- This project was expected to contribute to the promotion of Jinan citizens' understanding about Japan through broadcasting programs. Although some components related to this objective were implemented in this project, however, their contribution was limited because the effect of individual projects on such purpose is generally small. If a JICA loan project wishes to benefit Japan as well, project components for this purpose should also be relevant to the policy and needs of the recipient country. Technical areas in which Japan has an advantage would be attractive to both sides because the recipient country might have needs of such technology and Japanese relevant institutions can also be involved. For example, high definition technology can be beneficial for both sides when it is included broadcasting projects in China.
- Some of the "soft" components of this project were not implemented due to the restrictions by the Chinese broadcasting policy and system. If the project includes soft components that might be affected by the policies and systems of the recipient countries, the policies and systems should be fully examined at the planning stage in order to make sure that the soft components are feasible.

**Comparison of the Original and Actual Scope of the Project**

Item	Original	Actual
1. Project Outputs	<p>a. Hard components</p> <p><u>Jinan TV Station</u> (10 packages)</p> <ul style="list-style-type: none"> <li>• Renovation of studio</li> <li>• Equipment (digital cameras, recorders, editors, monitors, etc.)</li> <li>• Broadcasting van</li> </ul> <p><u>Jinan Radio Station</u> (1 package) Equipment (digital cameras, editors, work stations, mixers, etc.)</p> <p><u>Jinan Broadcast and TV Information Network Center</u> (1 package) Cable TV equipment (cable modem systems, receptor stations, servers, etc.)</p>	<p>a. Hard components Equipment that was not procured by JICA fund was purchased by Chinese fund. Therefore, equipment was procured as planned on the whole.</p> <p><u>Jinan TV Station</u> (7 packages)</p> <ul style="list-style-type: none"> <li>• Renovation of studio</li> <li>• Equipment (digital cameras, recorders, editors, monitors, etc.)</li> <li>• Broadcasting van</li> </ul> <p><u>Jinan Radio Station</u> (1 package) Equipment (digital cameras, editors, work stations, mixers, etc.)</p> <p><u>Jinan Broadcast and TV Information Network Center</u> None</p>
	<p>b. Soft components</p> <p><u>Jinan TV Station</u></p> <ul style="list-style-type: none"> <li>• Training (program production, editing, operation and maintenance: 2 staff each x 1 month = 6 staff)</li> <li>• Collaboration with the friendship cities of Jinan (Yamaguchi and Wakayama)</li> <li>• Purchase of broadcasting rights of programs produced in Japan</li> <li>• Co-production of programs with Japanese broadcasting stations</li> </ul> <p><u>Jinan Radio Station</u> Training (radio technology): 1 staff x 1 month</p> <p><u>Jinan Broadcast and TV Information Network Center</u> Training (network technology): 1 staff x 1 month</p>	<p>b. Soft components Training for the TV Station and co-production of a program were implemented.</p> <p><u>Jinan TV Station</u></p> <ul style="list-style-type: none"> <li>• Training (program production, editing, operation and maintenance: 20 staff x 12 days). Conducted in NHK Science and Technology Research Laboratories in 2007, divided into two batches.</li> <li>• Collaboration with the friendship cities was not implemented.</li> <li>• Broadcasting rights of Japanese programs were not purchased.</li> <li>• A documentary titled “Dance in Tokyo” was co-produced by Jinan TV and a Japanese program production company.</li> </ul> <p><u>Jinan Radio Station</u> None</p> <p><u>Jinan Broadcast and TV Information Network Center</u> None</p>

	<p>c. Consulting services</p> <p><u>Technical assistance in procurement</u></p> <ol style="list-style-type: none"> <li>1) Preparation of detailed design (D/D) and pre-qualification (P/Q) documents</li> <li>2) Evaluation of P/Q results</li> <li>3) Preparation of tender documents</li> <li>4) Evaluation of tender results</li> </ol> <p><u>Technical assistance in training</u></p> <ol style="list-style-type: none"> <li>1) Training in Japan</li> <li>2) Co-production of programs with Japanese broadcasting stations</li> <li>3) Purchase of Japanese programs and broadcasting rights</li> </ol>	<p>c. Consulting services</p> <p><u>Technical assistance in procurement</u></p> <ol style="list-style-type: none"> <li>1) Preparation of detailed design (D/D) documents</li> <li>3) Preparation of tender documents</li> <li>4) Evaluation of tender results</li> </ol> <p>P/Q was not conducted.</p> <p><u>Technical assistance in training</u></p> <ol style="list-style-type: none"> <li>1) Training in Japan</li> </ol>
2. Project Period	March 2004 – December 2009 (70 months)	March 2004 – December 2008 (58 months)
3. Project Cost		
Amount paid in Foreign Currency	2,914 million yen	2,913 million yen
Amount paid in Local Currency	1,262 million yen (88 million yuan)	1,272 million yen (88 million yuan)
Total	4,176 million yen	4,185 million yen
Japanese ODA Loan portion	2,914 million yen	2,913 million yen
Exchange rate	1 yuan = 14.3 yen (As of September 2001)	1 yuan = 14.46 yen (Average between March 2004 and April 2009)