

**Landscape Approach to Wildlife
Conservation in Northeast China
Project**

**Social Impact Assessment
Report**

March, 2015

Executive Summary

In order to promote the protection and management of the Siberian tiger and its habitat, the State Forestry Administration and the World Bank jointly applied for the GEF “Landscape Approach to Wildlife Conservation in Northeast China Project”, and got approval in principle on Feb, 29th, 2012. This project is implemented in Northeast China, at the junction area of Heilongjiang Province and Jilin Province, close to the Primorsky Region of Russia and Hamgyong Province of North Korea. It involves Hunchun City, Wangqing County, Dongning County, and Muling County, with a total area of 13879.26 square kilometers. The aggregate amount of the project is 18 million US dollars. The undertaking units of the project include Jilin Forestry Department, Heilongjiang Forestry Department, and the General Bureau of Heilongjiang Forest Industry.

Contents of the project mainly include conservation station construction, new nature reserve construction or expansion, tiger-friendly forest management activities and supplementary feeding stations construction. The implementation area all belong to the state-owned forest farms affiliated to the General Bureau of Heilongjiang Forest Industry, Heilongjiang Forestry Department and Jilin Forestry Department. Departments in charge of these involved forest farms include Suiyang Forestry Department, Dongning Forestry Department, Muling Forestry Department, Hunchun City Forestry Department, Hunchun Forestry Department, Wangqing Forestry Department, Wangqing County Forestry Department, and Tianqiaoling Forestry Department.

The social assessment of “Landscape Approach to Wildlife Conservation in Northeast China Project” is conducted by means of field investigation, semi-structural interviews with key figures, group discussion and questionnaire survey, and is based on the related second-hand literature. The assessment particularly recognize relevant stakeholders and assess their participation, adaptability, risks, whether they are involved in resettlement, and impacts on ethnic minorities. The monitoring and assessment plan to mitigate social impacts is made according to the social impact assessment in order to improve the feasibility of the project.

Based on 3 investigation, the assessments team collect the basic situation of 24 rural communities and 25 forest farms. It's identified that 14 villages and 25 forest farms are affected. The basic information of 24 rural communities is shown in Table 3-2. Based on these 3 investigation and confirmed by the local forestry departments, these 14 villages are Qianying, Chaoyanggou, Miaoling, Hongxing and Liangzichuan in Heilongjiang Niaoqingshan Siberian Tiger Reserve; Duhuangzi village in Xinancha Forest Farm of Wangqing National Reserve; Lanjia Village near Chunhua Forest Farm in Jilin Hunchun Lanjia protected areas; Guandaogou Village, Xiacao Village, Shagncaomao Village, Fenshuiling Village, Yantonglazi Village, Songlin Village and Dongala Village in Jilin Hunchun Siberian Tiger National Reserve.

The basic information of 25 forest farms is shown in Table 3-3. Based on these 3 investigation and confirmed by the local forestry departments, these 25 forest farms are Duhuangzi Forest Farm, Dahuanggou Forest Farm, Lanjia Forest Farm, Xinancha Forest Farm, and Jincang Forest Farm in Jilin Wangqing National Reserve; Shanghe Forest Farm, Neihe Forest Farm, Huapi Forest Farm, Xiangyang Forest Farm, and Xidahe Forest Farm in Jilin Tianqiaoling Siberian Tiger Reserve; Gonghe Forest Farm, Heping Forest Farm, and Longzhuagou Forest Farm in Muling Northeast Taxus Chinensis Nature Reserve; Chaoyanggou Forest Farm in Heilongjiang Niaoqingshan Nature Reserve; Nuanquanhe Forest Farm, Sanchahe Forest Farm, Sanjialazi Forest Farm, Yuanshan Forest Farm, and Zhongguli Forest Farm in Heilongjiang Laoyeling

Siberian Tiger Reserve; the Chunhua Forest Farm which is located in both Hunchun Siberian Tiger National Reserve and Lanjia protected areas; and Qinglongtai Forest Farm, Sandaogou Forest Farm, Yangpao Forest Farm, Banshi Forest Farm, and Jingxin Forest Farm in Hunchun Siberian Tiger National Reserve.

The transformation of livelihood methods of forest farm staffs, people in surrounding communities and relevant vulnerable groups would be affected in this project. Status about affected farmers is shown in Table 3-4. The construction of 4 out of 6 project areas has impacts on peasants, involving 1462 households, 4559 people in total. All these farmers would be affected by animal-caused accidents. 250 households in 13 villages would be affected in that they could not get raw materials to plant agaric such as sawdust, involving 728 people. 444 households who live on gathering under-forest products would be affected by the prohibition policy of logging in the reserves, involving 1299 people. Besides, some households that keep cattle would be affected by animal-caused accidents and the transformation of state-owned forest farms to reserves, involving 207 people in 77 households. After the Chaoyanggou state-owned forest farm in Dongning County, Heilongjiang Province, is transformed into nature reserves, farmlands of the forest farms which are leased to rural households will be resumed, involving 122 households and 352 people.

Status about affected forest farms is shown in Table 3-5. The prohibition of deforestation cover an area of 5095575 mu, involving 25 forest farms, 1515 households and 4344 forest farm staffs. Impacts on agaric planting involve 18 forest farms, 1182 households and 3327 forest farm staffs. Impacts on pasturing involve 4 forest farms in two nature reserves, 11 households and 33 forest farm staffs. Impacts on collecting under-forest products involve 9 state-owned forest farms, 725 households and 2150 people.

Based on the social and economic background in the project areas, as well as contents and primary investigation of the “Landscape Approach to Wildlife Conservation in Northeast China Project”, **conclusions from the social impact assessment are as follow:**

- The project has overall great environmental, economic and social benefits, and it is in line with China’s current policy of forest conservation instead of harvesting. Particularly with the introduction of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation* in 2014, this project can help to promote the transformation of function and livelihood of various stakeholders in the project area, serving the practical demands of related parties as well as the economic and social development of the project area in a medium and long term, and thus it bears significant compatibility of economic, social and ecological function.

- The construction of the project will make great contribution to improve the ecological environment and will create a friendly habitat for the Siberian tiger and its prey, boosting the protection and recovery of wildlife resources in northeast China.

- The site design of the project has been optimized in the early stage and nearby communities will be moved out of the reserves. The strategy of joint management with circumjacent communities has been developed, thus the implementation of the project will not cause involuntary immigrant resettlement or negative influences on indigenous peoples.

- The project is feasible as it has no negative effects on farmers’ livelihood. Some peasants would still collect forest products in state-owned forest farms and the experimental areas of the reserves. They will be allowed to still collect forest products in the experimental areas of the reserves after the project is implemented.

- Under the background of logging prohibition enacted by the State Forestry

Administration, the livelihood of forest farm workers, nearby farmers and impoverished farmers would be affected to some extent.

-Residents of Chosen nationality in Jilin province, who used to live on logging in state-owned forest farms, may be affected in terms of their livelihood. Thus the *Ethnic Minority Development Plan* need to be formulated.

-The newly-built and expanded reserves involved in this project need to change state-owned forest farms to nature reserves, which covers an area of 1,999,800 mu. Besides, areas where functional construction and forest tending need to be strengthened cover an area of 3,785,775 mu. Though the jobs of original forest farm staffs would be changed to protection jobs, involuntary resettlement is inevitable to some extent. Thus the *Resettlement Plan* is needed.

-The compensation mechanism of animal accidents has been enacted in Jilin province, while in Heilongjiang Province no compensation mechanism has been established, and formal official documents of loss compensation for animal accidents are still to be made.

-The technique training on sawdust alternative could mitigate the influences of poaching, forest farm staffs and nearby farmers' relying on forest resources due to the sawdust shortage when planting agaric, and the behavior of staffs in the reserves.

-Plans for social impact and risk mitigation, interest enhancement, and training should be made rigorously aiming at problems found in this Social Assessment.

-The public participation mechanism is being established, especially the mechanism where state-owned forest farms will take part in designing, operating, monitoring, and evaluating of the project.

During the project implementation, it is recommended that the following content should be given special attention:

- To monitor the livelihood of state-owned forest farm staffs, hunters and under-privileged people in the project area, especially the tendency of their income.
- To strengthen the participation of the forest farm staffs and the farmers in surrounding areas and to establish a co-management mechanism in terms of collecting under-forest products and clearing hunting tools in the experimental areas and forest farms that are not be included in the reserves;
- To improve the project information transparency, publicize the information through such media as the Internet, television, newspaper and glass-fronted billboard to introduce the project progress and publicize the project significance, and improve residents' sense of belonging to the project;
- Heilongjiang Province shall set about formulating relevant compensation policies for wildlife accidents. Before the formal establishment of the policy, Heilongjiang Forestry Department shall coordinate with relevant departments and establish a recognition mechanism and a special financial fund of wildlife accident compensation, which will provide early-stage preparations for the smooth implementation of the project;
- To set special funds for training on planting and breeding for forest farm staffs and nearby farmers; to decrease impacts of the prohibition of logging;
- To improve the transparency of the information through the Internet, television, newspapers, and showcases, to publicize the progress and meaning of the project; thus to increase their sense of belonging;
- To compile the *Ethnic Minority Development Plan* and the *Resettlement Plan*.

Content

Chapter 1 Introduction	1
1.1 Project Context and Purpose	1
1.2 Economic and Social Background of the Project Area	1
1.2.1 Geographical Location	1
1.2.2 Population	2
1.2.3 Administrative Division	2
1.2.4 Natural Resources	3
1.2.5 Climate and Hydrology	4
1.2.6 Economic Development	5
1.2.7 Current Situation of the Reserves.....	6
1.3 Main Contents and Project Scale	11
1.3.1 Main Contents of the Project.....	11
1.3.2 Project Budget.....	14
1.3.3 Schedule of the Project.....	1
Chapter 2 Process and Method of the Social Impact Assessment	15
2.1 Task and Target of the Social Impact Assessment	15
2.2 Base of Social Assessment	15
2.3 Work Scope and Main Contents	15
2.4 Definition of the Project Impacts	16
2.5 Methods of Social Assessment	16
2.5.1 Methods of Social Assessment	16
2.5.2 Methods of Field Research.....	17
2.6 Methods of Data Analysis	18
Chapter 3 Analysis of Stakeholders	19
3.1 Recognition of Impacts of the Construction Projects.....	19
3.2 Recognition of Relevant Stakeholders	25
3.2 Analysis of Stakeholders	43
3.2.1 The General Bureau of Heilongjiang Forest Industry and Its Subordinate Departments	43
3.2.2 Heilongjiang Forestry Department and Its Subordinate Forestry Departments in Each City and County	44
3.2.3 Jilin Forestry Department and Its Subordinate Forestry Departments	44
3.2.4 Farmers in Heilongjiang Reserves and Surrounding areas.....	45
3.2.5 Workers Employed in Forestry in Heilongjiang Reserves	45
3.2.6 Farmers of Jilin Reserve and Surrounding Areas	46
3.2.7 Jilin Reserve Forest Workers.....	46
3.2.8 Poachers	46
3.2.9 Vulnerable Group	46
Chapter 4 Participation Process and Results	48
4.1 Participation process and methods	48
4.2 Research on Project Awareness Rate.....	49
4.3 Survey on Project Recognition Rate	50
4.4 Main Findings in the Community Participation	52
Chapter 5 Assessment of Social Effects and Co-adaptability	54
5.1 Law, Regulations and the Adaptability of the Project	54
5.2 Social Customs and the Adaptability of the Project	55
5.3 Administrative Departments of Forestry and the Adaptability of the Project	56
5.4 Livelihood of Forest Farm Staffs and Farmers in Areas Surrounding the Reserves and the Adaptability of the Project	56
5.5 Livelihood of Vulnerable Groups and the Adaptability of the Project	58
Chapter 6 Risk Assessment	61
6.1 Risks of Accidents Caused by Wild Animals	61
6.2 Risks of Forest Resources Utilization Conflict	61
6.3 Risks of Poaching.....	62
6.4 Risks of Shortage of Raw Material for Agaric Planting.....	62
6.5 Environmental Risks in Construction Period	62

