Country Name The Project for Protection of Natural Grassland and Nomad Settlement in Xinj Beople's Republic of China Uvgur Autonomous Region					ement in Xinjiang		
I. Project Outline							
Background	In the Xinjiang Uygur Autonomous Region, while traditional nomadic grazing of sheep had been conducted, the devastation of natural grassland had progressed accompanying with an increase in the number of livestock (overgrazing), and over 80% of the total areas of natural grassland was at a risk of desertification at the time of ex-ante evaluation. Under such situation, the government of the Autonomous Region had been implementing a settlement project for protection of natural grassland and stabilization of nomads' livelihoods, in which an approach was taken to construct a settlement, distribute crop land, and conduct stall breeding of sheep during winter and planned grazing in accordance with an usable amount of natural grassland during other seasons. However, there was no rational livestock farming plan based on the amount of available natural and artificial grassland, protection of natural grassland and implementation of a settlement project were not organically linked, nomads who had little experience of stall breeding lacked livestock breeding skills and crop cultivation skills, which, combined with insufficient technology dissemination system of relevant administrations, prompted nomads						
Objectives of the Project	 Through the implementation of model initiatives (improvements of methods for planning, implementation and evaluation and strengthening of technical trainings) enabling the functioning of a sustainable settlement project which both protects the natural grasslands and improves the lives of nomads, the project aimed at strengthening a technological support system for settled nomadic people (Project Purpose), thereby contributing to protection of the natural grasslands and improvement of the lives of nomads in the settlement area of similar regions to the model region in northern Xinjiang. The project objectives set forth are as follows: Overall Goal: The natural grasslands are protected and the lives of nomads are improved in the settlement area of similar regions to the model region in northern Xinjiang. Project Purpose: A technological support system for settled nomadic people is strengthened through the implementation of model initiatives enabling the functioning of a sustainable settlement project which both protects the natural grasslands and improves the lives of nomadic people is strengthened through the implementation of model initiatives enabling the functioning of a sustainable settlement project which both protects the natural grasslands and improves the lives of nomadic people is strengthened through the implementation of model initiatives enabling the functioning of a sustainable settlement project which both protects the natural grasslands and improves the lives of nomads 						
Activities of the project	 Project site: Urumqi City, Changji City and Fuyun County in the Xinjiang Uygur Autonomous Region Main activities: Formulation of an appropriate protective utilization plan of natural grassland, a land utilization plan, a farming plan and a water utilization plan according to the actual state of the model region; implementation of a pilot project; formulation of an establishment plan (including a training plan) of technological extension system (grassland management, stockbreeding, water-saving irrigation and farming etc.) in the model region; provision of trainings for administrators and personnel in charge of technological extension at city, county and township levels and nomads in the model region, etc. Inputs (to carry out above activities) Japanese Side Experts: 9 persons Equipment: farming equipment, monitoring equipment and dairy product processing facility etc. Chinese Side Chinese Side Staff allocated: 56 persons Project office (Urumqi City, Changji City and Fuyun County) Local cost 						
Ex-Ante Evaluation	2007	Project Period	June 2007 – March 2013 (of which extended period: April 2012 – March 2013)	Project Cost	(ex-ante) 390 million yen (actual) 480 million yen		
Implementing Agency	Department of Science and Technology of Xinjiang Uygur Autonomous Region (Center for the Protection and Utilization of Natural Grasslands in Xinjiang)						
Cooperation Agency in Japan	Ministry of Agriculture, Forestry and Fisheries						
II. Result of the Evalu <special cor<br="" perspectives="">• While the target yes Goal three years at (project completion)</special>	Jation isidered in the ex-p ar for Overall Goa fter project comple is 2013).	ost evaluation> l is not stated in PDM, stion". Thus, this proje	it is written in the Terminal Evaluation Re ect is evaluated based on an assumption t	eport, "probability o hat the target year f	f achievement of Overall for Overall Goal is 2016		

1 Relevance <Consistency with the Development Policy of China at the time of ex-ante evaluation and project completion>

The project has been consistent with China's development policy on 'protection of natural grassland' and 'settlement policy' etc. as set forth in "the National Ecology Development Plan (approved by the Standing Committee of the State Council in 1999)", "the 11th Five-Year Plan (2006-2010) for National and Social Development of People's Republic of China", "the 11th Five-Year Plan (2006-2010) of the Xinjiang Uygur Autonomous Region", "the 12th Five-Year Plan (2011-2015) (of both the central government and the Xinjiang Uygur Autonomous Region)" and "Stockbreeding Development Plan (2011-2015)" etc.

