People's Republic of China

Ex-Post Evaluation of Japanese ODA Loan

"Inland Higher Education Project (Regional Vitalization, Market Economy Reform Support,

and Environmental Conservation) (Xingjian Uygur Autonomous Region)"

External Evaluator: Naomi Murayama, OPMAC Corporation

# 0. Summary

The objective of this project (hereinafter referred to as "the Project") was to improve higher education in Xingjian Uygur Autonomous Region (hereinafter referred to as "XUAR") quantitatively and qualitatively by supporting the construction of buildings, the procurement of equipment and the training of teachers in the target universities. This objective was consistent with China's development plan and development needs as well as with Japan's ODA policy at the time of both the appraisal in 2003 and the ex-post evaluation; therefore its relevance is high. The effectiveness and impact of the Project was high because quantitative indicators (building areas, amount of educational equipment) and qualitative indicators (number of key faculties and laboratories, number of research papers, etc.) have improved. Moreover, there are many cases of good practice in the utilization of buildings, equipment and training supported by the Project. The outputs were essentially completed in line with the initial plans, and the project cost was within the plan. The project period, however, was significantly longer than planned; therefore the efficiency of the project is fair. No major problems have been observed in all institutional, technical and financial aspects of the operation and maintenance system and its current status is very good; therefore the sustainability of the project effects is high.

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



# 1. Project Description

Project Location



General Laboratory Building Xinjiang Agricultural University

# 1.1 Background

The XUAR government aimed at permeation of a market economy and further economic development with a 9.0% annual average GDP growth rate and industrial adjustments in "the 10th XUAR Five-Year Plan (2001-2005)". The XUAR government recognized the necessity of expanding higher education in order to attain its objective. It announced a policy to raise the higher education enrollment rate from 12.8% in 2001 to 14.8% in 2005 and the number of students in higher education from around 218 thousand in 2001 (out of this total, 110 thousand were ordinary higher education students), to about 231 thousand by 2005 (with approximately 138 thousand ordinary higher education students).

# 1.2 Project Outline

The objective of the Project was to upgrade higher education in both quality and quantity for eight important institutes<sup>1</sup> in XUAR by supporting the construction of school buildings, the procurement of educational equipment and the training of teachers in Japan, thereby contributing to regional vitalization, market economy reform and environmental conservation.

Loan Approved Amount/ Disbursed Amount	4,598 million yen / 4,524 million yen			
Exchange of Notes Date/ Loan Agreement Signing Date	March, 2003 / March, 2003			
Terms and Conditions	Interest rate:	2.2% (0.75% for training component)		
	Repayment period:	30 years (40 years for training component)		
	(Grace period)	(10 years)		
	Conditions for procurement:	General untied		
Borrower / Executing Agency	The Governme Xingjian Uygur A	ent of the People's Republic of China / Autonomous Region People's Government		
Final Disbursement Date		July, 2011		
Feasibility Studies, etc.	<ol> <li>F/S: "Feasibility S Engineering Con</li> <li>JICA report:         <ol> <li>"FY 2001 Spe Implementatic China" (Augu</li> <li>"Special Assis a Higher Educ China" (Marcl</li> <li>"SAPI for a H 2005)</li> <li>"The Supervis Education Pro</li> </ol> </li> </ol>	Study Report" (China International Isulting Corporation in XUAR, May 2002) exial Assistance for Project on(SAPI) for the Higher Education Project in st 2003) stance for Project Implementation (SAPI) for eation Project in the People's Republic of h 2004) igher Education Project in China" (May stion Survey Report on JICA Loaned Higher ject" (2010)		

 <sup>&</sup>lt;sup>1</sup> The target universities are1) Xinjiang Agricultural University, 2) Xinjiang Medical University 3) Xinjiang Normal University, 4) Xinjiang University of Finance and Economics (former Xinjiang Institute of Finance and Economics), 5) Xinjiang Arts College, 6) Ili Normal University, 7) Kashgar Teachers' College, 8) Changji Institute

# 2. Outline of the Evaluation Study

- 2.1 External Evaluator Naomi Murayama, OPMAC Corporation
- 2.2 Duration of Evaluation Study
  Duration of the Study: August, 2013 November, 2014
  Duration of the Field study: December 2, 2013 December 27, 2013, March 9, 2014 – March 17, 2014

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

3.1 Relevance (Rating:  $(3)^3$ )

# 3.1.1 Relevance to the Development Plan of China

At the time of appraisal, China was admitted to the World Trade Organization (hereinafter referred to as "WTO") in December 2001 and has been aiming at high rates of economic growth, and openness and reform through industrial structural adjustment. On the other hand, disparities between coastal and inland areas, and between urban and rural areas, have been issues in China. To address increasing environmental issues, not only the government initiatives but also more comprehensive approaches were needed, including human resource development and research on environmental conservation by higher educational institutions.

It was expected that the Project would contribute largely to regional vitalization, market economy reform and environmental conservation by human resource development through supporting tertiary education in one of China's inland areas. The Project objectives complied with "the 10th Five-Year Plan for National Economic and Social Development", "the 10th Five-Year Plan for Education", "China Western Development", "the 10th XUAR Five-Year Plan" and "the 10th XUAR Five-Year Plan for Education" at the time of appraisal.

At the time of the ex-post evaluation, the "National Mid- and Long-Term Reform and Development Plan for the Education Sector (2010-2020)" had been formulated in addition to "the 12th Five-Year Plan for National Economic and Social Development", "the 12th Five-Year Plan for Education", "China Western Development", "the 12th XUAR Five-Year Plan" and "the 12th XUAR Five-Year Plan for Education". In line with these plans, China has been promoting human resource development and environmental conservation for further economic growth, together with further openness and reform.

# 3.1.2 Relevance to the Development Needs of China

At the time of the appraisal, the quantitative demand for higher education was growing, against the background of an increase in the number of secondary graduates and the government

<sup>&</sup>lt;sup>2</sup> A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>&</sup>lt;sup>3</sup> ③: High, ②: Fair, ①: Low

policies for the increase in the number of higher education students. However, insufficient capacity of facilities and teaching staff at universities was an issue. In order to address the issue, the enhancement of higher education from the aspects of infrastructure, human resources and finance was needed. The Project supported the enhancement of higher education; therefore it was consistent with the development needs of China.

	Table 1: Number of	of Post-secondary	V Students and Tertiar	v Enrollments in XUAR
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			Unit: thousand
	2006 (Target)	2006 (Actual)	2012 (Actual)
Post-secondary students	85.5	115.4	135.1
Tertiary enrollments	80.3	81.1	104.3
Ordinary tertiary enrollments	41.0	59.2	78.0

Source: Xingjian Uygur Autonomous Region People's government

Note: Higher education institutions (tertiary) include vocational technical schools, short-term higher education, four-year universities, and graduate schools. Ordinary tertiary institutes include only four-year universities and graduate schools. In this chart, these indicate institutions excluding graduate schools.