Chapter 7 Impacts on Ethnic Minorities	64
Chapter 8 Impacts on Involuntary Resettlement	66
Chapter 9 Social Management Plan	67
9.1 Mitigation Plan for Social Impacts.....	67
9.1.1 Mitigation Measures for Impacts on Forest Farm Staff	67
9.1.2 Mitigation Measures for Impacts on Farmers in Surrounding Regions	67
9.1.3 Mitigation Measures for Impacts on Poverty-Stricken Family	67
9.2 Risk Mitigation Plan	67
9.2.1 Mitigation Measures for Wildlife Accidents Risks	67
9.2.2 Mitigation Measures for Forestry Resources Utilization Conflicts.....	68
9.2.3 Mitigation Measures for Poaching	68
9.2.4 Mitigation Measures for Material Shortage Risks in Fungus Planting	68
9.2.5 Mitigation Measures for Environmental Impacts.....	68
9.2.6 Mitigation Measures for Impacts on Indigenous Peoples	68
9.2.7 Mitigation Measures for Involuntary Resettlement.....	68
9.3 Benefit Strengthening Plan.....	69
9.3.1 Environmental Management System Construction.....	69
9.3.2 Measures to Improve Social Benefits.....	69
9.3.3 Measures to Improve Economic Benefits	69
9.4 Training Program	70
9.5 Participation, Appeal and Complaint Mechanisms for Forest Farm Workers and Rural Households in Peripheral Areas	73
9.6 Organization Arrangement	74
9.6.1 Leading Group of the State Forestry Administration	75
9.6.2 Provincial Leading Groups.....	75
9.6.3 City and County Leading Groups.....	75
9.6.4 Project Operation Management Institution	77
9.7 Monitoring and Assessment of Social Management Plans	78
9.7.1 Arrangement of Monitoring and Assessment Institutions	78
9.7.2 Contents and Indicators in the Monitoring and Assessment	78
Chapter 10 Conclusion and Recommendation	81
10.1 Conclusion	81
10.2 Recommendation.....	82
Appendix 1: Outline of Social Assessment Monitoring.....	83
Appendix 2: Questionnaire of Forest Farm Workers and farmers.....	85
Appendix 3 Outline for Villagers Symposium	88
Appendix 4: Questionnaire of Community and Forest Farm	90
Appendix 5: Outline of Forum with Forest Farm Workers and Villagers	94
Appendix 6: Ownership Certificate of Each Project Executive Unit	95
Appendix 6.1: Proof Document of Land Ownership in the Project of Heilongjiang Forestry Department.....	95
Appendix 6.2: Proof Document of No Resettlement Problem Involved in the Project of Heilongjiang Forestry Department.....	96
Appendix 6.3: Proof Document of Land Ownership in the Project of General Bureau of Heilongjiang Forestry Industry	97
Appendix 6.4: Proof Document of No Resettlement Problem Involved in the Project of General Bureau of Heilongjiang Forest Industry	98
Appendix 6.5: Proof Document of Land Ownership in the Project of Jilin Forestry Department.....	99
Appendix 6.6: Proof Document of No Resettlement Problem Involved in the Project of Jilin Province	100

Chapter 1 Introduction

1.1 Project Context and Purpose

The Siberian tiger (*Panthera tigris altaica*) is one of the five surviving subspecies of tiger in the world, which only exist in northeast China, far east region of Russia and mountainous forests in north North Korea. In recent years, with the continuous population growth in northeast China, local people start to rely more and more on natural resources. This has caused increasing fragmentation of suitable habitats for the Siberian tiger and a shortage of ungulate prey resources. Moreover, with the interference of various human economic activities and the fecundity decline of small species group in isolated habitats, the distribution and population of the Siberian tiger have reduced dramatically. The Siberian tiger has become extremely endangered now.

In order to promote the protection and management of the Siberian tiger (*Panthera tigris altaica*), also known as Amur tiger, and its habitat, the State Forestry Administration and World Bank jointly applied for the GEF “Landscape Approach to Wildlife Conservation in Northeast China Project”, and got approval in principle on Feb 29th, 2012. This project is implemented in Northeast China, at the junction area of Heilongjiang Province and Jilin Province, close to the Primorsky Region of Russia and Hamgyong Province of North Korea. It involves Hunchun City, Wangqing County, Dongning County, and Muling County, with a total area of 1387.29 square kilometers. The aggregate amount of the project is 18 million US dollars. The undertaking units of the project include Jilin Forestry Department, Heilongjiang Forestry Department and the General Bureau of Heilongjiang Forest Industry.

Based on the above background, the main aims of this project include:

- To promote the wildlife conservation and restoration in northeast China through improving the ecological environment and friendly management in habitats of the Siberian tiger and its preys,
- To conduct social assessment of construction projects and put forward solutions or mitigation measures for its adverse impacts, so as to meet the requirement of protecting the ecological environment in the project area.

Based on the above background and after consultation between the State Forestry Administration, the World Bank and each undertaking unit, the Planning and Design Institute of Forest Products Industry of the State Forestry Administration will take charge of the social assessment of this project and compile the social assessment report according to related regulations of each unit.

1.2 Economic and Social Background of the Project Area

1.2.1 Geographical Location

This project is located in northeast area of the People’s Republic of China, at the junction area of Heilongjiang Province and Jilin Province, and close to the Primorsky Region of Russia Federation. The project scope is shown in Figure 1-1.



Figure1-1: Project Location

1.2.2 Population

The total population of Hunchun City, Wangqing County, Dongning County, Muling County has reached 1.0752 million by 2011. The agricultural population is 520500, accounting for 18.4% of the total population in the project counties/cities. The total population of ethnic minorities in the project counties/cities is 344700, accounting for 32.6% of the total. Here below is the table of population situation of the project counties/cities.

Table 4.1 1 Table of Population Situation in the Project-located Counties (Cities, Districts) (2011)

Project-located Provinces	Project-located Counties (Cities/Districts)	Total Population (10 thousand)	Agricultural Population (10 thousand)	Proportion of the Agricultural Population (%)	Ethnic Minority Population (10 thousand)	Proportion of the Ethnic Minority Population (%)
Jilin Province	Hunchun City	26	10	38.46	10.45	40.2
	Wangqing County	23.6	11.71	49.7	7.62	32.3
Heilongjiang Province	Muling City	32.12	18.14	26.48	15.1	47
	Dongning County	25.8	12.2	47.28	1.3	5.1

1.2.3 Administrative Division

The total population of Hunchun City, Wangqing County, Dongning County, and Muling County has reached 1.0752 million by 2011. The agricultural population is 520500, accounting for 18.4% of the total population in the project counties/cities. The total population of ethnic minorities in the project counties/cities is 344700, accounting for 32.6% of the total. Here below is the table of population situation of the project counties/cities.

Hunchun City is located in the lower reaches of Tumen River, in the east part of Jilin Province. It belongs to Korean Autonomous Prefecture of Yanbian, governing four streets, four towns, three townships, two ethnic towns, and one national economic development zone, i.e. Hunchun Border Economic Cooperation Zone (including the

export processing zone and the Sino-Russian frontier trade zone).

Wangqing County is located in the northeast of Korean Autonomous Prefecture of Yanbian, Jilin Province. It governs eight towns and one township, that is, Wangqing Town, Daxinggou Town, Tianqiaoling Town, Luozigou Town, Baicaogou Town, Chunyang Town, Fuxing Town, Dongguang Town, Cockscornb Township and the People's Government in Wangqing Town. Besides, there is Wangqing Forestry Bureau, Tianqiaoling Forestry Bureau and Daxinggou Forestry Bureau in this region.

Muling is a county-level city affiliated to Mudanjiang City. It is located in the southeast of Heilongjiang Province. The governments of Muling City is located in Bamiantong Town. Its subordinate towns include Bamiantong Town, Xiachengzi Town, Maqiaohe Town, Muling Town, Xingyuan Town, Hexi Town, Fulu Township, and Gonghe Township.

Dongning County is a county affiliated to Mudanjiang City. It is located in the southeast of Heilongjiang Province. It governs six towns, including five towns, that is, Dongning County, Suiyang County, Laoheishan County, Daduchuan County and Daohe County, one ethnic town, i.e. Sanchakou Town of the Chosen nationality, and 102 administrative villages.

1.2.4 Natural Resources

Hunchun City in Jilin province is abundant in natural resources. The forest area in the city is more than 500 thousand hectares; the forest coverage rate is 86.5%; and the total amount of standing forest stocks is 51.28 million cubic meters. Grassland, which includes steppe and undergrowth grassland, covers an area of 72 thousand hectares in the city. There are 36 thousand hectares of grazing land, including 868.03 hectares of artificial grasslands. The agricultural acreage is 20,738 hectares, including 7,520 hectares of paddy land and 13,218 hectares of dry land. There are 52 rivers in the city with a total water resource of 2.058 billion cubic meters. The per capita quantity of water resource is 12770 cubic meters. There are more than 1000 kinds of special local products in the city. It is abundant in precious and nourishing medicinal materials such as ginseng, cartilaginous, northeast honey, frog fat and special local products such as northeast matsutake and northeast agaric.

The forest area in Wangqing County in Jilin Province is 787106 hectares, accounting for 89.3% of the whole area of the county. The total amount of standing forest stocks is 72.5 million cubic meters, including more than 30 commercial tree species with high economic value, such as Korean pine, white pine, yeddo spruce, *Abies holophylla*, smelly pine, *Larix olgensis*, northeast China ash, Diesel linden, white birch, *Pinus densiflora*, *Pinus densiflora*, Acer mono, etc. 700,000 cubic meters of commodity woods can be produced each year. There are three forest industry enterprises (Wangqing Forestry Bureau, Tianqiaoling Forestry Bureau and Daxinggou Forestry Bureau) and one county forestry bureau (Wangqing County Forestry Bureau) which owns a forest area of 282,000 hectares. Wangqing County is abundant in forestry resources, especially rare trees. Korean pine, oak, spruce, yew and linden account for quite a large proportion. The yew and *Phellodendron amurense* are protected species. Oak trees cover an area of 23074 hectares, accounting for 28.7% of the total forest area. The amount of standing oak stocks is 23.04 million cubic meters, accounting for 26.3% of the total standing forest stocks. Oak trees are widely used to produce edible mushrooms because of their high wood density and starch content.

There are many mountains and rivers in Muling City in Heilongjiang Province. There are 1323 rivers, 95.2% of which belong to Muling River system and 4.8% belong to Mudanjiang River system. The total amount of water resource is 840

million cubic meters. The forestry lands of Muling City is 76, 531.5 hectares, of which forest lands cover an area of 39, 395.5 hectares. The total amount of standing forest stocks is 1.655 million cubic meters. In the forest there are many valuable woods like Korean pine, cedar, Mongolian scotch pine, spruce, *Phellodendron amurense*, *Juglans manshurica maxim*, northeast China ash, birch, etc., the stock amount of which is up to 220 million cubic meters. There are many treasures in mountains of Muling City, including hundreds of traditional Chinese medicinal materials such as ginseng, *Astragalus membranaceus*, *Acanthopanax root*, *Platycodon grandiflorum*, etc.; and many delicacies such as agaric, yuan mushroom, hedgehog hydnum, *Tricholoma matsutake*, fiddlehead, etc., the annual output of which can be more than 5000 tons. Muling City is the hometown of soybean and yew in China.

Doning County in Heilongjiang Province covers an area of 7137 square kilometers. The land form is characterized by “nine mountains and half water and half farmland”. The forest coverage rate is 82.3%, with more than 70 kinds of trees such as Korean pine, red pine, larch, white birch, northeast China ash, Scotch pine, spruce, fir, linden, etc. The total amount of standing forest stocks is 35 million cubic meters. It is abundant with valuable delicacies such as black agaric, *Tricholoma matsutake*, yuan mushroom, fiddlehead, vetch, and more than 200 kinds of traditional Chinese medicinal materials such as *Astragalus membranaceus*, *Yuanshu*, *Acanthopanax root*, *Platycodon grandiflorum*, etc. Famous special products such as eight mountain treasures, crystal apple pear, high quality soybean, delicate rice and white spirit made of pure wheat enjoy good reputation at home and abroad.

1.2.5 Climate and Hydrology

The climate of Hunchun City is moderate and moist, belonging to the temperate oceanic monsoon climate zone, which is warm in winter and cool in summer. The annual average temperature is 5.65°C and the annual average rainfall is 617.9mm. The frost-free period ranges from 140 to 160 days. Because it is close to the East China Sea / the Sea of Japan, it is not too cold in winter and not too hot in summer. The average temperature in August is 21.2°C. It is a nice summer resort.

Wangqing County in Jilin Province is located in the piedmont of Changbai Mountain, with the average attitude of 806 meters. It belongs to the temperate continental monsoon climate zone, where the winter is long and summer is hot. It has four distinctive seasons and obvious vertical variation. The annual average temperature is 3.9°C and the annual average rainfall is 580mm. The frost-free period ranges from 110 to 141 days. The annual sunshine duration is 2700 hours.

Muling City in Heilongjiang Province belongs to the middle latitude north temperate continental monsoon Climate zone, where it is long, cold and dry in winter and damp, hot and rainy in summer. Due to the monsoon alteration in spring and autumn, the temperature change greatly. And early frost is common in autumn. The lowest temperature is -44.1°C, and the highest temperature is 35.7°C. The annual average rainfall is 530mm and it rains mainly from June to August. The frost-free period is about 126 days. The annual sunshine duration is 2613 hours.

Affected by oceanic climate, the climate is moderate and humid in Dongning County in Heilongjiang Province. The annual average temperature is 5.1°C; the average temperature in recent five years is 6.2°C; the effective accumulative temperature is 2900—3000°C. The frost-free period is about 150 days. It is characterized by four distinctive seasons, rainy season which coincides with high temperature, and plenty rainfall.