<Consistency with the Development Needs of China at the time of ex-ante evaluation and project completion>

The model region of this project is comprised of Akeqi Village in the Miaoergou Township of Changji City and Qiabula Village in the

Dure Township in Fuyun County, which had been constructed as settlement villages for nomadic people and development of infrastructures had already been completed, and thus to select these villages under the project as targets for provision of technical cooperation after their settlement was highly relevant. Moreover, Changji City is in a good location to access to Urumqi City, which is a large consuming area, whereas Fuyun County is in a relatively bad location to access to markets, and thus each village could be a model for other similar regions and to select these villages as model villages was also highly relevant¹. At the time of project completion, as well, it was confirmed from the situation of assistance by related organizations and interviews with them that there were needs for protection of natural grassland, supporting nomads after settlement for their life improvement including livelihood and technical assistance in stockbreeding. <Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with Japan's ODA policy on 'cooperation to cope with global issues including environmental problems', as stated as one of priorities/economic cooperation policies in the "Economic Cooperation Program for China (2001)". <Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Status of Achievement for the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. According to studies during project implementation, income from agriculture and stockbreeding per model nomad in 2011 (the fifth year) increased by 86.0% in Akeqi Village and 43.7% in Qiabula Village, compared with that of 2007 (when the project started) (Indicator 1). The degree of dependency on forage taken from natural grasslands among model nomad families during winter-time² in 2012 (the sixth year) was reduced by 56 points in Akeqi Village and 40 points in Qiabula Village, compared with that of 2007 (when the project started) (Indicator 2). Textbooks and manuals etc. produced under the project were used as teaching materials in trainings for nomads and trainees commented that they were practical (Indicator 3). Moreover, the number of visitors to the model region during project implementation (six years in total) reached 272 persons annually on average among Akeqi Village and Qiabula Village (Indicator 4).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

Through technical supports for model nomads provided under the project, the survival rate and reproduction rate of livestock were enhanced due to stall breeding, and model nomad families became able to obtain higher income. After project completion, net income from agriculture and stockbreeding per model nomad has steadily been increasing. The degree of dependency on forage taken from natural grasslands among model nomad families during winter-time has been decreasing since project completion, and in particular, the degree in Akeqi Village, which has better access to Urumqi City (provincial capital) and where settlement had progressed to a certain extent before project implementation, has been significantly improved to 5% (2015). Moreover, guidance on settlement for model nomad families and guidance on management skills for stakeholders of livestock farming have been conducted since project completion, in which textbooks and manuals etc. produced under the project are still used as teaching materials. Furthermore, as a result of enhanced awareness about protection of natural grassland and settlement in the model region and surrounding villages due to a success of model nomad families, there have been many visitors to the model region since project completion, and the number of visitors reached 200 persons (the target) annually on average among Akeqi Village and Qiabula Village in 2015. According to interviews with project counterparts, there are many cases in which other nomad families who saw achievements of model nomad families adopt the same approach in both villages, and as a result of project effects having steadily spread, the degree of dependency on forage taken from natural grasslands during winter-time is considered to have decreased.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been achieved by the time of ex-post evaluation. The number of cases in which settlement projects have been started on a large scale utilizing outcomes of this project in similar regions in northern Xinjiang (Changji Hui Autonomous Prefecture and Altay Prefecture) was two in total during three years from 2013 to 2015 (there were also several small cases that are not included in the statistics) (Indicator 1). According to Animal Science Academy of Xinjiang Uygur Autonomous Region, this is due to the fact that trainings whose contents are the same as those implemented under the project have been conducted for related people at various levels within the Xinjiang Uygur Autonomous Region since project completion. The statistics of local governments superior to the model villages show that in both the Miaoergou Township of Changji City including Akeqi Village and the Dure Township in Fuyun County including Qiabula Village, the rate of sheep which spent a winter in a settlement village has increased by over 30 points from 2008 to 2016 (Indicator 2), and net income from agriculture and stockbreeding per nomad has also increased by 188% and 84% during the same period in the Miaoergou Township respectively (Indicator 3). According to Animal Science Academy of Xinjiang Uygur Autonomous Region and Changji City, as mentioned above, the number of cases in which people who visited the project sites emulate the project activities has increased³. Consequently, it is considered that, settlement has progressed in the region, which has contributed to achievement of these indicators.