In XUAR, along with the increase of secondary graduates, tertiary enrollments had increased more than the demand estimation at the time of appraisal. In particular, the number of ordinary tertiary enrollments had increased about 32% between 2006 and 2012 (Table 1).

The target universities were selected for reasons as shown in Table 2 at the time of appraisal. These universities were still important institutions for human development in XUAR at the time of the ex-post evaluation.

University	Selection Reasons
Xinjiang Agricultural University	It is the only higher education institute for agriculture with multi-faculties in Xinjiang and plays an important role in making agriculture and pastoral farming more sophisticated.
Xinjiang Medical University	It is the only medical university with regular faculties in Xinjiang.
Xinjiang Normal University	It is the only normal "university" and a focal point of bilingual education and teacher training in Xinjiang.
Xinjiang University of Finance and Economics	It is the only ordinary higher education institute for finance and economics in Xinjiang. It also one of the key universities designated by the Xinjiang government.
Xinjiang Arts College	It is the only ordinary higher education institute for art in the northwest.
Ili Normal University	It is a higher education institute to foster bilingual teachers for schools in the pasturelands.
Kashgar Teachers' College	It is the only teacher training institute with regular faculties in the southern part of Xinjiang.
Changji Institute	It is located in a Muslim autonomous prefecture and plays an important role in fostering and training bilingual teachers.

Table 2: Selection reasons for the target universities

Source: Responses to the questionnaire

At the time of Project implementation, the higher education budget of XUAR was limited. On the other hand, the development of buildings and equipment at universities was an urgent issue in order to address the increasing need for higher education. From this point of view, the timing of the Project implementation was very effective. As of 2012, the higher education budget of XUAR had increased

## Table 3: Higher Education Budget in XUAR

Unit: RMB thousand						
FY 2001	FY 2012					
391,750 639,640 4,802,57						
Source: Responses to the questionnaire						

more than twelvefold from the budget before Project implementation (FY 2001). The buildings and equipment developed under the Project served as a stepping stone to the further development of the higher education institutes in XUAR (Table 3).

#### 3.1.3 Relevance to Japan's ODA Policy

Japan's ODA Charter at the time of appraisal placed importance on assistance in the Asian region and assistance in human resource development; therefore the project objectives were consistent with Japan's ODA policy.

Furthermore, the Country Assistance Program for China, the Medium-Term Strategy for Overseas Economic Cooperation Operations and the Country Assistance Strategy for China at the time of appraisal made human resource development a priority from the viewpoint of support for openness and reform (market rules), environmental conservation, and regional development (including progress in Japan-China exchanges). The project objectives were therefore also consistent with Japan's aid policies.

This project has been highly relevant to the country's development plan and development needs, as well as to Japan's ODA policy. Therefore its relevance is high.

# 3.2 Effectiveness<sup>4</sup> (Rating: ③)

## 3.2.1 Quantitative Effects (Operation and Effect Indicators)

In this ex-post evaluation study, the evaluator analyzed the quantitative effects using the indicators directly related to the three Project components, i.e. building construction, the provision of educational equipment and training. Specifically, for quantitative improvement, contributions of the Project to increases in the number of students were evaluated by analyzing the areas of school buildings (floorage), the monetary value per student of educational equipment and the utilization rate of school buildings and educational equipment. For qualitative improvements, the educational environment was analyzed by floorage per student and the monetary value per student of education made by the Project to aspects of education and research was then evaluated based on the number of key faculties, key laboratories, research papers, research projects and so forth.

<sup>&</sup>lt;sup>4</sup> The sub-rating for Effectiveness is to be dealt with in consideration of Impact.

# 3.2.1.1 Improvements in Quantity

(1) Changes in the number of students

In China, the number of higher education institutes and university students has sharply increased since the release of the "Action Plan for Educational Vitalization Facing the 21st Century" in 1998, which aimed at an increase in the university enrollment rate from 9.8% in 1998 to 15.0% in 2010. In the meantime, the number of higher education institutes in XUAR increased from 37 in 2001 to 54 in 2012 and the number of students in XUAR increased 1.7 times, from 218 thousand in 2001 to 379 thousand in 2012.

The number of students at the target universities steadily increased and, except for Kashgar Teachers' College, the universities had attained their targets as of 2012. This can be attributed to the fact that the universities were able to respond to the increase in students thanks to facilities equipped by the Project and because of an increase in budget allocation from the Chinese government. The Education Department decides on a student quota for each higher education institute every year based on the number of teachers, the equipment, facilities, building areas and regional factors, in order to secure the quality of education. In the case of Kashgar Teachers' College, the building area as of 2012 had not expanded as much as estimated at the time of appraisal and therefore the student quota had also not increased as much as estimated at the time of appraisal (Table 4).

						Unit: person
	Baseline (2001)	Target (2006)	Actual (2006)	Actual (2012)	Increase compared to baseline	Growth rate (%) (2001 -2012)
Xinjiang Agricultural University	11,004	16,200	17,073	22,857	11,853	107.7
Xinjiang Medical University	6,466	8,000	9,259	14,045	7,579	117.2
Xinjiang Normal University	9,671	13,500	14,266	17,372	7,701	79.6
Xinjiang University of Finance and Economics	6,809	12,600	12,819	16,411	9,602	141.0
Xinjiang Arts College	975	2,900	2,576	3,463	2,488	255.2
Ili Normal University	4,767	8,030	9,133	11,600	6,833	143.3
Kashgar Teachers' College	7,541	13,371	11,239	11,720	4,179	55.4
Changji Institute	5,011	6,000	6,480	7,255	2,244	44.8
Total	52,244	80,601	82,845	104,723	52,479	100.4

Table 4: Increase in students at the target universities

Source: Responses to the questionnaire

## (2) Changes in school building areas

To meet the increase in university students mentioned above (1), each target university constructed teaching and laboratory buildings and so on. The school building areas of most target universities increased drastically. As of 2012, a year after the Project completion, more

than half of the target universities had attained the target (Table 5)<sup>5</sup>. Xinjiang Arts College, Xinjiang University of Finance and Economics, Kashgar Teachers' College and Changji Institute, where school building areas were small compared to the target as of 2012, have started enhancing their new campuses and constructing new school buildings so that these school building areas will be expanded