1.2.6 Economic Development

The industry of Hunchun City develops rapidly and four pillar industries have initially formed, that is, energy and hydropower, forest products processing, clothing textile, and electronic information. There are nine main industries, that is, energy and hydropower, wood products processing, clothing textile, electronic information, medicine and health care, non-ferrous metal, building material, agricultural and sideline seafood and general processing industry. Among them, energy and hydropower, wood products processing, clothing textile and electronic information develop rapidly and play a significant promotion role. They account for half of the industries in the city. Status of industry continuously goes up in the national economy of the city. The contribution rate of industry to GDP growth is about 50% generally. In 2007, the tax revenue of industry accounted for about 70% of the fiscal revenue in Hunchun City. The four pillar industries play an especially important role and have become the main motivation to propel the industrialization process of Hunchun City. With Hunchun Border Economic Cooperation Zone as the leading area, the industrial economy develops fast, and there are 257 domestic and foreign enterprises including these of South Korea, Japan, etc. Many key enterprises develop healthily, such as South Korea Special Joint-stock Company, Japan Island Cloth Co., Ltd., China Polly Communication Company, Shenzhen Shenlinwang Forest Industry Company, etc.

The GDP of Wangqing County totaled 4.03 billion yuan in 2010, 140.7% higher than the 1.674 billion yuan in 2006, with a year-on-year growth of 19.9%. The fixed asset investment of the whole society has reached 9.3 billion yuan, 319.9% higher than the 2.215 billion yuan in 2006, with a year-on-year growth of 39.4%. The diameter revenue has reached 360 million yuan, 183.5% higher than the 127 million yuan in 2006, with a year-on-year growth of 37%. The total retail sales of social consumer goods has achieved 1.18 billion yuan, 122.6% higher than the 530 million yuan in 2006, with a year-on-year growth of 20.4%. The urban per capita disposable income has reached 12960 yuan, 64.1% higher than the 7900 yuan in 2006, with a year-on-year growth of 20%. Characteristic industrial bases expand gradually. The output of agaric in this county reaches 300 million bags, and the value is more than 480 million yuan. The retained area for Chinese herbal medicine such as Schisandra and ginseng reaches 2567 hectares, and the output value is more than 480 million yuan. The population of economic animals such as cattle, fox and raccoon dogs reaches 774000. The planting area of tobaccos, sunflowers and other economic crops is 8000 hectares. There are 45 industrial enterprises above designated size across the county which achieve an output value of 2.55 billion yuan, with a year-on-year growth of 40.6%. The structure of service industry is optimized gradually. The finance insurance industry, transportation, postal service, tourism and real estate industry develop rapidly. The traditional service industries advance steadily, such as commercial trade and catering industry, etc. The tertiary industries develop fast, mainly including new industries such as modern logistics, chain operation and information service, etc. The export-oriented degree gets higher and the total import-export volume of the whole county reaches \$18.6 million, with a year-on-year growth of 24%.

The GDP of Muling City totaled 10.02 billion yuan in 2010. Calculated by the comparable price, it increased 27.0% than last year. The added value of the first industry is 1.72 billion yuan, increasing by 17.2%. The added value of the second industry is 5.76 billion yuan, increasing by 31.3%. The added value of the tertiary industry is 2.54 billion yuan, increasing by 23.5%. The three industrial structure is 17.2 : 57.5 : 25.3. The regional GDP per capita reaches 33943 yuan, increasing by 26.9%.

There are 25000 jobholders in the city at the end of 2010, 445 people less than last year. There are 23000 on-the-job workers, 96 people less than last year. There are 4936 new job opportunities, and the urban registered unemployment rate is controlled at 2.1%.

There are more than 100 foreign trade enterprises of a certain scale in Dongning County, 8 of which are key trade enterprises from other provinces. It has the largest import volume of silicon steel sheets, pine nuts and mechanical and electronic products across the country. The import-export volume of seafood and meat, timber import processing and timber re-export rank the first in Heilongjiang Province and it is awarded as the advanced county of foreign trade in Heilongjiang Province. It has founded 2 industrial parks and 24 economic entities in Russia. The Kangji Economic and Trade Cooperation Zone has become one of the eight "Going Out" industrial parks, which get key support from the nation. The port has achieved 12-hour customs clearance, opened direct visas service for foreigners, and has been awarded as the civilized and efficient port in Heilongjiang Province. It has completed the construction of frontier trade zone. The total output of black fungus reaches 350 million bags, up to 14 million kilograms, accounting for 20% of the output in the whole nation. The establishment and utilization of Dongning Edible Fungus Research Institute and the Primary Bacteria Industry make it become a demonstration county of bacteria production and the largest black fungus producing county in the county. The annual export volume of fruit and vegetable reaches 45000 tons, and it is awarded by the Ministry of Agriculture as a demonstration base of the national pollution-free agricultural products. Dongning Economic Development Zone covers an area of 408.5 hectares, and becomes one of the five biggest Russia-oriented export processing bases in Heilongjiang Province.

1.2.7 Current Situation of the Reserves

The project area includes four existing reserves, i.e. Hunchun Reserve and Wangqing Reserve of Jilin Province, Laoyeling Reserve and Muling Reserve of Heilongjiang Province; and two projected reserves, i.e. Lanjia protected areas in Jilin Province and Niaoqingshan Reserve in Heilongjiang Province; and one newly-built reserve, i.e. Tianqiaoling Reserve in Jilin Province. See Table 1-2 for the distribution information.

Jilin Hunchun Siberian Tiger National Nature Reserve (hereinafter referred as the Reserve) is situated in southeast Hunchun City, Korean Autonomous Prefecture of Yanbian of Jilin Province. It covers an area of 108,700 hm^2 , with a peripheral protective zone of 41,778 hm^2 . It is the first nature reserve in China which takes endangered species and national key protected wild animals like Siberian tigers, *Panthera leopards* and their habitats as the main protected objects. The Reserve, where the borders of China, Russia and North Korea meet, covers an area of 10,8700 hm^2 , is one of the 2 existing habitats for wild Siberian tigers and *Panthera leopards* (in Heilongjiang and Jilin Province), with the largest quantity and density of Siberian tigers in China. Before the functional division in 2015, it has jurisdiction over Chuanhua Town, Madida Town, Yangpao Town, Machuanzi Town, Banshi Town, and part of Jingxin Town. It includes 21 villages, 10794 people in total. There are 924 people in Yangpao Town; 1108 people in Machuanzi Town, 2616 people in Banshi Town, 6146 people in Jingxin Town. After confirmed by the Jilin Hunchun Siberian Tiger National Nature Reserve, the social assessment team gets to know that it has applied approval for functional division from the provincial environmental protection department. And villages in the experimental and buffer zones will be moved out of the reserve. The living area of these villages will not be within the experimental and

buffer zones. In January 21st, 2015, the provincial environmental protection department of Jilin Province published *Notice on the Update of Jilin Tonghua Shihu Provincial Nature Reserve and Adjustment of Jilin Hunchun Siberian Tiger National Nature Reserve*. The national economy in this reserve is dominated by agriculture and husbandry, which amount for 92% of the total production value in this region, followed by diversified forestry and fishery, accounting for 6% of the total production value.

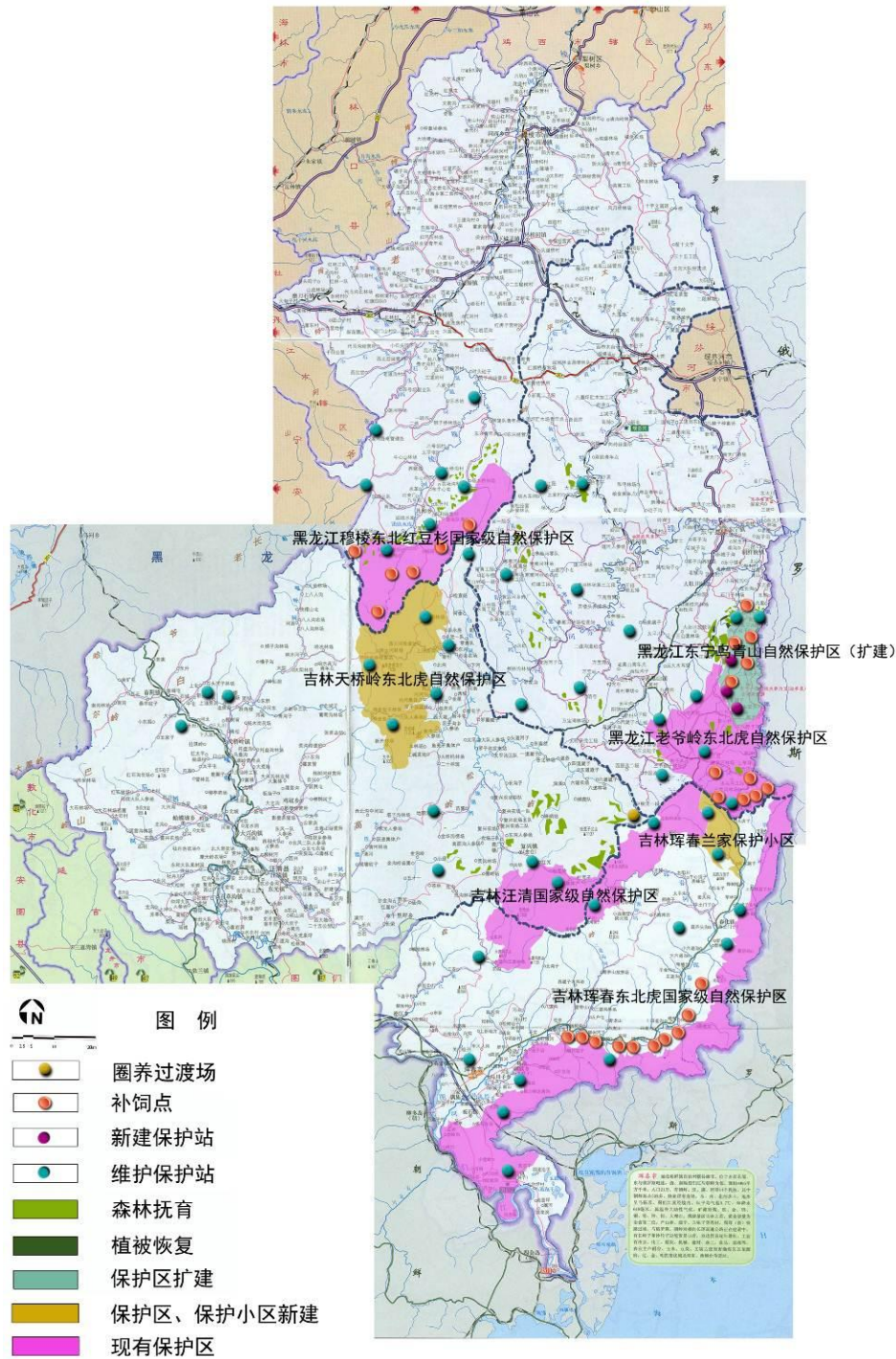















Figure 1-2: Distribution of the Reserves

Legend:

-  project boundary
-  county boundary
-  transitional enclosure
-  supplementary feeding station
-  newly-built protection station
-  maintained protection station
-  building construction of Wangqing Reserve Authority
-  Hunchun Reserve the Siberian Tiger Remote Monitoring Station Construction
-  forest tending
-  vegetation recovery
-  reserve expansion
-  new construction of reserve and protection area
-  existing reserve

Wangqing Nature Reserve is situated in Wangqing County and Hunchun City of Korean Autonomous Prefecture of Yanbian in east Jilin Province. It covers an area of 67,434 hm^2 , including parts of Lanjia Forest Farm, Xi'nancha Forest Farm, Duhuangzi Forest Farm, Dahuanggou Forest Farm and Jincang Forest Farm respectively. The major protected targets in the reserve are endangered wildlife species like *Taxus cuspidate*, Siberian tigers, *Panthera leopards* and their habitats. In December 2002, people's government of Jilin Province approved the establishment of Wangqing Provincial Nature reserve in Jilin Government Document No. 133 (2002). The reserve was approved as a national nature reserve by the State Council on June 2013. Its core zone covers an area of 30,056 hm^2 , buffer zone 17923 hm^2 and experimental zone 19455 hm^2 . Though the reserve covers 5 forest farms, the administration stations of Dahuanggou, Xi'nancha, Duhuangzi and Jincang forest farms are excluded from the reserve. Since 2007, Wangqing Forestry Bureau has gradually implemented the management system of central forest farms, in which small forest farms are removed or merged step by step. By the end of 2009, there is only one residential area—Lanjia Forest Farm in the buffer zone of the reserve, and no residents in the core zone and experimental zone. In general, the population density is low in the reserve and surrounding areas. Residents mainly belong to the Han nationality, which amounts for 86.3% of the total population. The Chosen nationality accounts for 12.7% and other minorities 1%. The major industry in the reserve is forestry, followed by farming and breeding industry. See the table below for all the industrial output in the reserve. Forestry is the pillar industry in the reserve, accounting for 55.8% of the general output. Farming industry are mainly distributed in the experimental zone, with small cultivated areas and low output value. The major crops are grain crops like beans and corns, as well as vegetables and fungus. Breeding industry is dominated by cattle husbandry and frog breeding, followed by pig breeding. Gathering industry mainly concentrates on mushrooms, wild vegetables and pine nuts.