<Other Impacts at the time of Ex-post Evaluation>

No negative impact on natural or social environment has been occurred under the project. As other impacts occurred due to this project, (1) the grass coverage rate in the model region and surrounding areas has increased (example: according to Animal Science Academy of Xinjiang Uygur Autonomous Region, the grass coverage rate in Changji Prefecture: 36% in 2013 to 56% in 2015), (2) as manpower

² This is a period when livestock spend time in winter farm, which is normally from late November to early April.

¹ However, there are problems attributable to project planning in terms of appropriateness of project design/approach, though these were not so significant to affect the relevance of the project. In selecting model villages, two villages were selected as model areas for settlement of nomadic people, which were (1) Akeqi Village, which was close to a large city (provincial capital), with good access to markets and where settlement had already been in progress, and (2) Qiabula Village, which was far from a large city, with poor access to markets and where settlement had not been started at all. It was necessary to provide more support for the Village (2) continuously by increasing inputs (assignment period of Japanese experts etc.) than for the Village (1), however, there was no facility where foreigners could stay in the Village (2), and thus Japanese experts had to stay in a neighboring city and spend more than four hours every day for traveling to and from the Village (2) by car to carry out project activities. This caused a burden on Japanese experts and their activities had to be limited. While it is difficult to conduct a rigorous verification, there is a possibility that this became a cause of partial insufficiencies of a system and technical skills required for sustainability of project effects in Village (2), as mentioned in '4 Sustainability'.

³ During the field survey for this ex-post evaluation, the situation in which a vast area has been settled and natural grassland has been recovered was visually confirmed from a car on the way from Urumqi City to Akeqi Village in Changji City.

required for stall breeding is less than that for nomadic grazing, males are now able to go to urban areas to work, which has increased their income, (3) livestock excretion is no longer spread to a wide area due to stall breeding, which has led to an improvement of hygienic environment in villages, and (4) females who take care of livestock are now able to obtain cash income from selling dairy products, which has advanced social status of females.