						Unit: m <sup>2</sup>
	Baseline (2001)	Target (2006)	Actual (2012)	Growth rate (%) (2001-2012)	Project area	Project share (%)
Xinjiang Agricultural University	83,172	130,998	331,537	298.6	16,100	4.86
Xinjiang Medical University	82,985	177,832	209,605	152.6	14,051	6.70
Xinjiang Normal University	90,035	148,158	239,127	165.6	6,744	2.82
Xinjiang University of Finance and Economics	149,653	204,653	197,884	32.2	13,037	6.59
Xinjiang Arts College	39,597	82,152	40,094	1.3	9,556	23.83
Ili Normal University	25,331	54,230	102,947	306.4	16,700	16.22
Kashgar Teachers' College	90,015	123,908	99,743	10.8	8,100	8.12
Changji Institute	47,000	79,000	62,275	32.5	9,143	14.68

Table 5: Changes in school building areas at the target universities

Source: Responses to the questionnaire

Although the Project buildings do not necessarily account for a large share of the building areas of each university, the Project has largely contributed to an enhancement of the floorage of those universities which originally had small school building areas. Ili Normal University, especially, was in danger of being closed in the face of the "Undergraduate University Teaching Level Evaluation<sup>6</sup>" conducted by the Ministry of Education of China in 2007 as it did not reach the standard. However, the university was able to attain the standard by developing facilities under the Project. This, the only higher education institute located in a minority area, was able to survive thanks to the Project, which enabled it to continue to provide the minority with chances to receive higher education. The Project played a significant role in this.

(3) Changes in the monetary value of educational equipment

In XUAR, the monetary value of educational equipment per student increased drastically. The Undergraduate University Establishment Standards of China, of the Ministry of Education of the People's Republic of China, has the following requirements: that the monetary value of

 $<sup>^{5}</sup>$  All the universities have continuously reconstructed their school buildings. At times when school buildings had just been demolished or were under constructions, the school building areas decreased temporarily. Therefore, it is difficult to make a simple comparison with the target because changes in the floorage depend on the point of time when data was collected.

<sup>&</sup>lt;sup>6</sup> The evaluation system for higher education introduced by the Ministry of Education of China. Once every five years, school operations and the quality of education are evaluated. The first phase of evaluation was conducted from 2003 to 2008. The results are evaluated on a four-point scale. Only Xinjiang Normal University was evaluated as "good" while the others were evaluated as "excellent".

educational equipment per student for science faculties is not less than RMB 5,000; for literature and social faculties, not less than RMB 3,000; for gymnastic and art faculties, not less than RMB 4,000. None of the target universities met this requirement before Project implementation. After Project completion, however, all the target universities met this requirement (Table 6).

The total amount of educational equipment at each target university greatly increased (Table 7). The increase in the total amount of educational equipment at

			Unit: RMB
	Baseline (2001)	Actual (2006)	Actual (2012)
Xinjiang Agricultural University	1,900	4,800	7,960
Xinjiang Medical University	2,394	7,148	9,911
Xinjiang Normal University	1,277	4,308	8,772
Xinjiang University of Finance and Economics	861	1,896	5,003
Xinjiang Arts College	2,000	4,500	12,000
Ili Normal University	1,732	2,830	5,673
Kashgar Teachers' College	1,610	3,850	6,400
Changji Institute	n.a.	2,158	7,313
Comment Description to the		·	

Unit: RMB thousand

Table 6: Monetary value of educational equipment

Source: Responses to the questionnaire

Xinjiang Arts College, for which the amount had been extremely small as of 2001, is outstanding. Moreover, the Project share of the total amount of educational equipment as of 2012 was also large. Even at Xinjiang Normal University, where the Project share was smallest among the target universities, it was still 19.5%. At Xinjiang University of Finance and Economics, which had the largest share, it was 60.3%. The Project share at the target universities overall was 30.9%. It can thus be seen that the amount of educational equipment at the target universities before Project implementation had been very much limited but was drastically increased thanks to the implementation of the Project. The Project made a large contribution in improving the educational and research environment.

	Baseline (2001)	Actual (2012)	Growth rate (%) (2001-2012)	Project equipment	Project share (%)
Xinjiang Agricultural University	15,710	182,000	1,058.5	42,000	23.1
Xinjiang Medical University	66,180	139,210	110.4	50,730	36.4
Xinjiang Normal University	27,920	240,910	762.9	47,080	19.5
Xinjiang University of Finance and Economics	12,720	50,810	299.4	30,620	60.3
Xinjiang Arts College	220	74,610	33,813.6	23,410	31.4
Ili Normal University	7,100	65,810	826.9	20,710	31.5
Kashgar Teachers' College	12,150	75,080	517.9	33,550	44.7
Changji Institute	1,240	53,050	4,178.2	24,560	46.3

Table 7: Total amount of educational equipment

Source: Responses to the questionnaire

Furthermore, the Project played a role in the granting of the honorable title in the "Undergraduate University Teaching Level Evaluation" in 2007 and, to some extent, in the upgrading from Xinjiang "College" of Finance and Economics to Xinjiang "University" of

Finance and Economics in 2007. School facilities were drastically improved by the Project. As a result, the target universities received good ratings. This led to increases in the budget granted from the government to the target universities. Thus, the education and research environments were further improved in a virtuous cycle created by the Project.

### (4) Utilization rate of school buildings and educational equipment

As mentioned above, the school building areas and the monetary value of educational equipment increased as each target school quantitatively responded to the increase in students. However, effectiveness cannot be discussed if buildings and equipment are not actually utilized.

The utilization rate of major school building is 100% at all the target universities, which is very high. Especially, the equipment for education such as PCs and multimedia facilities is utilized very well at all the target universities. Although the utilization rate of equipment such as atomic absorption spectrometers is not so high, the average utilization rate of important and expensive research apparatus is more than 80% and thus it can be said that the equipment is sufficiently utilized.

As far as quantitative improvement is concerned, as seen above, the number of students increased, school building area, and the monetary value of educational equipment per student increased. The utilization rates of major school buildings and major equipment were also very high. In light of the above, it can be said that the construction of buildings and the procurement of equipment under the Project contributed largely to quantitative improvement.

### 3.2.1.2 Improvements in Quality

#### (1) Floorage and monetary value of educational equipment per student

The Undergraduate University Establishment Standards of China required that the 2006 national standard of floorage per student was more than 30 m<sup>27</sup>. While the students at the target universities have increased drastically, the floorage per student has also improved greatly from the baseline (Table 8). Xinjiang University of Finance and Economics and Xinjiang Arts College did not achieve their targets. However, as mentioned above, it is difficult to make comparisons with the target due to demolition and reconstruction of school buildings, the timing of reconstruction, and changes in the floorage calculation method. Those universities which currently do not achieve the national standard have plans to extend their campuses or construct new school buildings and their floorage per student is expected to improve.