Heilongjiang Laoyeling Siberian Tiger Nature Reserve is situated in the working circle of Suiyang Forestry Bureau in the east mountainous area of southeast Heilongjiang Province. It covers all the working circles of the original Sanchahe Forest Farm and Nuanquanhe Forest Farm, and part of the working circles of Yuanshan Forest Farm, Sanjielazi Forest Farm, Zhongguli Forest Farm, and Taipingchuan Community respectively. The nature reserve covers a total area of 71278 hm^2 . The core zone covers 27193 hm^2 , accounting for 38.15% of the total; the buffer zone covers 18696 hm^2 , 26.23% of the total; the experimental zone 25389 hm^2 ,

35.62% of the total. The reserve covers the working circle of Sanchahe Forest Farm, Nuanhuanhe Forest Farm, and part of the working circle of Yuanshan Forest Farm, Zhongguli Forest Farm, Taipingchuan Forest Farm, and Sanjielazi Forest Farm. Based on the investigation of social impact assessment team and confirmation of Suiyang Forestry Bureau, there is no permanent residents live in the core region or the buffer zone.

Heilongjiang Muling *Taxus Cuspidata* Nature Reserve is located in the working circle of Heping Forest Farm, Gonghe Operation Community and Longzhaogou Forest Farm, which are subordinated to Heilongjiang Muling Forestry Bureau in Muling City. The reserve borders on Jilin Wangqing Forestry Bureau in the south and west, adjoins Heilongjiang Suiyang Forestry Bureau and Jilin Tianqiaoling Forestry Bureau in the east and southeast respectively. Its total area is 35,648 hectares. At the beginning of 2003, Muling Forestry Bureau merged mixed broadleaf-conifer forest which covers an area of 35,648 hm² in Heping Forest Farm, Gonghe Operation Community and Longzhaogou Forest Farm into the *Taxus Cuspidata* Nature Reserve according to the Nature Reserve Construction Standard of China. The land usage right belongs to Heilongjiang Muling Forestry Bureau. There are now 1,003 people in the reserve and 301 households in forest farms, including 9 managerial staffs and 11 professionals. The staff and residents mainly belong to the Han nationality and Chosen nationality. The Han people account for over 90% of the total population, followed by the Chosen nationality.

Jilin Hunchun Lanjia protected areas, situated in Chunhua Town, Hunchun City, is a proposed reserve for expansion. It borders on Wangqing Nature Reserve in the west with Liuguosong Ditch as the boundary. It adjoins Suiyang Nature Reserve in the north with the borderline between Jilin and Heilongjiang Province as the boundary. It is contiguous to Hunchun Nature Reserve in the east with the highway from Chunhua City to Dafangzi as the boundary. It borders on Lanjia Operation Community and Jinquangang Operation Community in the south. The total area of the reserve is 200km². Its major protected targets are Siberian tigers, leopards and their habitats. Two check stations are set up in Lanjia Village and Dafangzi by Jilin Hunchun Forestry Bureau. As it is situated at the border region of Jilin and Heilongjiang Province and connected with Heilongjiang Suiyang Nature Reserve and Wangqing Nature Reserve. It is frequented by Siberian tigers and leopards according to the monitoring results of Hunchun Nature Reserve Bureau in recent years. Therefore, the reserve is likely to be an ecological corridor for Siberian tigers and leopards to spread to Wangqing region through Hunchun Nature Reserve.

Heilongjiang Niaoqingshan Nature Reserve is located in Dongning County with an area of 25,746hm². Officially approved by Heilongjiang Provincial Government in 2007, it consists of Erduan Forest Farm and Nuanquanzi Forest Farm. There are 577 higher plant species, accounting for 26% of the total plant species in Heilongjiang Province. Among them, 32 are bryophyte, 37 are pteridophyte, and 508 are angiosperm. Most animals in the reserve are those that live in temperate habitats, including 261 kinds of vertebrates, accounting for 44.92% of the total vertebrate species in Heilongjiang Province; 25 kinds of fish, accounting for 23.81%; 10 kinds of batrachians, accounting for 83.33%; 12 kinds of reptiles, accounting for 75%; and 44 kinds of mammals, accounting for 50.57%. Located at the border region of China and Russia and bordering on land routes in Russia, the reserve is an important ecological corridor for wild Siberian tigers.

Jilin Tianqiaoling Siberian Tiger Provincial Natural Reserve is a new reserve proposed in the Landscape Approach to Wildlife Conservation in Northeast China

Project. It is located in the jurisdiction of Tianqiaoling Forestry Bureau, covering an area of 500.55 square kilometers. The key protected targets are Siberian tigers, *Panthera leopards* and their prey, as well as forest ecosystem. The reserve faces Wangqing Natural Reserve, Hunchun Siberian Tiger Natural Reserve and Heilongjiang Laoyeling Natural Reserve, and it joins Heilongjiang Muling Natural Reserve. It is planned to build a Forestry Bureau for protection and compensation administration, and seven protection stations, i.e., Xidahe Forest Farm, Xiangyang Forest Farm, Shanghe Forest Farm, Neihe Forest Farm, Huapi Forest Farm, Xinkai Forest Farm and Putaogou Forest Farm.

1.3 Main Contents and Project Scale

1.3.1 Main Contents of the Project

The project consists of the following subprojects: to mainstream the wildlife protection through coordination and cooperation among various departments; to improve the habitat protection effectiveness in Northeast ecological areas through ecosystem protection methods in priority areas; to reduce human-animal conflicts in the ecological areas (capacity building, law enforcement strengthening, environmental education, and incentive mechanism to promote community participation in protection); and project management. Contents of each subproject are listed in the Table 1-2.

Table 1-2 Basic Information of Project Contents

Project Name	Subproject Name	Project Contents
Mainstream the wildlife protection through coordination and cooperation among various departments.	Strengthen the enforcement and management of policy framework in priority ecological regions, so as to better protect tiger habitats in forest regions of the General Bureau of Heilongjiang Forest Industry.	Recommend priority regions of tiger habitats conservation
		Strengthen legal norms of Nature Reserves
		Update protection and restoration plans of Jilin province; draw up protection and restoration plans in forest regions of the General Bureau of Heilongjiang Forest Industry
		Set up the Siberian tiger regional conservation consultative committee
		Discuss how to make tiger habitats conservation part of economic activities/engineering construction
		Establish/update policies to reduce human-tiger conflicts(eg: compensation mechanism)
		Establish China-Russia trans-boundary conservation coordination mechanism
Improve the habitat protection effectiveness in Northeast ecological areas through ecosystem protection methods in priority areas.	Improve the management effectiveness of five current reserves	Legislate/update rules/plans of each Nature Reserve
		Strengthen capability construction of 22 conservation stations
	Expand reserve area	Expand the current two reserves; specify the legal status and implementation arrangements; legislate rules/plans of each region; build 8 new conservation stations
	Conduct staff training of Nature Reserve and local forestry bureaus	Conduct conservation management team training in reserves and local forestry bureaus
	Reintroduce prey population, improve tiger habitats	Set up supplementary feeding stations, release domesticated spotted deer, red deer, wild boar, etc. into nature; increase prey population quantity
	Restore vegetation to improve tiger habitats	Restore vegetation, improve habitat quality
Reduce human-animal conflicts in the ecological areas (capacity	Strengthen monitoring and law enforcement efforts outside reserves	Patrol up mountains and clear up the hunting equipment (measurable indicators are demanded)
		Build 28 new conservation stations
		Improve the capability construction of 14 conservation stations
		Conduct training for staff and leader (include staff leaders of each station) in conservative stations

Project Name	Subproject Name	Project Contents
building, law enforcement strengthening, environmental education, and incentive mechanism to promote community participation in protection).	Enhance publicity and education in community	Conduct promotions through television, broadcast, journal, slogan, leaflet to improve masses' awareness of the Siberian tiger protection
	Conduct trials on updating dissipation compensation method	Compensate the loss on the Siberian tiger and preys to buffer human tiger conflict
	Conduct environmental friendly practice on improving tiger habitats and farmers' livelihood	Conduct tiger friendly activities to create good habitats for the Siberian tiger meanwhile guarantee workers' livelihood
	Project monitoring evaluation	Monitor project progress and periodical results according to project monitoring objectives
Project management.	Monitor and control tiger and prey population quantity	Conduct surveys on the Siberian tiger and prey population quantity, master their distribution and number, which provides scientific evidence for conservation management and project implementation effectiveness evaluation
	Establish effective coordination mechanism between the country and different provinces	Set up project office in General Bureau of Heilongjiang Forest Industry, Heilongjiang Forestry Department, Jilin Forestry Department to coordinate the project implementation
	Effective implementation	Put the project into practice through establishing institutions, staff training and effective management

The major construction projects include conservation stations construction, new Nature Reserve building or expansion, tiger-friendly forest operating activities and supplementary feeding stations construction. See table 1-3 for detailed information.

Table 1-3 Basic Information of Construction Involved in the Project

Project Category	Project Name	Construction Unit	Located County	Construction Content and Scale
Conservation Station Construction Project	conservation station construction project	Project Executive Office of the General Bureau of Heilongjiang Forest Industry.	Muling City	Maintain and repair 13 conservation stations, with a total area of 1,615 square meters
		Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Dongning County	Maintain and repair 7 conservation stations, with a total area of 485 squares meters
		Project Executive Office of Heilongjiang Province	Dongning County	Build 3 new conservation stations with a total area of 320 square meters; maintain and repair 2 conservation stations with a total area of 360 square meters
		Project Executive Office of Jilin Province	Wangqing County	Maintain and repair 15 conservation stations with a total area of 4,030 square meters
		Project Executive Office of Jilin	Hunchun City	Maintain and repair 10 conservation stations with a

Project Category	Project Name	Construction Unit	Located County	Construction Content and Scale
		Province		total area of 3,874 square meters
		Subtotal		Build 3 new conservation stations with a total area of 320 square meters; maintain and repair 47 conservation stations with a total area of 10,364 square meters
	Wangqing Conservation Area Administration House Construction Project	Project Executive Office of Jilin Province	Wangqing County	1,350 square meters
	Hunchun Reserve the Siberian Tiger Remote Monitoring Station Construction Project	Project Executive Office of Jilin Province	Hunchun City	700 square meters
New Construction or Expansion of Nature Reserves	Niaoqingshan Nature Reserve Expansion Project	Project Executive Office of Heilongjiang Province	Dongning County	17,856 hectares
	Wangqing Tianqiaoling Nature Reserve New Construction	Project Executive Office of Jilin Province	Wangqing County	50,055 hectares
	Hunchun Lanjia protected areas New Construction Project	Project Executive Office of Jilin Province	Hunchun City	19,800 hectares
Tiger Friendly Forest Operating Activities	Forest Tending Project	Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Muling County	3,260 hectares
		Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Dongning County	6,711 hectares
		Project Executive Office of Heilongjiang Province	Dongning County	3,000 hectares
		Project Executive Office of Jilin Province	Wangqing County	4,132 hectares
		Subtotal		17,103 hectares
	Vegetation Restoration (Glade Space)	Project Executive Office of Heilongjiang	Dongning County	500 hectares

Project Category	Project Name	Construction Unit	Located County	Construction Content and Scale
	Afforestation) Project	Province		
Supplementary Feeding Stations Construction Project	Supplementary Feeding Stations Construction Project	Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Muling County	Build 6 new supplementary feeding stations
		Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Dongning County	Build 6 new supplementary feeding stations
		Project Executive Office of Heilongjiang Province	Dongning County	Build 5 new supplementary feeding stations
		Project Executive Office of Jilin Province	Hunchun City	Build 10 new supplementary feeding stations
		Project Executive Office of Jilin Province	Wangqing County	Captivate one transitional field
		Subtotal		Build 27 new supplementary feeding stations, captivate one transitional field

1.3.2 Project Budget

The total project investment is 18 million US dollars, including 3 million US dollars of GEF fund and 15 million US dollars of financial matching fund. The detailed budget of the project is shown in the Table 1-4.