<Evaluation Result>

In light of the above, through the project, the Project Purpose was achieved by the time of project completion, project effects have been maintained to the time of ex-post evaluation, and the Overall Goal has been achieved. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results						
(Project Purpose)	1. Net income from agriculture and	Status of the achievement: achieved (continued)						
A technological support	stockbreeding per model nomad increases	(Project Completion) Income in real	terms in 201	l was calcula	ted ba	ased on		
system for settled	by 40% in real terms.	Consumer Price Index (CPI) treating	2007 as a ba	se year, and	the re	sult was		
nomadic people is		11,316 yuan/person in Akeqi Village	in Changji C	ity (increase	d by 8	36.0%)		
strengthened through the		and 3,680 yuan/person in Qiabula Vil	lage in Fuyu	n County (ir	crease	ed by		
implementation of model		43.7%).						
initiatives enabling the		(Ex-post Evaluation) Net income from	n agriculture	and stockbr	eeding	g per		
functioning of a		model nomad after project completion is as below. It has been increasing						
sustainable settlement		since 2011.						
project which both				(Un	it: yua	n/person)		
protects the natural			2013	2014	_	2015		
grasslands and improves		Akeqi Village in Changji City	12,753	14,842	2	15,963		
the lives of nomads.		Qiabula Village in Fuyun County	6,800	7,200)	7,800		
	2. The degree of dependency on forage	Status of the achievement: achieved (continued)					
	taken from natural grasslands among model	el (Project completion) The degree of dependency on forage taken from natura						
	nomad families during winter-time is	grasslands in the fifth year (2011) was improved by 56 points on average						
	reduced by 30 points (the degree of	among 20 families in Akeqi Village and 40 points in Qiabula Village,						
	dependency on forage: a rate against forage	e compared with the figure at project commencement (2007).						
	demand for the whole livestock for a certain	tain (Ex-post Evaluation) The degree of dependency on forage taken from nature						
	period).	grassiands among model nomad families during winter-time in the project						
		nnai year and and project completion is as below. Although the data as of project completion especially about Ojabula Village (taken from the						
		Summary of Terminal Evaluation that does not mention data sources) is not						
		consistent with the data below and thus not fully comparable the degree						
		dependency has been decreasing steadily.						
						(Unit: %)		
			2012	2013 2)14	2015		
		Akeqi Village in Changji City	13	11	8	5		
		Qiabula Village in Fuyun County	72	72	70	70		
	3. Textbooks/manuals produced under the	Status of the achievement: mostly achieved (continued)						
	project are utilized in trainings conducted	(Project completion) Textbooks produced under the project were used in						
	by Department of Science and Technology trainings for nomads such as "Winter			Winter of Department of Science and				
	(and its related groups) or Department of Technology" (technical trainings in winter-time) etc. as training					erials.		
	Animal Husbandry (and its related groups).	Husbandry (and its related groups). The technical manual (preliminary version) was used for trial in the						
		neighboring village of Akeqi Village	in Changji C	ity in Decen	nber 2	012, and		
		nomads who attended the training con	mmented that	t "the manua	l cont	ains		
		many charts and tables, it is practical, and its contents are new", etc. The						
		guideline/manual was approved in the	e end of Janu	ary 2013 an	d was	planned		
		to be used in trainings conducted by Department of Science and Techno						
		Department of Animal Husbandry and their related groups.						
		(Ex-post Evaluation) in Changi City	, guidance or	settlement	as be	en ter for		
		conducted by Department of Science	and rechnol	ogy of Changji City for				
		seven days per year on average for in	total) and i	n Urumai Ci	vinag	dance on		
		management skills has been conducted by Department of Science and						
		Technology of the Autonomous Region for five days per vear on average for						
		stakeholders of natural grassland and livestock farming at various levels such						
		as city, county, township and village (the number of attendants has been 50 in						
	total) since project completion. Textbooks and manuals produced u							
	in these trai	nings in agri	cultur	al and				
		livestock farming regions.						
	4. The number of visitors to the model	Status of the achievement: mostly achieved (mostly continued)						
	region reaches 200 people per year. (Project completion) The number of visitors to the model region during s							
		years was 410 persons in Akeqi Village and 134 persons in Qiabula Village,						
		annually on average. The average of	both villages	was 272 per	sons a	annually.		