The Project had a positive effect in increasing the monetary value of equipment per student, as seen in Table 6. In light of the above, the educational environment can be said to be moving toward improvement.

 $<sup>^{7}</sup>$  For education and administration buildings at ordinary universities, the floorage per student for departments of science, engineering, agriculture and medicine is more than  $20m^{2}$ , the floorage per student for departments of humanities, social sciences, and management is more than  $15m^{2}$ , and the floorage per student for departments of physical education and arts is more than  $30m^{2}$ .

	Baseline Target (2001) (2006) p		Actual (2012)			
			Floorage per student	Increase in the floorage per student through the Project		
Xinjiang Agricultural University	7.4	7.8	14.5	0.70		
Xinjiang Medical University	12.0	17.8	22.9	1.00		
Xinjiang Normal University	9.2	10.5	13.8	0.39		
Xinjiang University of Finance and Economics	21.7	15.5	12.6	0.79		
Xinjiang Arts College	40.6	28.2	22.9	2.76		
Ili Normal University	5.3	6.7	10.2	1.44		
Kashgar Teachers' College	11.9	9.2	20.7	0.69		
Changji Institute	9.4	13.2	17.1	1.26		

Table 8: Floorage per student

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Source: Responses to the questionnaire

(2) Changes in the number of key faculties and key laboratories

In China, since "Some opinion concerning the development of higher education institutions and key faculties" was proclaimed by the State Education Commission in 1993, the state or provincial governments have designated faculties and laboratories which closely relate to national development strategies and public welfare. These are labeled key faculties and key laboratories and supporting funds are intensively provided by the government in order to raise education and research to an international level (Table 9, Table 10)<sup>8</sup>.

	Baseline	Target	Ac	tual
	2001	2006	2006	2012
Xinjiang Agricultural University	NL: 0 PML: 2	NL: 1 PML: 4	NL: 1 PML: 6	NL: 2 PML: 10
Xinjiang Medical University	NL: 0 PML: 3	NL: 1 PML: 4	NL: 0 PML: 5	NL: 0 PML: 11
Xinjiang Normal University	NL: 0 PML: 0	NL: 0 PML: 1	NL: 0 PML: 2	NL: 0 PML: 7
Xinjiang University of Finance and Economics	NL: 0 PML: 0	NL: 0 PML: 1	NL: 0 PML: 2	NL: 0 PML: 6
Xinjiang Arts College	NL: 0 PML: 2	NL: 0 PML: 2	NL: 0 PML: 1	NL: 0 PML: 2
Ili Normal University	NL: 0 PML: 0	NL: 0 PML: 1	NL: 0 PML: 0	NL: 0 PML: 3
Kashgar Teachers' College	NL: 0 PML: 0	NL: 0 PML: 1	NL: 0 PML: 0	NL: 0 PML: 2
Changji Institute	NL: 0 PML: 0	NL: 0 PML: 1	NL: 0 PML: 0	NL: 0 PML: 0

Table 9: Number of key faculties

Source: Responses to the questionnaire

Note: NL (National Level): National key faculty, PML (Provincial or Ministerial Level): Provincial or ministerial key faculty

Although, as of 2006, few universities had attained their targets, by 2012 most of the universities, except Xinjiang Medical University (National Level) and Changji Institute (Ministerial Level), had gone well beyond target. Moreover, lecturers participating in training in Japan played a leading role in establishing a key faculty (fine arts) at Xinjiang Arts College (Box).

<sup>&</sup>lt;sup>8</sup> National key faculties are designated by the State government. Provincial or ministerial key faculties are designated by provincial governments or ministries such as the Ministry of Education.

Box: Open communication through culture and arts —Academic Exchange between Xinjiang Arts College and Tokyo National University of Fine Arts and Music—

Exchange between Xinjiang Arts College and Tokyo National University of Fine Arts and Music began when Professor Zourem from Xinjiang Arts College, who had been studying as a visiting research fellow in Japan<sup>9</sup>, transferred to the laboratory of oil painting material at Tokyo National University of Fine Arts and Music and was supervised by (the then) Professor Ichiro Sato<sup>10</sup>. After Professor Zourem went back to Xinjiang Arts College, she became an associate dean of the Department of Fine Arts and she offered to conclude an academic exchange agreement between Xinjiang Arts College and Tokyo National University of Fine Arts and Music through Professor Sato. Professor Sato had the experience of being entrusted with a UNESCO project for the protection of Cultural Landscape and Archaeological Remains in the Bamiyan Valley and had also received a trainee, Professor Shi Xiao Ming (research of the material and technique of the Silk Road Kizil stone cave mural painting), from Xinjiang Arts College, under the Project. The (then) President, Ikuo Hirayama, also promoted this plan actively. Both universities concluded the "Agreement on International Exchange for Art" in 2005. At first, this agreement was only effective between the Art Department and Xinjiang Arts College. However, after Assistant Professor Nurugri came to study at the Music Department as a trainee under the Project, the effectiveness of the Agreement developed to encompass the whole university.

Since the conclusion of the agreement, both universities have been actively engaged in exchange. The Department of Fine Arts has conducted collaborative research on Kizil stone cave mural painting (Tokyo National University of Fine Arts and Music received the scientific research fund) for the last six years and a symposium on the research activities on Kizil stone cave mural painting was held at Tokyo National University of Fine Arts and Music in commemoration of the fifth anniversary of the conclusion of the agreement (photo). The Kizil stone cave mural painting research team of Tokyo National University of Fine Arts and Music visits Xinjiang every year for research and intensive courses at Xinjiang Arts College. Through training under the Project and the collaborative research which has followed the



Symposium "The Future of Research on the Kizil Cave Murals" (photo credit: Tokyo National University of Fine Arts and Music)

Project, Xinjiang Arts College has continued to carry out research on painting materials and Kizil stone cave mural painting and to make efforts in human resource development for protection and repair. The Department of Fine Arts of Xinjiang Arts College was accredited as an autonomous level key faculty. Professor Shi played a leading role in the accreditation as a key member of faculty. He is now active as Department Director. Moreover, Assistant Professor Nurugri, who studied vocal music under (the then) Professor Yukio Tatara<sup>11</sup> for one year as a trainee under the Project, took the entrance exam for the master course for foreigners (major in solo performance) on the advice of Professor Tatara, completed the two year master course at her own expense and took a master's degree. After she went back to Xinjiang Arts College, she made efforts to establish and operate Experiment and Teaching Pilot Center for Performing Arts<sup>12</sup> with Assistant Professor Dirana who also studied dancing as a trainee under the Project at Japan Women's College of Physical Education. Currently, this Center is accredited as an excellent level autonomous experimental model center.