Table 1-4: Investment Estimation Table of the Project

Serial Number	Content Overview	Project Objectives	Project Expected Results	Investment Composition		Provider of the Matching Fund	Details of the Fund: usage of GEF fund, and source of matching fund. (10,000 US dollars)
				(10,000 US dollars)			
				GEF	Matching		
Total				300	1500		
I	Mainstream wildlife conservation through coordinated cooperation among different departments			36.5	74		
	Strengthen the enforcement and management of policy framework in priority ecological regions, so as to better protect the tiger habitats in forest regions of the General Bureau of Heilongjiang Forest Industry	Recommend prior conservation areas of tiger habitats	Draw up tiger conservation plans of Dongning project area	2			Expense of method formulation in prior conservation areas of tiger habitats: 1.5; expense of expert consultation, assessment and meeting: 0.5.
		Strengthen the legal norms of Nature Reserves	Strengthen the management and law enforcement efforts on Suiyang Laoyeling the Siberian Tiger Reserve and Muling Northeast Taxus Reserve by law	1.5	4	Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Salary of law enforcement officers, equipment and fuel of patrolling transportation; the matching fund mainly includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund and special financial fund.
			1)Investigate and draw up wildlife conservation management methods or measures in Dongning County; 2) investigate and work out Dongning Niaoqingshan Nature Reserve management methods	1.5			Expense of management measures formulation: 1; expense of expert allowance, assessment, coordination and verification meetings: 0.5.

		Update protection and restoration plans of Jilin province; draw up protection and restoration plans of forest regions of the General Bureau of Heilongjiang Forest Industry	Draw up the Siberian tiger conservation plans of Heilongjiang Forest Industry state-owned forest		3	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expense of inspection, formulation and printing, expert discussion; the matching fund mainly includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, and cooperative fund of the WWF. (2)
			1) Draw up research plans of conservation construction project of the Siberian tiger and their habitats, collect data; 2) work out construction project scheme; 3) Submit to provincial development and reform commission	1.5			plan formulation: 0.5; guideline formulation: 0.5; expert discussion, coordination and assessment meetings: 0.5.
			Modify and perfect <i>Jilin Changbai Mountain the Siberian Tiger and Habitat Conservation and Restoration Project Planning</i> documents	4	6	Jilin Forestry Department, WWF	GEF: expert employment; local matching fund: WWF: 2.0; provincial forestry department: 4.0.

	Set up the Siberian tiger regional conservation consultative committee	Engage concerned experts to set up the forest regions of the General Bureau of Heilongjiang Forest Industry Siberian Tiger Conservation Consultative Committee	2	1	the General Bureau of Heilongjiang Forest Industry	Expense of expert consultation, subsidies and traveling allowance, meetings, etc; the matching fund mainly come from the cooperative fund of the WWF(1).
		Offer consultative recommendations and technical support to tiger conservation	2			Expense of expert consultation: 1.5; expense of field investigation: 0.5.
		Set up the related documents of consultative committee, which include organizations, duties and regular meeting systems, etc.	1	3	WWF, WCS	GEF: coordination meeting/ expert employment; local matching fund: WCS: 1.0; WWF: 2.
	Research and make tiger habitats conservation part of economic activity/project construction	Research and work out related plans, search for solutions		20	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expense of inspection, planning, expert discussion, organization and implementation; the matching fund mainly includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, and cooperative fund of the WWF. (2)

		Conduct expert assessment on economic activities and project construction in project area tiger habitat, in order to reduce interference of tiger habitat	2			Expense of expert consultation: 1.5; expense of coordination meetings: 0.5; expert subsidies: 0.5.
		Conduct investigation and study reports on SMART Green Construction Demonstration Project at home and abroad	2	15	Jilin Forestry Department, Yanbian State Authority, Hunchun City, Wangqing Forestry Department, Reserves, related units, WWF	GEF: international traveling allowance; local matching fund: WWF: 6.0 (international traveling), each participating unit: 1.0.
	Establish/update policy to reduce human tiger conflicts (like: compensation mechanism)	Work out economic compensation methods of wild animals hurting people and livestock and destroying crops, set up compensation mechanism		4	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expenses of inspection and research, method formulation, expert discussion, organization and implementation; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, and support fund from the WWF (2).
		1) Conduct research on human tiger conflicts; 2) Draw up compensation methods of economic loss caused by wild animals in Heilongjiang Province; 3) Draw up compensation methods of economic loss caused by wild animals in project area	3	0		Formulation of compensation methods: 2; discussion, coordination and meetings: 1. The matching fund includes forest tending expense in the forest ecological effects compensation projects, or alternative investment.

		Establish Sino-Russian trans-boundary Conservation coordination mechanism	Set up work coordination committee and scientific committee with Russia, conduct cooperation and communication on the Siberian tiger conservation, realize Sino-Russian trans-boundary conservation	3	3	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Traveling allowance, conference fees, investigation expense; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, and WWF support (2).
			1) Conduct investigations on Sino-Russian border of the Siberian tiger ecological corridors; 2) Sign the cooperation agreement of Sino-Russian border the Siberian tiger conservation; 3) Carry out cooperation and communication of Sino-Russian the Siberian tiger and leopard; 4) Investigate the Sino-Russian the Siberian tiger conservation.	4	0		Investigation expense: 2; coordination with Russia and field investigation: 2.
			Related agreements and annual working plan of Sino-Russian local government departments	7	15	Jilin Forestry Department, WWF, WCS	GEF: database establishment; the matching fund includes: WWF: 8.0; WCS:5.0; provincial forestry department: 2.0.
II	Regional ecosystem conservation priority methods, improve conservation effectiveness in Northeast ecological region			92	955		

1	Improve the management effectiveness of five current reserves	Legislate/update rules/plans of each Nature Reserve	Work out plans of Suiyang Laoyeling the Siberian Tiger Reserve and Muling Northeast Taxus National Reserve Administration, organize the implementation		2	Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expenses of research, investigation, discussion, verification, organization and implementation; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund and special financial fund.
			Work out medium and long-term conservation management plans for Hunchun Reserve and Qangqing Reserve based on the “bottom-up” processing	2	4	Hunchun Reserve and Wangqing Reserve	GEF: allowance for traveling to Guangxi Province; local matching fund: Hunchun Reserve: 2.0; Wangqing Reserve: 2.0.
		Strengthen capability construction of 22 conservation stations, etc.	Strengthen the capability construction of Suiyang Laoyeling the Siberian Tiger Reserve, Muling Northeast Taxus National Reserve and 8 conservation stations	16	10	Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Construction expenses of reserves and office buildings; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and WWF (4M).
			Strengthen the management capability construction of 3 current conservation stations in Niaoqingshan, improve facilities and update equipments	0	35	Dongning Forestry Bureau, WWF	The matching fund includes expense of management, forest tending, fire and disease prevention and resources monitoring of ecological infrastructure construction projects; and alternative investment.

			Fundamental constructions such as Hunchun Reserve Administration and Wangqing Reserve Administration infrastructure, patrol vehicles and instruments, etc.	12	443	Hunchun Reserve, Wangqing Reserve, WWF	GEF: vehicles purchase/refitting; local matching fund: WWF: 6.0; Hunchun Reserve: 220.0; Wangqing Reserve: 217.0.
2	Expand reserve areas	Expand the current two reserves; specify the legal status and implementation arrangements; legislate rules/plans of each region; build 8 new conservation stations	1) Limit the Siberian tiger and orientalis distrition into Chaoyanggou forestry station into Niaoqingshan Natrural Reserve, determine the area and scope; 2) Conduct scientific inspection of Nature Reserve adjustment, work out <i>Scientific Report</i> and <i>Overall Plan</i> ; 3) Complete the declaration; 4) Build 3 new conservation stations	16	5	Heilongjiang Forestry Department, Dongning Forestry Bureau	Expense of report and plan formulation: 3; expense of discussion, coordination and meetings: 2; 3 new protection stations and equipment purchase: 16; the matching fund include ecological infrastructure construction projects.
			Build Wangqing Tianqiaoling Provincial the Siberian Tiger Reserve	2	12	Tianqiaoling Forestry Bureau	GEF: technical document formulation and subsidies; the matching fund: Tianqiaoling Forestry Bureau:10.0; the WWF: 2.0.
			Build one the Siberian tiger conservative plot	2	2	Hunchun Forestry Bureau	GEF: technical document formulation and subsidies; the matching fund: Hunchun Forestry Bureau:2.0.
3	Conduct training on staff of Nature Reserve and	Conduct training on conservation management team in reserve and	Conduct 4 training courses	4	4	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau,	Expense of traveling allowance of trainees, classes, material, meeting rooms. The matching fund includes fund of natural

	local forestry bureau	local forestry bureau				Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, and support fund from the WWF (2).
			1) Training of Nature Reserve staff, 5 courses, 20 people each course; 2) Training of local wildlife conservation management staff, 5 courses, 30 people each course	7	3	Heilongjiang Forestry Department, Dongning Forestry Bureau	Expert classes: 5; traveling allowance: 2; meetings: 3.
			reports of training on reserve and local government conservation management team training	3	7	Jilin Forestry Department, WWF, WCS	GEF: expert employment, allowance for traveling to Russia. local matching fund: WWF: 4.0; WCS:1.0; each participating unit: 1.0.
4	Reintroduce prey population, improve tiger habitats	Set up supplementary feeding stations, reinsert domesticated. deer, red deer, wild boar,etc. into nature; increase prey population quantity	Set up 12 outdoor supplementary feeding stations, 2 domestication points of spotted deer, red deer and wild boar	2	5	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expense of site construction, animal purchase, management, staff salary and subsidies, feed and traffic cost; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and WWF (4M).

		1) Conduct experiments of tiger prey introduction, restore Siberian tiger prey population, reintroduce 20 wild boars, 20 spotted deer; 2) Conduct winter supplementary feeding experiment, supplementary feeding of hoofed animals in key areas, 5 supplementary feeding stations	7	8	Heilongjiang Forestry Department, Dongning Forestry Bureau	Expense of experiment: 2; prey and feed cost: 5. The matching fund include management expense of forest ecological effects compensation projects.
		Report of effectiveness evaluation on deer reintroduction	2	13	WWF, Wangqing Reserve	Local matching fund: WWF: 8.0; Wangqing Reserve: 5.0.
		Report of effectiveness evaluation on hoofed animals supplementary feeding stations in Hunchun Forestry Bureau the Siberian tiger monitoring areas	1	1	Hunchun Forestry Bureau	GEF: construction of supplementary feeding stations. Local matching fund: Hunchun Forestry Bureau: 1.0.
		Report of effectiveness evaluation on hoofed animals supplementary feeding stations in Hunchun Sidaogou the Siberian tiger breeding ground	2	2	Hunchun Forestry Bureau	GEF: vehicles of feed transport and construction of supplementary feeding stations. Local matching fund: Hunchun Forestry Bureau: 2.0.

5	Restore vegetation to improve tiger habitats	Stop logging, restore vegetation and improve habitat quality	Stop logging, return the green plots to forestry, artificial tending		124	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expense of vegetation restoration, staff salary and subsidies, etc.; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, etc.
			1) Vegetation restoration of key area, artificial afforestation of 500hm ² ; 2) Forest tending of 3000hm ²	0	220	Heilongjiang Forestry Department, Dongning Forestry Bureau	The matching fund includes forest tending expense in the forest ecological effects compensation projects, or alternative investment.
6	Patrol up mountains and clear up the hunting sets (measurable indicators are demanded)	Conduct mountain patrol activities, take over hunting sets, fight against poaching activities, set up trial reward system	Organize 16 mountain patrol and hunting sets clearance activities	2	5	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Allowance of staff traveling, subsidies and traffic cost; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and WWF (4M).
			1) Set up outdoor patrol team to carry out daily patrol; 2) organize 4 hunting sets clearance activities in winter; 3) prescribe hunting sets clearance objectives on key areas, offer corresponding rewards.		13	Heilongjiang Forestry Department, Dongning Forestry Bureau, WWF	The matching fund include management and protection expense of ecological infrastructure construction projects, and the WWF.

			Complete the professional team and volunteer's hunting sets clearance working summary and poaching trends analysis report	3	15	Each reserve, Hunchun Forestry Bureau, WCS	GEF: equipment renewal and expert employment. Local matching fund: WWF: 4.0; WCS: 6.0; each participating unit: 5.0.
			Complete annual report of SMART system pilot and demonstration	9	22	Each reserve, WWF, WCS	GEF: equipment purchase and expert employment. Local matching fund: WWF: 4.0; WCS: 6.0; each participating reserve: 6.0.
III	Reduce human animal conflicts in ecological area (capability construction, strengthen law enforcement, environmental education, incentive mechanism that promotes community protection participation)			63	361		
I	Strengthen monitoring and law enforcement efforts outside reserves	Build 28 new conservation stations	Build (renovate) 12 conservation stations		15	Suiyang Forestry Bureau, Muling Forestry Bureau	Expense of infrastructure including office buildings; the matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, etc.
			Build 2 conservation management stations outside project reserves	0	40	Heilongjiang Forestry Department, Dongning Forestry Bureau	The matching fund include ecological infrastructure construction project fund, or expense of labor service as an alternative.