		(Ex-post Evaluation) The number of visitors to the model region per year after project completion is as below. While it is fewer than the number during project implementation, the average of both villages is 205 persons in 2015, which exceeds the target.				
		(Unit: persons)				
			2013	2014	2015	
		Akeqi Village in Changji City	120	18	0 260	
		Qiabula Village in Fuyun County	110	14	2 150	
		Average	115	16	1 205	
(Overall goal) The natural grasslands are protected and the lives of nomads are improved in the settlement area of	1. The number of cases in which settlement projects have been started utilizing outcomes of this project in similar regions in northern Xinjiang becomes over six.	(Ex-post Evaluation) achieved The number of cases in which settlement projects have been started on a large scale utilizing outcomes of this project in Changji Hui Autonomous Prefecture and Altay Prefecture was two in total during three years from 2013 to 2015. In addition, there have also been at least four small cases, and thus the total number of cases is over six.				
similar regions to the model region in northern Xinjiang.	2. In villages in the Indicator 1 above, the rate of sheep which spent a winter in a settlement village increases by 15 points (villages should be sampled).	(Ex-post Evaluation) achieved Villages could not be sampled, and instead, the transition in the whole region including model villages was analyzed (this can be an alternative indicator as settlement is progressing in the whole region). The data shows an increase by 30.5 points in the Miaoergou Township of Changji City and an increase by 35 points in the Dure Township in Fuyun County. (Unit: %)				
				2008	2016	
		Miaoergou Township in Changji City	y	57.5	88	
		Dure Township in Fuyun County		15	50	
	3. In villages in the Indicator 1 above, net income from agriculture and stockbreeding per nomad increases by 20% in real terms (villages should be sampled).	(Ex-post Evaluation) achieved Villages could not be sampled, and instead, the transition in the whole region including model villages was an increase by 188% in the Miaoergou Township of Changji City and an increase by 84% in the Dure Township in Fuyun County.				
				(U1	nt: yuan/person)	
				2008	2016	
		Dure Township in Fuyun County	у	5,528 4,848	15,964 8,928	

Source : Summary of Terminal Evaluation, Project Completion Report, Questionnaire survey and interview to Animal Science Academy of Xinjiang Uygur Autonomous Region

Note: The definition of the word "point(s)" used in the Project Purpose Indicator 2 and the Overall Goal Indicator 2 is not clearly mentioned in the available documents. For the analysis in this ex-post evaluation, it was regarded as a change of percentage (difference) based on how the word is used in those documents.

3 Efficiency

Both project cost and project period exceeded the plan (123% and 117%, respectively), as project period was extended for a year due to the fact that the dispatch of all Japanese experts was stopped for almost a year in the third year due to the insurgency that occurred in Xinjiang in July 2009 and that more time was required to enhance effects of model initiatives in Qiabula Village. Therefore, the efficiency of the project is fair.

4 Sustainability <Policy Aspect>

Protection of natural grassland and settlement policy are still positioned as important issues in "the 13th Five-Year Plan (2016-2020) of the Xinjiang Uygur Autonomous Region", which is under preparation at the time of ex-post evaluation. <Institutional Aspect>

There has been no change to the organizational structure and division of roles among Department of Science and Technology of the Autonomous Region, Animal Science Academy, and Department of Science and Technology of City/County etc. regarding protection of natural grassland and settlement policy since project completion. The International Cooperation Division of Department of Science and Technology of the Autonomous Region is mainly responsible for coordination with related organizations and implementation of trainings organized by the government of the Autonomous Region etc., the Research Institute of Xinjiang Academy of Animal Sciences is responsible for scientific research, technological development and modeling/dissemination of technologies etc., and Department of Science and Technology of City/County is responsible for selection of participating nomad families, project implementation, and provision of trainings at the city/county level etc. The number of staff is four in the International Cooperation Division of Department of Science and Technology of the Autonomous Region, 34 in the Research Institute of Xinjiang Academy of Animal Sciences, 18 in Department of Science and Technology of Changji City, and three in the Grassland Station of Department of Science and Technology of Fuyun County. The number of staff is sufficient in all of these organizations, as the number of staff actually assigned satisfies the quota (required number of staff), and these organizations conduct technical guidance and opinion hearings for stakeholders at the township/village level and nomads over 20 days annually on average. Moreover, a facility for artificial insemination was constructed in Akegi Village and a facility for artificial insemination and a small dairy products processing factory were constructed in Qiabula Village under the project. While each facility for artificial insemination is utilized and managed properly by a veterinarian belonging to the Veterinary Station at the township level, the small dairy products processing factory is not operational at the time of ex-post evaluation. This is due to the fact that nomads could not produce dairy products that satisfy the food sanitation standard of China and that Qiabula Village is in a location with very poor access to neighboring cities, which increases transportation cost of dairy products⁴. While a concrete answer was not provided, there is a

⁴ It was pointed out at the time of project completion that due to the delayed project activities in Qiabula Village, the production flow from cultivation of

possibility that no maintenance staff is assigned for the small dairy products processing factory at the time of ex-post evaluation. <Technical Aspect>