For Tokyo National University of Fine Arts and Music, the collaboration with Xinjiang Arts College is more than imperative in research and protection of the ethnic music and arts such as archeological site in Xinjiang. Xinjiang Arts College is an important partner in understanding the different culture by open communication through arts without sticking to national borders, religion and ethnic groups, and globalizing genuinely by sharing original art as respecting unique culture mutually not valued from the western point of view.

<sup>&</sup>lt;sup>9</sup> This study cost was not taken from the Japanese ODA Loan fund.

<sup>&</sup>lt;sup>10</sup> Current professor emeritus at Tokyo National University of Fine Arts and Music

<sup>&</sup>lt;sup>11</sup> Currently professor emeritus at Tokyo National University of Fine Arts and Music

<sup>&</sup>lt;sup>12</sup> Experiment and Teaching Pilot Center for Performing Arts is mainly used as a place for practice for students of drama at Xinjiang Arts College. This includes musical, ballet and other theatrical performance.

The number of accredited key laboratories increased gradually but they were on a steady rise except at Kashgar Teachers' College and Changji Institute. In particular, the key laboratories related to the Project are the physics key laboratory at Ili Normal University and the geography key laboratory at Xinjiang Normal University as well as the Experiment and Teaching Pilot Center for Performing Arts at Xinjiang Arts College, mentioned in the Box. In addition, there is equipment procured under the Project at Xinjiang Minority Ethnic Music and Dance Research Center, Xinjiang Arts College. The enhancement of equipment had an impact on the accreditation of the key laboratories.

	Baseline	Actual			
	2001	2006	2012		
Xinjiang Agricultural University	NL: n.a. PML: n.a.	NL: 1 PML: 6	NL: 2 PML: 8		
Xinjiang Medical University	NL: n.a. PML: n.a.	NL: 0 PML: 3	NL: 0 PML: 7		
Xinjiang Normal University	NL: 0 PML: 0	NL: 0 PML: 0	NL: 0 PML: 1		
Xinjiang University of Finance and Economics	NL: 0 PML: 0	NL: 0 PML: 0	NL: 0 PML: 4		
Xinjiang Arts College	NL: 0 PML: 0	NL: 0 PML: 0	NL: 0 PML: 1		
Ili Normal University	NL: 0 PML: 0	NL: 0 PML: 0	NL: 0 PML: 1		
Kashgar Teachers' College	NL: 0 PML: 0	NL: 0 PML: 0	NL: 0 PML: 0		
Changji Institute	NL: 0 PML: 0	NL: 0 PML: 0	NL: 0 PML: 0		

Table 10: Number of key laboratories

Source: Responses to the questionnaire

Note: NL (National Level): National key laboratory, PML (Provincial or Ministerial Level): Provincial or ministerial key laboratory

(3) Number of research papers, research projects, prizes awarded etc.

The number of research papers published in international scholarly journals such as Science Citation Indicators (SCI) has been basically increasing at the target universities, although it has fluctuated year by year (Figure 1).

Although the number was less than twenty at all the target universities before the Project implementation, an increase in articles since 2006 to 2008 has been outstanding feature. More an high-quality research papers have



Source: Responses to the questionnaire Note: SCI (Science Citation Indicators), EI (Engineering Index), ISTP (Index to Scientific & Technical Proceedings)

Figure 1: Number of articles in SCI, EI, and ISTP

been written thanks to facilities being expanded by the Project and larger research budgets being allocated than before Project implementation. As mentioned before, the Project has had a relatively large effect on the expansion of facilities and therefore it can be said that the Project has contributed to the increase in research papers to some extent.

The number of research projects has increased in the last decade at all the target universities (Table 11). Among these research projects there are some projects which used apparatus procured under the Project and where the research teams included participants of training under the Project. Therefore, it can be said that the Project has contributed to implementing these research projects to some extent. At Xinjiang Agricultural University and Ili Normal University, there are research projects of the National Social Sciences Foundation and the National Natural Science Foundation of China. Equipment procured by the Project is utilized in these projects and lecturers who participated in training in Japan play a leading role. For example, in a project of the National Natural Science Foundation of China, "Junggar Desert Ecology of seed plants in Asteraceae short-lived" at Xinjiang Agricultural University, "Methods for obtaining high-efficiency regeneration plants of the ephemeral plant Lachnoloma lehmannii growing in early spring" was studied and the results of the research received a patent for invention.

	Baseline (2001)	Actual (2006)	Actual (2012)
Xinjiang Agricultural University	NL: 0 PML: 0	NL: 9 PML: 24	NL: 50 PML: 24
Xinjiang Medical University	NL: 5 PML: 13	NL: 15 PML: 12	NL: 85 PML: 180
Xinjiang Normal University	NL: 5 PML: 1	NL: 17 PML: 14	NL: 46 PML: 130
Xinjiang University of Finance and Economics	NL: 2 PML: 3	NL: 8 PML: 6	NL: 11 PML: 47
Xinjiang Arts College	NL: 0 PML: 0	NL: 1 PML: 2	NL: 0 PML: 6
Ili Normal University	NL: 0 PML: 0	NL: 2 PML: 3	NL: 25 PML: 28
Kashgar Teachers' College	NL: 0 PML: 0	NL: 0 PML: 1	NL: 4 PML: 9
Changji Institute	NL: 0 PML: 0	NL: 0 PML: 7	NL: 2 PML: 19

Table 11: Number of research projects

Source: Responses to the questionnaire

Note: NL (National Level): National research project, PML (Provincial or Ministerial Level): Provincial or ministerial research project

The number of social services, one of the so-called "university's three missions" (education, research and social service), demonstrate an upward trend, although this depends on the university (Table 12). One example related to the Project is the vocational training and examination service for the banking sector and tax authority at Ili Normal University. This utilizes equipment procured under the Project.

	Baseline (2001)	Actual (2006)	Actual (2012)
Xinjiang Agricultural University	n.a.	152	213
Xinjiang Medical University	4	4	4
Xinjiang Normal University	n.a.	14	24
Xinjiang University of Finance and Economics	n.a.	15	62
Xinjiang Arts College	0	0	2
Ili Normal University	0	2	4
Kashgar Teachers' College	0	0	0
Changji Institute	n.a.	0	4

# Table 12: Number of social services

Source: Responses to the questionnaire

Note: The definition of social services is in accordance with the Higher Education Law in China (passed by the 4th meeting of the 9th Standing Committee of the National People's Congress, on August 29, 1998).

Many of the target universities received the autonomous level "Prize for Progress in Science and Technology". However, these are not considered to have a direct relation with the Project, although equipment procured under the Project is utilized partially in some cases the equipment used was mainly procured through universities' own funds or using a government budget.