		Build 2 conservation stations by Hunchun Forestry Bureau	2	4	Hunchun Forestry Bureau	GEF: purchase of patrolling and protecting equipment. Local matching fund: Hunchun Forestry Bureau: 4.0.
		Build new conservation stations by Hunchun Forestry Bureau	5	10		GEF: purchase of patrolling and protecting equipments. Local matching fund: Hunchun Forestry Bureau: 4.0.
		Build 5 conservation stations in Tianqiaoling Reserve	2	4	Tianqiaoling Forestry Bureau	GEF: purchase of patrolling and protecting equipments. Local matching fund: Tianqiaoling Forestry Bureau: 4.0.
		Build 2 conservation stations by Wangqing Forestry Bureau	2	4		GEF: purchase of patrolling and protecting equipments. Local matching fund: Tianqiaoling Forestry Bureau: 10.0.
		Build 3 conservation stations by Wangqing Forestry Bureau	3	6	Wangqing Forestry Bureau	GEF: purchase of patrolling and protecting equipments. Local matching fund: Wangqing Forestry Bureau: 4.0.
	Improve the capability construction of 14 conservation stations	Improve the capability construction of 12 conservation stations	10	0	Suiyang Forestry Bureau, Muling Forestry Bureau	GEF: purchase of patrolling and protecting equipments. Local matching fund: Wangqing Forestry Bureau: 6.0.

			Build 2 conservation stations outside the Niaoqingshan Reserve, strengthen ability construction of management and conservation, improve facilities, update equipments	7	0		Equipment and facilities purchase: 7.
		Conduct training on staff and leadership (include staff leaders of each station) in conservative stations	Conduct 4 courses of training class, train staff and leadership, which includes leaders of 12 conservation stations	2	2	Suiyang Forestry Bureau, Muling Forestry Bureau	Expense of traveling allowance of trainees, classes, material, meeting rooms. The matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund, etc.
			Reports of new conservation station staff training	4	5	WWF, WCS	GEF: expert employment, food and accommodation for trainees. Local matching fund: WWF: 4.0; WCS:1.0.
2	Enhance publicity and education in community	Conduct promotions through television, broadcast, slogan, leaflet to improve the public awareness of the Siberian tiger protection	Make publicity and education films, broadcast, slogan, leaflet to organize and launch publicity and education activities	2	6	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expense of advertising videos, broadcast, posters, leaflets, and slogans, and publicity cost. The matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and cooperative fund of the WWF (4).

			1) Set up 6 warning boards in the Siberian tiger key active areas; 2) Set up 6 warning boards in key area of Nature Reserves; 3) Print and distribute 20,000 publicity materials of the Siberian tiger and habitat conservation; 4) Conduct the Siberian tiger conservation publicity activity once a year; 5) Organize volunteers to participate in tiger conservation and hunting sets clearance activities.		12	Dongning Forestry Bureau, WWF	The matching fund comes from ecological infrastructure construction project fund.
			Set up warning board, billboard in project area, print and make propaganda material, conduct publicity activities, etc.	12	14	Participating units, WWF	GEF: publicizing materials of the project. Local matching fund: WWF: 8.0; each participating unit: 1.0.
3	Conduct trials on updating dissipation compensation method	Compensate the loss on the Siberian tiger and prey to buffer human tiger conflict	Explore and conduct compensation on the loss of human, animals and crops caused by the Siberian tiger and its prey.	2	3	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expense of investigation, formulation and implementation of compensation methods. The matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and cooperative fund of the WWF (2).
4	Conduct environmental	Conduct tiger friendly activities	By offering technical training, documents, hiring experts, etc.		93	Suiyang Forestry Bureau, Muling Forestry Bureau,	Expense of technique training, materials, expert employment,

	friendly practice on improving tiger habitats and farmers livelihood	to create good habitats for the Siberian tiger meanwhile guarantee workers' livelihood	to guide people in forest region develop industry in planting, cultivating and collecting, etc.			Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	etc. The matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and cooperative fund of the WWF (4).
			1) Conduct trials on tiger friendly forest operation type; 2) Strengthen non-forest products management and improve wildlife living environment; 3) Develop surrounding communities of alternative livelihood, such as edible fungus, hill potherb, bee-keeping, etc.		20	Dongning County Forestry Bureau	The matching fund includes forest tending expense in the forest ecological effects compensation projects, or alternative investment.
			Carry out forest tending on young and half-mature forest, adopt biological engineering technical measures, increase tigers' prey.	0	113	4 forest farms in Wangqing Forestry Bureau	Wangqing Forestry Bureau: 113.0.

5	Project monitoring evaluation	Monitor project progress and periodical results according to project monitoring objectives	Complete annual monitoring report	10	10	Jilin Forestry Department	GEF: expert employment, allowance for traveling and report formulation. Local matching fund: Jilin Forestry Department: 10.0.
IV	Project Management			54.5	110		
1	Monitor and control tiger and prey population quantity	Conduct surveys on the Siberian tiger and prey population quantity, master their distribution and number, which provides scientific evidence for conservation management and project implementation effectiveness evaluation	Conduct outdoor patrol, monitoring and investigation, which offers scientific bases for conservation management and project implementation effectiveness evaluation	2	8	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Equipments purchase for patrolling, protecting, monitoring, and investigating, staff salary and subsidies, traffic cost, expense of result formulation and discussion. The matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and cooperative fund of the WWF (6).

			1) Carry out long-term monitoring on the Siberian tiger in project period, evaluate number and distribution variations; 2) Conduct at least twice investigations (beginning and ending of the project) on hoofed animals of the Siberian tiger prey, evaluate population quantity variations	5		Heilongjiang Forestry Department, Dongning County Forestry Bureau, WWF	Monitoring equipment: 2; expenditure of monitoring, statistics, assessment and experts: 2; assessment and meeting fee: 1. The matching fund includes forest tending expense in the forest ecological effects compensation projects, or alternative investment.
			Tiger and prey investigation in snow and report	6	20	Hunchun Reserve, Wangqing Reserve, Tianqiaoling Reserve, Hunchun Forestry Bureau, Wangqing Forestry Bureau, WWF, WCS.	GEF: equipment purchase and expert employment. Local matching fund: WWF: 18.0; WCS: 2.0.
			Conduct tiger red infrared camera monitoring and submit relevant monitoring annual report	25	42	Hunchun Reserve, Wangqing Reserve, Tianqiaoling Reserve, Hunchun Forestry Bureau, Wangqing Forestry Bureau, Tianqiaoling Forestry Bureau, WWF, WCS	GEF: equipment purchase and expert employment. Local matching fund: WWF: 20.0; WCS: 12.0; each 5 participating reserve: 10.0.
2	Establish effective coordination mechanism between country and provinces	Set up project office in General Bureau of Heilongjiang Forest Industry, Heilongjiang Forestry Department, Jilin	Set up project office in General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Munling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National	3	10	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National	Expense of each project offices and coordination expense. The matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and cooperative fund of the WWF

		Forestry Department to coordinate the project implementation	Reserve Administration to coordinate the project implementation			Reserve Administration	(3).
			1) Set up provincial project implementation office and coordinator; 2) Set up county-level project implementation office and coordinator	1	8	Heilongjiang Forestry Department, Dongning Forestry Bureau	Expense of office set up: 1. The matching fund include ecological infrastructure construction projects and capability construction of each reserve.
3	Effective Implementation	Implement the project through establishing institutions, staff training and effective management	Guide and evaluate the project implementation	2	3	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	Expense of management, guide, assessment of the project implementation. The matching fund includes fund of natural forest conservation, existing fund of forestry bureaus, vegetation restoration fund, special financial fund and cooperative fund of the WWF (2).
			Conduct irregular project implementation supervision on institution establishment, fund implementation and project management, carry out 2 project implementation inspection	2.5	5	Heilongjiang Forestry Department, Dongning County Forestry Bureau.	Traveling allowance: 1.5; guiding fee: 0.5; traffic cost: 0.5.

			Set up offices, organize project declaration, purchase equipment and instrument, project contract signing and supervision, inspection, acceptance inspection, operation management, etc.	8	8	Jilin Forestry Department/WWF	GEF: equipment purchase and employment of technical, financial and administrative staffs. Local matching fund: WWF: 4.0; Jilin Forestry Department: 4.0.
Other expenses				54	0		
Unforeseen expenses of resettlement	Unforeseen expenses of resettlement			6.2			
	Unforeseen expenses of resettlement			7.4			
	Unforeseen expenses of resettlement			16.2			
Unforeseen expenses of physical material / finance	Unforeseen expenses of physical material / finance			3.3			
	Unforeseen expenses of physical material / finance			3.8			
	Unforeseen expenses of physical material / finance			8			
Assessment fee	Assessment fee			2			
	Assessment fee			2.3			
	Assessment fee			4.8			

1.3.3 Schedule of the Project

The preliminary work of the Landscape Approach to Wildlife Conservation in Northeast China Project is supposed to be completed by the end of 2017. The construction period last from 2014 to 2017. The specific time schedule is shown in the following Table 1-5.

Table 1-5: Schedule of the Project

Serial Number	Content Overview	Project Objectives	Local Entity	Project Expected Results	Project Implementation Entity	Time
I	Mainstream wildlife conservation through coordinated cooperations among different departments					
1	Strengthen the enforcement and management of policy framework in priority ecological regions, so as to better protect the tiger habitats in forest regions of the General Bureau of Heilongjiang Forest Industry	Recommended priority area in tiger habitats conservation	the General Bureau of Heilongjiang Forest Industry			
			Heilongjiang Forestry Department	Draw up tiger conservation plans of Dongning project area	Heilongjiang Wildlife Conservation Association, Dongning County	2014
			Jilin Forestry Department			
		Strengthen the legal norms of Nature Reserves	the General Bureau of Heilongjiang Forest Industry	Strengthen the management and law enforcement efforts on Suiyang Laoyeling the Siberian Tiger Reserve and Muling Northeast Taxus Reserve by law	Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Investigate and draw up wildlife conservation management methods or measures in Dongning County; 2) investigate and work out Dongning Niaoqingshan Nature Reserve management methods	Dongning Forestry Bureau	2014-2016
			Jilin Forestry Department			

		Update protection and restoration plans of Jilin province; draw up protection and restoration plans of forest regions of the General Bureau of Heilongjiang Forest Industry	the General Bureau of Heilongjiang Forest Industry	Draw up the Siberian tiger conservation plans of Heilongjiang Forest Industry state-owned forest	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Department, Muling Forestry Department, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2015
		Set up the Siberian tiger regional conservation consultative committee	Heilongjiang Forestry Department	1) Draw up research plans of conservation construction project of the Siberian tiger and their habitats, collect data; 2) work out construction project scheme; 3) Submit to provincial development and reform commission	Heilongjiang Wildlife Conservation Association, Dongning Forestry Department	2014-2016
			Jilin Forestry Department	Modify and perfect planning documents of <i>Jilin Changbai Mountain the Siberian Tiger and Habitat Conservation and Restoration Project</i>	Jilin tiger project office, WWF	2015-2016
			the General Bureau of Heilongjiang Forest Industry	Engage concerned experts to set up the forest regions of the General Bureau of Heilongjiang Forest Industry Siberian Tiger Conservation Consultative Committee	the General Bureau of Heilongjiang Forest Industry	2014-2017
		Research and make tiger habitats conservation	Heilongjiang Forestry Department	Offer consultative recommendations and technical support to tiger conservation	Heilongjiang Wildlife Conservation Association	2014-2017
			Jilin Forestry Department	Set up the related documents of consultative committee, which include organizations, duties and regular meeting systems, etc.	Jilin Forestry Department, Yanbian State Authority	2015-2017
			the General Bureau of Heilongjiang Forest Industry	Research and work out related plans, search for solutions	Suiyang Forestry Department, Muling Forestry Department, Suiyang Laoyeling the Siberian Tiger Reserve	2014-2017

		n part of economic activity/project construction			Administration, Muling Northeast Taxus National Reserve Administration	
			Heilongjiang Forestry Department	Conduct expert assessment on economic activities and project construction in project area tiger habitat, in order to reduce interference of tiger habitat	Heilongjiang Wildlife Conservation Association	2014-2015
			Jilin Forestry Department	Conduct investigation and study reports on SMART Green Construction Demonstration Project at home and abroad	Jilin Tiger Project Office, Yanbian State Authority, Hunchun City, Wangqing Forestry Department, Reserves, WWF\WCS of related units	2016
		Establish/update policy to reduce human tiger conflicts (like: compensation mechanism)	the General Bureau of Heilongjiang Forest Industry	Work out economic compensation methods of wild animals hurting people and livestock and destroying crops, set up compensation mechanism	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Department, Muling Forestry Department, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Conduct research on human tiger conflicts; 2) Draw up compensation methods of economic loss caused by wild animals in Heilongjiang Province; 3) Draw up compensation methods of economic loss caused by wild animals in project area	Heilongjiang Forestry Department, Dongning Forestry Bureau	2014-2017
			Jilin Forestry Department			