At the time of ex-post evaluation, project counterparts still work for Department of Science and Technology of the Autonomous Region, Animal Science Academy, and Department of Science and Technology of City/County etc. There are eight staff with advanced technical qualification on animal science (24% of the total number of staff) in the Research Institute of Xinjiang Academy of Animal Sciences, there are 11 staff who have graduated from universities/professional schools or above (61% of the total number of staff) in Department of Science and Technology of Changji City, and technical experts in the field of agriculture and stockbreeding and water management etc. are constantly assigned at Department of Science and Technology of Fuyun County, and thus, technical skills of these organizations are sufficient for scientific research, technological development and modeling/dissemination of technologies etc. Moreover, internal trainings have been conducted to improve and maintain technical levels of staff in these organizations (the number of trainees during three years from 2013 to 2015: 20 in total in Department of Science and Technology of Xinjiang Uygur Autonomous Region, 20 in total in Department of Science and Technology of Changji City, and 60 in total in Fuyun County). Furthermore, technical skills of veterinarians responsible for managing the facility for artificial insemination are sufficient, as the facility has properly been maintained and artificial insemination has actually been conducted in Akeqi Village, however, nomads who manage the small dairy products processing factory in Qiabula Village (rural cooperatives) lack technical skills to produce dairy products that satisfy the food sanitation standard of China. <Financial Aspect>

At the time of ex-post evaluation, the amount of budget in the above organizations (budget to conduct various trainings such as technical guidance on agriculture and stockbreeding etc.) is one million yuan per year in Department of Science and Technology of the Autonomous Region, 200 thousand yuan per year in Department of Science and Technology of Changji City, and 100 thousand yuan per year in Department of Science and Technology of Fuyun County. Moreover, 20,000 yuan is annually required for maintenance of the facility for artificial insemination in Akeqi Village, and 20,000 to 22,000 yuan has been secured annually since project completion, and thus sufficient amount of maintenance budget has been secured every year. On the other hand, no maintenance budget is secured for the small dairy products processing factory in Qiabula Village, as the facility is not in operation. Qiabula Village is requesting the County government to exempt electricity bills of the facility and provide support for acquisition of a qualification/permission on food safety and sanitation, however, what kinds of measures to be taken has not been determined yet. <<Evaluation Result>

In light of the above, slight problems have been observed in terms of the institutional, technical and financial aspects of the implementing agency. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose, "strengthening of a technological support system for settled nomadic people through the implementation of model initiatives enabling the functioning of a sustainable settlement project which both protects the natural grasslands and improves the lives of nomads", as planned. As for Overall Goal, settlement projects have been started utilizing outcomes of this project and positive impacts have been observed in similar regions in northern Xinjiang, and achievement of targets set in indicators have been confirmed. Regarding sustainability, some problems have been observed in terms of the institutional, technical and financial aspects of the small dairy products processing factory in Qiabula Village. As for efficiency, both project cost and project period exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

Regarding the small dairy products processing factory in Qiabula Village in Fuyun County that is not in operation, Department of Science and Technology of Xinjiang Uygur Autonomous Region should, in consultation with the residents, examine problems and solutions for restarting operation and consider and provide assistance to the residents in their undertaking of necessary measures.

Lessons learned for JICA:

When selecting model regions, it is desirable to select sites which do not negatively affect Japanese experts in terms of their activities and access to the sites. In case a site needs to be selected in a location where it is difficult for Japanese experts to stay and carry out their activities for a long period of time, project activities would be limited, and thus an assignment period of experts would need to be set longer than usual. If the assignment period is limited, the project would need to be designed based on an assumption that project activities need to be limited. It might also be worthwhile to develop an implementation structure that enables appropriate technical assistance and monitoring without long-term stay of Japanese experts, for example by utilizing local resources such as local consultants.



Akeqi Village in Changji City: milk cows procured and barn constructed owing to extension of stockbreeding techniques



Akeqi Village in Changji City: noticeboard showing that this is a model nomad family of this project