Both faculties at undergraduate schools and courses at graduate schools have basically shown an upward trend (Table 13). In particular, the increase in master's courses is outstanding, influenced by the government policy which emphasizes research. Universities or schools able to grant doctoral degrees are also gradually increasing. There are some contributions by the Project, such as the master's course in optics established by a professor who studied optics in Japan under the Project and who played a leading role in the establishment of the course.

	Undergraduate		Master's course		Doctoral course				
	Baseline	Actual		Baseline Actual		Baseline Actu		ual	
	2001	2006	2012	2001	2006	2012	2001	2006	2012
Xinjiang Agricultural University	43	50	60	28	36	74	6	6	18
Xinjiang Medical University	15	15	21	28	49	64	3	4	25
Xinjiang Normal University	16	24	26	13	43	96	0	0	0
Xinjiang University of Finance and Economics	9	19	32	9	15	27	0	0	3
Xinjiang Arts College	4	5	7	0	0	0	0	0	0
Ili Normal University	6	7	8	0	0	6	0	0	0
Kashgar Teachers' College	10	16	23	0	4	11	0	0	0
Changji Institute	2	19	23	0	0	2	0	0	0

Table 13: Number of undergraduate faculties and graduate courses

Source: Responses to the questionnaire

As far as qualitative improvement is concerned, the educational environment is gradually improving and floorage and the monetary value of equipment per student show an upward trend. As for the development of school buildings and equipment, there has been a substantial improvement, especially in educational equipment. Meanwhile, the project has contributed to the improvement of floorage to some extent. The Project has had a profound effect on the increase in the designation of key faculties and laboratories. The Project also contributed to the increase in the number of research papers and patents as many of these used equipment procured under the Project and employed lecturers who participated in training courses under the Project. Therefore, the Project has played a significant role in improving the quality of education and research.

# 3.2.2 Quantitative Effect

Qualitative effects of the project are (1) the enhancement of the reputations of schools through an upgrade in the educational environment (effects of building construction and equipment procurement) and (2) improvements in the education system with institutional change (the effects of training).

### (1) Effects of building construction and equipment procurement

Qualitative effects of the Project are 1) good results on "Undergraduate University Teaching Level Evaluation" and 2) upgrades from college to university. In the "Undergraduate University Teaching Level Evaluation" conducted by the Ministry of Education of China, each target university received good results due to improvements in floorage per student and in the rate that experiments are conducted through enhancements of equipment. Xinjiang "College" of Finance and



Industry-academia partnership, Xinjiang Arts College

Economics was upgraded to Xinjiang "University" of Finance and Economics and, through the implementation of the Project, the improved educational, research and administrative environment were awarded "Excellent" in "Undergraduate University Teaching Level Evaluation".

### (2) Effects of training

As far as effects of training are concerned, there are some outstanding examples such as improvement of teaching methods and university management. As for teaching methods, a professor at the Department of Japanese and Russian Languages, College of Foreign Languages, Xinjiang Normal University, was awarded a prize in the teaching method contest for the departments of foreign languages and is highly appreciated by his students. Many teaching and administrative staff from the related institutes in Xinjiang participated in the Seminar for Administrators in Japan. It was not only that the participants could broaden their perspective but also that some good practices were created from what they learnt in the seminar. For instance, Xinjiang Arts College introduced a support system for students' job hunting and the college now has the top employment rate for graduates in Xinjiang. Moreover, the College established an office for industry-academia partnership by using examples in Japan as reference and has a good track record in partnership such as food package design by the Department of Design.

## 3.3 Impact

- 3.3.1 Intended Impacts
  - (1) Impact on higher education at provincial level

All the quantitative indicators, such as number of higher education institutions, the number of students at higher education institutions and higher education enrollment ratio as a whole in XUAR, increased (Table 14). The XUAR Education Department has not kept statistics about the qualitative indicators on the whole XUAR, such as floorage per students and monetary value of educational equipment. As there are many higher education institutions in XUAR, it is considered unlikely that the Project has had an impact on all the higher education institutions in XUAR in terms of both quantitative improvement and qualitative improvement.

Purpose	Indicators	Baseline (2001)	Target (2006)	Actual (2006)	Actual (2012)
Quantitative	Number of higher education institutions	37	42	52	54
improvement	Number of students at higher education institutions (thousands)	218	238	285	379
	Higher education enrollment ratio (%) (=Appropriate age enrollment/ Appropriate age population)	12.8	15.0	15.0	27.3

Table 14: Impact on higher education at autonomous level

Source: Responses to the questionnaire

#### (2) Impact on regional vitalization

At the time of appraisal, an impact on regional vitalization was expected through the dispatch of school teachers and doctors to rural areas, the provision of human resources to key industries, and the development of human resources through vocational training and adult education. As far as the dispatch of human resources is concerned, the number has been increasing recently, in particular from teachers' training institutions, because the government has promoted the fostering of teachers in rural areas as part of government policy. Xinjiang Agricultural University has dispatched agriculture instructors to rural areas and Xinjiang Medical University conducts a program for training rural physicians. These examples are related to the Project in that equipment procured under the Project is utilized and trainers in charge of rural support were participants in training in Japan.

As far as the provision of human resources to key industries is concerned, the evaluator can confirm that students have enhanced both their capacity to conduct experiments and their practical abilities through development of the experimental facilities of the Project and that graduates are active in key industries such as the petrochemical industry. This can therefore be evaluated as an impact.

As for vocational training and adult education, the number of universities which have courses for vocational training was decreasing as specialized higher education institutions for vocational training have been established. Even those universities which have courses for vocational training as of the ex-post evaluation have found their number of students decreasing. On the other hand, there is a need for Uygur adults to learn Mandarin. Therefore, the number of students for adult education is increasing in a wide range of areas, centering on Mandarin. Moreover, some universities conduct continuing education for doctors as well as short-term training in response to the needs of municipal government and enterprises. In many cases, there is a connection to the Project in the utilization of equipment and facilities such as multimedia educational apparatus, teaching buildings, and other experimental equipment procured under the Project.

(3) Impact on the strengthening of market rule

When the evaluator checked the number of graduates from departments related to the market economy, it could be confirmed that these had increased at most of the universities. However, their exact role after graduation at their places of employment and their performance was unclear, so it could not be confirmed whether or not this has led to the strengthening of market rule.

### (4) Impact on environmental conservation

There are some good practices at the target universities as shown in Table 15. These examples are connected to the Project in that equipment and buildings procured under the Project are utilized and that trainers were participants in training in Japan.