		Establish Sino-Russian trans-boundary Conservation coordination mechanism	the General Bureau of Heilongjiang Forest Industry	Set up work coordination committee and scientific committee with Russia, conduct cooperation and communication on the Siberian tiger conservation, realize Sino-Russian trans-boundary conservation	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Conduct investigations on Sino-Russian border the Siberian tiger ecological corridors ; 2) Sign the cooperation agreement of Sino-Russian border the Siberian tiger conservation; 3) Carry out cooperation and communication of Sino-Russian the Siberian tiger and leopard; 4) Investigate the Sino-Russian the Siberian tiger conservation.	Heilongjiang Wildlife Conservation Association, Dongning Forestry Bureau	2014-2017
			Jilin Forestry Department	Related agreements and annual working plan of Sino-Russian local government departments	WCS Jilin Tiger Project Office, WWF, WCS	2015-2017
II	Regional ecosystem conservation priority methods, improve conservation effectiveness in Northeast ecological region					
1	Improve the management effectiveness of five current reserves	Legislate/update rules/plans of each Nature Reserve	the General Bureau of Heilongjiang Forest Industry	Work out plans of Suiyang Laoyeling the Siberian Tiger Reserve and Muling Northeast Taxus National Reserve Administration, organize the implementation	of Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department			
			Jilin Forestry Department	Work out medium and long-term conservation management plans for Hunchun Reserve and Qangqing Reserve based on the “bottom-up” processing	Hunchun Reserve and Wangqing Reserve	2015-2016

2	Expand reserve areas	Strengthen capability construction of 22 conservation stations, etc.	the General Bureau of Heilongjiang Forest Industry	Strengthen the capability construction of Suiyang Laoyeling the Siberian Tiger Reserve, Muling Northeast Taxus National Reserve and 8 conservation stations	Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	Strengthen the management capability construction of 3 current conservation stations in Niaoqingshan, improve facilities and update equipments	Dongning Forestry Bureau	2014-2016
			Jilin Forestry Department	Fundamental constructions such as Hunchun Reserve Administration and Wangqing Reserve Administration infrastructure, patrol vehicles and instruments, etc.	Hunchun Reserve, Wangqing Reserve, WWF	2015-2017
		Expand the current two reserves; specify the legal status and implementation arrangements; legislate rules/plans of each region; build 8 new conservation stations	the General Bureau of Heilongjiang Forest Industry			
			Heilongjiang Forestry Department	1) Bring the Siberian tiger and leopard distribution in Chaoyanggou forestry station into Niaoqingshan Natural Reserve, determine the area and scope; 2) Conduct scientific inspection of Nature Reserve adjustment, work out <i>Scientific Report</i> and <i>Overall Plan</i> ; 3) Complete the declaration; 4) Build 3 new conservation stations	Heilongjiang Forestry Department, Dongning Forestry Bureau	2014-2016
			Jilin Forestry Department	Build Wangqing Tianqiaoling Provincial the Siberian Tiger Reserve	Tianqiaoling Forestry Bureau	2014-2015
				Build one the Siberian tiger conservative plot	Hunchunlanjia	2015-2016

3	Conduct training on staff of Nature Reserve and local forestry bureau	Conduct training on conservation management team in reserve and local forestry bureau	the General Bureau of Heilongjiang Forest Industry	Conduct 4 training courses	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Training of Nature Reserve staff, 5 courses, 20 people each course; 2) Training of local wildlife conservation management staff, 5 courses, 30 people each course	Heilongjiang Forestry Department, Dongning Forestry Bureau	2014-2017
			Jilin Forestry Department	reports of training on reserve and local government conservation management team training	Jilin Tiger Project Office, WWF, WCS	2015-2017
4	Reintroduce prey population, improve tiger habitats	Set up supplementary feeding stations, reinsert domesticated deer, red deer, wild boar, etc. into nature; increase prey population quantity	the General Bureau of Heilongjiang Forest Industry	Set up 12 outdoor supplementary feeding stations, 2 domestication points of spotted deer, red deer and wild boar	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Conduct experiments of tiger prey introduction, restore Siberian tiger prey population, reintroduce 20 wild boars, 20 spotted deer; 2) Conduct winter supplementary feeding experiment, supplementary feeding of hoofed animals in key areas, 5 supplementary feeding stations	Heilongjiang Wildlife Conservation Association, Dongning Forestry Bureau	2014--2017
			Jilin Forestry Department	Report of effectiveness evaluation on deer reintroduction	WWF, Wangqing Reserve	2014-2017

				Report of effectiveness evaluation on hoofed animals supplementary feeding stations in Hunchun Forestry Bureau the Siberian tiger monitoring areas	Hunchun Forestry Bureau	2015-2017
				Report of effectiveness evaluation on hoofed animals supplementary feeding stations in Hunchun Sidaogou the Siberian tiger breeding ground	Hunchun Forestry Bureau	2015-2017
5	Restore vegetation to improve tiger habitats	Stop logging, restore vegetation and improve habitat quality	the General Bureau of Heilongjiang Forest Industry	Stop logging, return the green plots to forestry, artificial tending	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Vegetation restoration of key area, artificial afforestation of 500hm ² ; 2) Forest tending of 3000hm ²	Heilongjiang Forestry Department, Dongning Forestry Bureau	2014-2017
			Jilin Forestry Department			
6	Patrol up mountains and clear up the hunting sets (measurable indicators are demanded)	Conduct mountain patrol activities, take over hunting sets, fight against poaching activities, set up trial reward system	the General Bureau of Heilongjiang Forest Industry	Organize 16 mountain patrol and hunting sets clearance activities	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Set up outdoor patrol team to carry out daily patrol; 2) organize 4 hunting sets clearance activities in winter; 3) prescribe hunting sets clearance objectives on key	Heilongjiang Wildlife Conservation Association, Dongning Forestry Bureau	2014-2017

				areas, offer corresponding rewards.		
			Jilin Forestry Department	Complete the professional team and volunteer’s hunting sets clearance working summary and poaching trends analysis report	Each reserve, Hunchun Forestry Bureau, Wangqing Forestry Bureau, WWF, WCS	2015-2017
				Complete annual report of SMART system pilot and demonstration	Hunchun Reserve, Wangqing Reserve, Hunchun Forestry Bureau, WWF, WCS	2015-2017
III	Reduce human animal conflicts in ecological area (capability construction, strengthen law enforcement, environmental education, incentive mechanism that promotes community protection participation)					
1	Strengthen monitoring and law enforcement efforts outside reserves	Build 28 new conservation stations	the General Bureau of Heilongjiang Forest Industry	Build (renovate) 12 conservation stations	Suiyang Forestry Bureau, Muling Forestry Bureau	2014-2017
			Heilongjiang Forestry Department	Build 2 conservation management stations outside project reserves	Heilongjiang Forestry Department, Dongning Forestry Bureau	2014-2016
			Jilin Forestry Department	Build 2 conservation stations by Hunchun Forestry Bureau	Hunchun Forestry Bureau	2015-2016
				Build new conservation stations by Hunchun Forestry Bureau	Hunchun Forestry Bureau	
				Build 5 conservation stations in Tianqiaoling Reserve	Tianqiaoling Forestry Bureau	2014-2015
				Build 2 conservation stations by Wangqing Forestry Bureau	Wangqing Forestry Bureau	
				Build 3 conservation stations by Wangqing Forestry Bureau	Wangqing Forestry Bureau	

		Improve the capability construction of 14 conservation stations	the General Bureau of Heilongjiang Forest Industry	Improve the capability construction of 12 conservation stations	Suiyang Forestry Bureau, Muling Forestry Bureau	2014-2017
			Heilongjiang Forestry Department	Build 2 conservation stations outside the Niaoqingshan Reserve, strengthen ability construction of management and conservation, improve facilities, update equipments	Heilongjiang Forestry Department, Dongning Forestry Bureau	2014-2016
			Jilin Forestry Department			
		Conduct training on staff and leadership (include staff leaders of each station) in conservative stations	the General Bureau of Heilongjiang Forest Industry	Conduct 4 courses of training class, train staff and leadership, which includes leaders of 12 conservation stations	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau	2014-2017
			Heilongjiang Forestry Department			
			Jilin Forestry Department	Reports of new conservation station staff training	Jilin Tiger Project Office, WWF, WCS	2015-2017
2	Enhance publicity and education in community	Conduct promotions through television, broadcast, journal,	the General Bureau of Heilongjiang Forest Industry	Make publicity and education films, broadcast, slogan, leaflet to organize and launch publicity and education activities	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve	2014-2017

		slogan, leaflet to improve masses' awareness of the Siberian tiger protection			Administration, Muling Northeast Taxus National Reserve Administration	
			Heilongjiang Forestry Department	1) Set up 6 warning boards in the Siberian tiger key active areas; 2) Set up 6 warning boards in key area of Nature Reserves; 3) Print and distribute 20,000 publicity materials of the Siberian tiger and habitat conservation; 4) Conduct the Siberian tiger conservation publicity activity once a year; 5) Organize volunteers to participate in tiger conservation and hunting sets clearance activities.	Heilongjiang Wildlife Conservation Association, Dongning Forestry Bureau	2014-2017
			Jilin Forestry Department	Set up warning board, billboard in project area, print and make propaganda material, conduct publicity activities, etc.	Jilin Tiger Project Office, WWF	2015-2017
3	Conduct trials on updating dissipation compensation method	Compensate the loss on the Siberian tiger and prey to buffer human tiger conflict	the General Bureau of Heilongjiang Forest Industry	Explore and conduct compensation on the loss of human, animals and crops caused by the Siberian tiger and its prey.	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department			
			Jilin Forestry Department			
4	Conduct environmental friendly practice on improving tiger habitats	Conduct tiger friendly activities to create good	the General Bureau of Heilongjiang Forest Industry	By offering technical training, documents, hiring experts, etc. to guide people in forest region develop industry in planting, cultivating and collecting, etc.	Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling	2014-2017

	and farmers livelihood	habitats for the Siberian tiger meanwhile gurantee workers'livelihood			Northeast Taxus National Reserve Administration	
			Heilongjiang Forestry Department	1) Conduct trials on tiger friendly forest operation type; 2) Strengthen non-forest products management and improve wildlife living environment; 3) Develop surrounding communities of alternative livelihood, such as edible fungus, hill potherb, bee-keeping, etc.	Heilongjiang Forestry Department, Dongning Forestry Bureau	
			Jilin Forestry Department	Carry out forest tending on young and half-mature forest, adopt biological engineering technical measures, improve tigers' prey on animal food	Wangqing Forestry Bureau	2015-2017
5	Project monitoring evaluation	Monitor project progress and periodical results according to project monitoring objectives	Jilin Forestry Department	Complete annual monitoring report	Jilin Tiger Project Office	2015-2017
IV	Project Management					

1	Monitor and control tiger and prey population quantity	Conduct surveys on the Siberian tiger and prey population quantity, master their distribution and number, which provides scientific evidence for conservation management and project implementation effectiveness evaluation	the General Bureau of Heilongjiang Forest Industry	Conduct outdoor patrol, monitoring and investigation, which offers scientific bases for conservation management and project implementation effectiveness evaluation	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	1) Carry out long-term monitoring on the Siberian tiger in project period, evaluate number and distribution variations; 2) Conduct at least twice investigations (beginning and ending of the project) on hoofed animals of the Siberian tiger prey, evaluate population quantity variations	Heilongjiang Wildlife Conservation Association, Dongning Forestry Bureau	2014-2017
			Jilin Forestry Department	Tiger and prey investigation in snow and report	Jilin Tiger Project Office, each reserve, Hunchun Forestry Bureau, Wangqing Forestry Bureau, WWF, WCS	2015-2017
				Conduct tiger red infrared camera monitoring and submit relevant monitoring annual report	Jilin Tiger Project Office, each reserve, Hunchun Forestry Bureau, Wangqing Forestry Bureau, WWF, WCS	2014-2017
2	Establish effective coordination mechanism between country and provinces	Set up project office in General Bureau of Heilongjiang Forest Industry,	the General Bureau of Heilongjiang Forest Industry	Set up project office in General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration to coordinate the project implementation	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National	2014-2017

		Heilongjiang Forestry Department, Jilin Forestry Department to coordinate the project implementation			Reserve Administration	
			Heilongjiang Forestry Department	1) Set up provincial project implementation office and coordinator; 2) Set up county-level project implementation office and coordinator	Heilongjiang Forestry Department, Dongning Forestry Bureau	2014-2017
			Jilin Forestry Department			
3	Effective Implementation	Implement the project through establishing institutions, staff training and effective management	the General Bureau of Heilongjiang Forest Industry	Guide and evaluate the project implementation	the General Bureau of Heilongjiang Forest Industry, Suiyang Forestry Bureau, Muling Forestry Bureau, Suiyang Laoyeling the Siberian Tiger Reserve Administration, Muling Northeast Taxus National Reserve Administration	2014-2017
			Heilongjiang Forestry Department	Conduct irregular project implementation supervision on institution establishment, fund implementation and project management, carry out 2 project implementation inspection	Heilongjiang Forestry Department,	2014-2017
			Jilin Forestry Department	Set up offices, organize project declaration, purchase equipment and instrument, project contract signing and supervision, inspection, acceptance inspection, operation management, etc.	Jilin Tiger Project Office	2014-2017
Other expenses						
Unforeseen expenses of resettlement			the General Bureau of Heilongjiang Forest Industry	Unforeseen expenses of resettlement	the General Bureau of Heilongjiang Forest Industry	2015-2017

	Heilongjiang Forestry Department	Unforeseen expenses of resettlement	Heilongjiang Forestry Department	2015-2017
	Jilin Forestry Department	Unforeseen expenses of resettlement	Jilin Forestry Department	2015-2017
Unforeseen expenses of physical material / finance	the General Bureau of Heilongjiang Forest Industry	Unforeseen expenses of physical material / finance	the General Bureau of Heilongjiang Forest Industry	2015-2017
	Heilongjiang Forestry Department	Unforeseen expenses of physical material / finance	Heilongjiang Forestry Department	2015-2017
	Jilin Forestry Department	Unforeseen expenses of physical material / finance	Jilin Forestry Department	2015-2017
Assessment fee	the General Bureau of Heilongjiang Forest Industry	Assessment fee	the General Bureau of Heilongjiang Forest Industry	2015-2017
	Heilongjiang Forestry Department	Assessment fee	Heilongjiang Forestry Department	2015-2017
	Jilin Forestry Department	Assessment fee	Jilin Forestry Department	2015-2017

Chapter 2 Process and Method of the Social Impact Assessment

2.1 Task and Target of the Social Impact Assessment

According to requirements of the World Bank towards social assessment report of the Siberian tiger conservation project, the project office conducts the social assessment based on the project contents.