	Good practices
Graduates	- There are a large number of graduates who became civil servants in environmental protection departments and who implement pollution control (Xinjiang Normal University, Xinjiang University of Finance and Economics etc.)
Research	<ul> <li>"Study of the analysis of water heavy metal in arsenic poisoning disease and the relationship between water heavy metal and pathogeny" etc. (Xinjiang Medical University)</li> <li>"Study on the underground resources of the Ili river valley wetland and its protection and recovery" etc. (Ili Normal University)</li> </ul>
Regional efforts	<ul> <li>"Design of the master plan for the project for environmental conservation and tourism development around Salim lake" etc. – to formulate a development plan that protects ecosystems and landscape with harmonization between people and nature while avoiding adverse effects on the natural environment at the Design Laboratory. (Xinjiang Arts College)</li> </ul>

Table 15: The contributions of the target universities to environmental conservation and public health

Source: Responses to the questionnaire

#### 3.3.2 Other Impacts

(1) Impacts on the natural environment

The Environmental Impact Assessment (hereinafter referred to as "EIA") was conducted prior to project implementation in accordance with Chinese regulations. "Three-Stage Simultaneous implementation" was envisioned (i.e. the regulation that environmental protection facilities should be designed, constructed and put into production simultaneously with the main construction structures). Based on this regulation, noise-abatement measures, and measures for appropriate sewage treatment and waste disposal were conducted by each university during the implementation period. After project completion, there have been few emissions that have had an impact on the environment, although some of the universities release flue gas and sewage from experiments after treatment. However, there is no negative environmental impact.

#### (2) Land Acquisition and Resettlement

The project was carried out on existing university properties, and thus there was no land acquisition or relocation of residents.

# (3) Mutual understanding between Japan and China

It can be said that participants in the training in Japan were able to gain a deep understanding of Japan through human development program and academic exchange with Japanese universities. The most outstanding case is the exchange between Xinjiang Arts College and Tokyo National University of Fine Arts and Music (Box). Other cases of exchange between Chinese universities and Japanese universities that are related to the Project are as follows: 1) Xinjiang Medical University established the Graduates' Association of Japan- Xinjiang Medical University in 2006, which actively promotes partnership and exchange with higher education institutions in Japan, and 2) Xinjiang Agricultural University, Xinjiang University of Finance and Economics, and Kashgar Teachers' College continue academic exchange and student exchange programs with Japanese universities.

This project has largely achieved its objectives. Therefore its effectiveness and impact is high.

# 3.4 Efficiency (Rating: 2)

### 3.4.1 Project Outputs

The Project included the construction of school buildings, the enhancement of educational and research equipment, and the training of higher education personnel. The outputs of each component are as follows:

Items	Planned	Actual (achievement rate)
Buildings	8 universities total:90,000 m <sup>2</sup>	8 universities total: 93,700 m <sup>2</sup> (104.1%)
Equipment	8 universities	8 universities: mostly as planned
Training	8 universities total:127 staff	8 universities total: 236 staff (185.8%)

# Table 16: Comparison of Outputs (planned and actual)

Source: JICA appraisal documents for the planned, Responses to the questionnaire for the actual data

There was no drastic re-examination of the plan for building construction although floorage was expanded depending on the needs of each university.

As for educational equipment, there is no big difference between the plan and the actual, although the model was changed for some of the digital equipment due to production ending during the process of procurement.

As regards the training component, at the commencement stage of the Project, there were a lot of participants in mid- and long term disciplinary training while in the second half, participants in the Seminar for Administrators increased. The Education Department, wanted many executives to be aware of global levels, and wanted to advance university reform, following education department policy. Then the departments promoted participation in seminars on the part of administrators. There were some cases where disciplinary training was not taken up as some of the target universities had difficulty in contacting the receptive institutions in Japan. There were also cases where a candidate's language ability (Japanese or English) was not adequate for the master course. However, there were cases which led to a large-scale collaborative research project like Xinjiang Arts College, as mentioned in the Box. Although it is difficult to compare the difference between plan and actual for the number of trainees and contents of the training, it can be said that the training component also was generally implemented as planned.

### 3.4.2 Project Inputs

#### 3.4.2.1 Project Cost

Actual project costs amounted to 6,385 million yen (of this, the actual loan disbursement amounted to 4,524 million yen<sup>13</sup>) against the estimated costs of 6,390 million yen (of this, the planned loan amounted to 4,598 million yen). The actual costs were lower than planned (99.9%). While the appreciation of the yen against the Chinese yuan was about two yen during Project implementation, an average inflation rate was kept under 4% in China. Therefore, the Project was conducted as planned in an efficient way.

<sup>&</sup>lt;sup>13</sup> According to data provided from the executing agency, this was JPY 4,528 million. As the executing agency received the fund in Chinese yuan through the central government, the difference between this and the data provided by JICA depends on what the exchange rate was when the executing agency closed an account.

# 3.4.2.2 Project Period

The Project period planned at the time of appraisal was 39 months, or from January 2003 to March 2006. The actual Project period was 103 months, or from January 2003 to July 2011, which was longer than planned: equivalent to 264.1 % of the original plan. The reasons for the delays are as follows:

- In some cases of equipment procurement, enterprises made a successful bid with the lowest price. However, at the contract stage, it turned out that the supplier could not fulfill the contract in a practical sense and ended up failing to do so, meaning that a rebid had to be conducted.
- 2) When the procurement procedure was delayed for the above reason, some equipment such as PCs, had their speck upgraded so that the universities could not purchase equipment which was on the original list. In these cases, equipment had to be reselected from scratch.
- 3) Xinjiang is susceptible to bad weather during the winter time. This led to some delays in transporting the equipment.
- 4) During project implementation, riots occurred in the target region (in July 2009). This also affected to the transportation of the equipment.

In addition, the duration of the training component was planned from April 2003 to March 2006 at the time of appraisal. However, in light of the lead time searching for receptive institutions, the necessary time for procedure and trainees' language handicaps, the planed period for mid- and long term training was much too short for participants to pursue degrees at graduate school.

#### 3.4.3 Results of Calculations of Internal Rates of Return

Due to the nature of the Project, a quantitative analysis of the internal rate of return was not possible.

In light of the above, although the project cost was within the plan, the project period significantly exceeded the plan. Therefore efficiency of the project is fair.

# 3.5 Sustainability (Rating: ③)

3.5.1 Institutional Aspects of Operation and Maintenance

The hard assets such as buildings constructed and equipment procured under the Project are managed by each target university and supervised periodically by the autonomous government (the Education Department). Each target university establishes the regulations and the systems for operation and maintenance (O&M) and there are no systemic flaws in O&M. The Audit Office, which is equivalent to the Board of Audit of Japan, conducts annual inspections for the management at each university and the supervision of the Department of Education.

# 3.5.2 Technical Aspects of Operation and Maintenance

Each university periodically conducts a routine maintenance check. O&M manuals are prepared for equipment. Posters including the user policies and operation procedures are put on the walls near equipment.

Although repair staffs are allocated within the universities, in cases where the staff cannot repair the equipment, breakdowns are reported to the laboratories and facility service center. After screening, the university decides whether or not to outsource the repair. Especially in case of precision equipment, equipment is not repaired at the universities but by the manufactures. There is no problem with daily maintenance.

# 3.5.3 Financial Aspects of Operation and Maintenance

Local universities in China, generally speaking, borrow the required funds for the expansion of campuses from commercial banks and the excessive borrowing has been an issue at some of universities. The central government conducted research on this issue in 2012 and most outstanding amounts have been paid by the government in place of the universities, which are prohibited from borrowing from commercial banks for the time being.

The necessary O&M costs at the target universities are allocated by each university. If there is a shortage in the budget for O&M, the shortage is made up using the autonomous government budget. However, there is no problem with the financial status of the target universities as revenues basically exceed expenses. Also, there is no evidence that equipment lies neglected without maintenance and therefore, it is thought that the necessary resources for O&M are being provided.

			Unit: RMB million
	2010	2011	2012
Xinjiang Agricultural University	Income: 570.20	Income: 509.90	Income: 580.94
	Expenditure: 485.71	Expenditure: 428.85	Expenditure: 516.28
	(O/M: 0.20)	(O/M: 0.40)	(O/M: 0.40)
Xinjiang Medical University	Income: 571.95	Income: 681.03	Income: 567.56
	Expenditure: 433.38	Expenditure: 666.39	Expenditure: 554.16
	(O/M: 0.35)	(O/M: 0.32)	(O/M: 0.28)
Xinjiang Normal University	Income: 609.85	Income: 742.06	Income: 566.84
	Expenditure: 449.39	Expenditure: 596.08	Expenditure: 637.04
	(O/M: 12.90)	(O/M: 7.87)	(O/M: 11.62)
Xinjiang University of Finance and Economics	Income: 336.32 Expenditure: 270.73 (O/M: 9.60)	Income: 343.19 Expenditure: 301.96 (O/M: 11.06)	Income: 270.33 Expenditure: 274.47 (O/M: 12.10)
Xinjiang Arts College	Income: 110.16	Income: 95.41	Income: 184.42
	Expenditure: 76.18	Expenditure: 107.24	Expenditure: 140.09
	(O/M: 0.45)	(O/M: 0.62)	(O/M: 0.39)

Table 17: Income and expenditure at each target university (annual)

	2010	2011	2012
Ili Normal University	Income: 180.09	Income: 246.99	Income: 246.14
	Expenditure: 143.89	Expenditure: 163.53	Expenditure: 187.07
	(O/M: 2.09)	(O/M: 2.51)	(O/M: 6.64)
Kashgar Teachers' College	Income: 179.58	Income: 230.05	Income: 266.87
	Expenditure: 122.95	Expenditure: 173.22	Expenditure: 237.36
	(O/M: 0.69)	(O/M: 0.46)	(O/M: 0.39)
Changji Institute	Income: 147.39	Income: 149.15	Income: 187.64
	Expenditure: 118.99	Expenditure: 136.64	Expenditure: 133.56
	(O/M: 1.36)	(O/M: 2.08)	(O/M: 4.02)

Source: Responses to the questionnaire

Note: The O/M (Operation and Maintenance cost) at some universities refers only to the maintenance costs for equipment procured under the Project.

#### 3.5.4 Current Status of Operation and Maintenance

At all the target universities, the buildings and equipment are well maintained. All the universities have inventory books and maintenance logs for the major equipment. End-of-life equipment, such as PCs, has already been updated. Valuable equipment is well maintained and the utilization ratio is high. In order to raise the utilization ratio, the education department has established a platform for sharing equipment and this is open to other universities.

No major problems have been observed in the institutional, technical and financial aspects of 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 the Project was to improve higher education in XUAR quantitatively and qualitatively by supporting the construction of buildings, the procurement of equipment and the training of teachers in the target universities. This objective was consistent with China's development plan and development needs as well as with Japan's ODA policy at the time of both the appraisal in 2003 and the ex-post evaluation; therefore its relevance is high. The effectiveness and impact of the Project was high because quantitative indicators (building areas, amount of educational equipment) and qualitative indicators (number of key faculties and laboratories, number of research papers, etc.) have improved. Moreover, there are many cases of good practice in the utilization of buildings, equipment and training supported by the Project. The outputs were essentially completed in line with the initial plans, and the project cost was within the plan. The project period, however, was significantly longer than planned; therefore the efficiency of the project is fair. No major problems have been observed in all institutional, technical and financial aspects of the operation and maintenance system and its current status is very good; therefore the sustainability of the project effects is high.

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

### 4.2 Recommendations

None.

# 4.3 Lessons Learned

[Setting the Project period for the Higher Education Project]

The original project period of three years was obviously too short for this kind of higher education project which includes equipment procurement which require adjustments among the target universities, and a training components under which participants pursue degrees. The project period should be set with adequate consideration of the time necessary for preparation time required for the degree.

#### [Avoidance of bids through unbalanced unit prices]

In some cases of equipment procurement, enterprises made a successful bid with the lowest price. However, at the contract stage, it turned out that the supplier could not fulfill the contract in a practical sense and ended up failing to do so meaning that a rebid had to be conducted. Guidelines for Procurement under Japanese ODA Loans (April, 2012) explains that if a bid contains a seriously unbalanced (unreasonably low or high) unit price for certain goods or services to be provided, the Borrower is expected to ask the bidder concerned for clarification of such an offer in order to ensure appropriate execution during the contract stage, before concluding the evaluation.

Therefore, the executing agency needs to have an appropriate response to the results of the clarification with the bidder.

Item	Original	Actual
1.Project Outputs	8 target universities	8 target universities
1) school buildings	8 buildings such as teaching buildings 90,000 m <sup>2</sup>	8 buildings such as teaching buildings 93,700 m <sup>2</sup>
2) equipment	Animal nutrition analysis, folk music inheritance, environmental pollutants analysis etc.	As planned
3) training	127 staff from 8 target universities	236 staff from 8 target universities
2.Project Period	January 2003 – March 2006 (39 months)	January 2003 – July 2011 (103 months)
3.Project Cost		
Amount paid in foreign currency	4,598 million yen	4,528 million yen
Amount paid in local currency	1,792 million yen (119.5 million RMB)	1,857 million yen (137.6 million RMB)
Total	6,390 million yen	6,385 million yen
Japanese ODA loan portion	4,598 million yen	4,528 million yen
Exchange rate	1 RMB= 15 yen (As of September 2002)	1 RMB = 13.5 yen (As of April 2009)

Comparison of the Original and Actual Scope of the Project