Therefore, main tasks in the social assessment report of the Siberian tiger conservation project include:

--Based on comprehensive investigation of economic and social background , the Social Assessment Report of the Siberian tiger conservation project shall be finished.

2.2 Base of Social Assessment

The assessment base mainly include:

- Forest Law of The People's Republic of China
- The State Forestry Administration: Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation
- Regulations of the People's Republic of China on Nature Reserves
- Wildlife Protection Law of the People's Republic of China
- Compensation Methods for the Personal Injury and Property Damage Caused by Specially Protected Terrestrial Wildlife in Jilin Province
- Implementing Methods on Prohibiting Hunting of Terrestrial Wildlife in Jilin Province
- Implementation Regulations of Compensation Methods for the Personal Injury and Property Damage Caused by Specially Protected Terrestrial Wildlife in Jilin Province
- Regulations on Closing Hillside to Ban Grazing in Jilin Province
- Ordinance on Wildlife Protection in Heilongjiang Province
- Feasibility Study Report of Construction at the Second Stage of Hunchun National Nature Reserve of Siberian Tiger in Jilin Province
- Feasibility Study Report of the Construction Project of Wangqing National Nature Reserve in Jilin Province
- Overall Planning of Wangqing National Nature Reserve in Jilin Province (2013-2022)
- The Twelfth Five-year Plan of Wangqing County (2011-2020)
- Action Plan of Wild Siberian Tiger Protection in Heilongjiang Province
- Overall Planning of Laoyeling Nature Reserve of the Siberian Tiger in Heilongjiang Province (2013-2020)
- Comprehensive Investigation Report of Laoyeling Nature Reserve of the Siberian Tiger in Heilongjiang Province
- Feasibility Study Report of the Construction Project of Muling Northeast Taxus Chinensis Nature Reserve in Heilongjiang Province
- Action Plan of Siberian Tiger Protection in Heilongjiang Forest Industry Area (Sept, 2011);

2.3 Work Scope and Main Contents

The work scope and contents of this social assessment mainly include:

- Recognition of affected groups related stakeholders in this project;
- Assessment of positive and negative impacts of the project on core stakeholders;
- Assessment of the participation willingness of targeted groups;

- Inclusiveness and exclusiveness of project contents;
- System and mechanism planning and the assessment of them;
- Assessment of adaptivity, practicability and operability of the project
- Recognition of Economic, social and environmental risks, and assessment of the mitigation measures;
- Formulation of social management plans and monitoring assessment plans.

2.4 Definition of the Project Impacts

Contents of the project mainly include new construction and expansion of nature reserves, tiger-friendly forest management activities and small civil engineering projects (including protection stations and supplementary feeding stations). The new construction and expansion of nature reserves will have impacts on the production and livelihood of surrounding forest farms and villages. The construction of protection stations and supplementary feeding stations in original reserves will increase the activity scope of wild animals, which will also affect the production and livelihood of surrounding forest farms and villages.

Due to the difference of functional division of nature reserves, the project may have different influences in different functional zones. Based on the overall planning of nature reserves, the definition of each zone and regulations about protection and operation activities are as follows:

The core area: it's the key protection area of nature reserves. Any forms of logging, hunting or tourism is not allowed. It's only used for observation, research and resource monitoring. Nobody shall be allowed to enter the core area without approval to keep the ecology system not disturbed and make it renovate and multiply in natural condition.

The buffer zone: it's the buffer region of the core area. First, it's to mitigate the influences and disturbance of the external world to the core area. Secondly, it's allowed to conduct some scientific research, experiments, educational practice and specimen collection on the condition that the community environment is not destroyed. Tourism, production and trading activities, are prohibited in the buffer area. Thirdly, the buffer zone shall be recovered to the core area by improving the living environment of wildlife through vegetation recovery.

The experimental zone: on the condition that the original vegetation and rare wildlife resources are not destroyed, the nature resources in the experimental zone can be utilized properly to explore the effective ways of the sustainable development of nature reserves. Scientific experiments, educational training, ecological tourism and different forms of trading activities can be conducted and some production, living and management projects can be implemented appropriately.

2.5 Methods of Social Assessment

2.5.1 Methods of Social Assessment

Considering various interest parties, complex content and diversified economic and social development between different areas and communities within the project area, we adopt the following methods in this social evaluation:

(1) Case Analysis Method

Through introduction of typical cases, we comprehensively introduce the economic and social effects, influences and risks of the project, and provide the basis for further summary and conclusion of relative activities.

(2) Logical Framework Method

Based on the cumulative progression of classification indicators, the logical framework clarifies complex contents and relations of different projects by brief and explicit block diagram. The core is to gradually show the project contents, related stakeholders, possible influences and risks, and specific measures in each phase of the project. Thus we can clearly analyze the social impacts and risks of the project and make targeted supporting measures and implementation schemes.

(3) Stakeholder Analysis Method

By analyzing impacts on stakeholders who have direct or indirect interest relationship with the project, their reactions toward and influences on the project, we evaluate their status and roles in the project, and estimate the mutual relations and adaptability between stakeholders and the project.

2.5.2 Methods of Field Research

(1) Participatory Observation

This method is applied throughout the whole process of field research. By observing the behaviors, attitudes, knowledge, skills of all stakeholders, the assessment team members can further understand the economic and social context of the project area, opportunities, dilemmas and appeals faced by the target groups of the project.

(2) Field Investigation

In this social assessment, we learn the relationship among the project area, forest farms and residential communities by means of field investigation.

(3) Semi-structural Interviews

Semi-structural interviews are mainly applied in interviewing and investigating key persons in the know who are directly or indirectly related to the project, such as the village secretaries, village officers and farmers in rural areas and urban communities.

(4) Interview with Key Figures

Interview with key figures is mainly based on interviewees' feature. It involves means of semi-structural interviews and questionnaire, including related officials from the project executive office of Siberian tiger habitat conservation of Heilongjiang Forest Industry Group, project executive office of Siberian tiger habitat conservation of Heilongjiang Province, and project executive office of Siberian tiger habitat conservation of Jilin Province; related responsible persons of forest farms in Lishugou Village, Shangcaomao Village, Taiyang Village, Chaoyang, Songlin and Guandaogou of Hunchun City, and; related responsible persons of Heping Forest Farm, Dongxing Forest Farm, Shiziqiao Forest Farm and Huashuhe Forest Farm.

(5) Questionnaire Survey

According to the content features of the Siberian tiger conservation project and main stakeholders, questionnaires used in this social assessment mainly include questionnaire of farmers, questionnaire of forest farms and questionnaire of communities.

The questionnaire involves 99 households in Wangqing County, 55 households in Hunchun City, 103 households in Dongning County and 94 households in Muling City, including forest farms of Chunhua Town, Banshi, Yangpao and Jingxin in Hunchun City, Xinancha, Lanjia, Jincang, Dahuanggou, Tianqiaoling, Luozigou and Jiguan in Wangqing County, Nuanquanhe, Sanchahe, Sanchakou in Dongning County, and Gonghe, Heping in Muling City. Among them, we investigate 101 households which are surrounding the reserve, and 245 households of forest farm staff, 346 households in total; we conduct questionnaire survey in 10 communities, including 6 in Jilin Province and 4 in Heilongjiang Province. We mainly investigate the head of

household when conduction survey of farmers and forest farm staffs, and take account of the female as well. The number of surveyed female is 56, accounting for 16% of the questionnaire objects.

Reserve	Status		Subtotal	
	farmers	staff and workers	Number	Percent of all affected households
Wanqing Nature Reserve	/	40	40	5.26%
Jilin Hunchun Lanjia protected areas (newly-built)	10	/	10	6.54%
Jilin Hunchun Siberian Tiger National Nature Reserve	50	/	50	5.01%
Heilongjiang Niaoqingshan Nature Reserve (expanded)	48	/	48	7.61%
Heilongjiang Laoyeling Siberian Tiger Nature Reserve	/	55	55	166.67%
Jilin Tianqiaoling Siberian Tiger Provincial Nature Reserve (newly-built)	/	49	49	22.48%
Heilongjiang Muling Taxus Cuspidata Nature Reserve	/	94	94	109.30%
In total	108	238	346	12.01%

2.6 Methods of Data Analysis

Because this project involves simultaneously various types of projects conducted in various project areas, the data used in this assessment report are extremely complicated and diverse in terms of type and content. From the aspect of expression forms, there are both literature data and field investigation data; both qualitative data and quantitative data.

Thus, based on the feature of participatory assessment, the data analysis methods used in this assessment report mainly include:

(1) Analysis of qualitative data: to conduct data operation by SPSS software and show the results in the form of icon, etc.

(2) Analysis of quantitative data: to conduct analysis and demonstration in the form of data or case through induction and reorganization.

Chapter 3 Analysis of Stakeholders

3.1 Recognition of Impacts of the Construction Projects

Contents of the project mainly include new construction and expansion of nature reserves, tiger-friendly forest management activities and small civil engineering projects (including protection stations and supplementary feeding stations). After adjusting the planning several times, it's confirmed with each owner unit that the construction projects are all located in state-owned forest farms, without involving land expropriation and demolition. While these activities are likely to decrease the livelihood activity scope of forest farm workers and peasants. The details of construction projects are shown in Table 3-1.

Table 3-1 Table of Construction Contents Involved in the Project

Project Category	Project Name	Construction Unit	Location	Construction Content and Scale	Involve Land Expropriation or Not	Involve Demolition or Not	Decrease Livelihood Area or Not	Remarks
Construction of Protection Stations	Construction of protection stations	Project Executive Office of the General Bureau of Heilongjiang Forest Industry.	Muling City	To maintain and renovate 13 conservation stations, with a total area of 1,615 m ²	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Dongning County	To maintain and renovate 7 conservation stations, with a total area of 485 m ²	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of Heilongjiang Province	Dongning County	To build 3 new conservation stations with a total area of 320 m ² ; maintain and renovate 2 conservation	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition

Project Category	Project Name	Construction Unit	Location	Construction Content and Scale	Involve Land Expropriation or Not	Involve Demolition or Not	Decrease Livelihood Area or Not	Remarks
				stations with a total area of 360 m ²				
		Project Executive Office of Jilin Province	Wangqing County	To maintain and renovate 15 conservation stations with a total area of 4,030 m ²	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of Jilin Province	Hunchun City	To maintain and renovate 10 conservation stations with a total area of 3,874 m ²	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Subtotal		To build 3 new conservation stations with a total area of 320 m ² ; maintain and renovate 47 conservation stations with a total area of 10,364 m ²	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
	House Construction Project in the Wangqing Reserve Administratio	Project Executive Office of Jilin Province	Wangqing County	1,350 m ²	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition

Project Category	Project Name	Construction Unit	Location	Construction Content and Scale	Involve Land Expropriation or Not	Involve Demolition or Not	Decrease Livelihood Area or Not	Remarks
	n							
	Construction of the Siberian tiger Remote Monitoring Station in Hunchun Reserve	Project Executive Office of Jilin Province	Hunchun City	700 m ²	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
Construction or Expansion of Nature Reserves	Expansion Project of Niaoqingshan Nature reserve	Project Executive Office of Heilongjiang Province	Dongning County	17,856 hectares	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition; involving resumption of state-owned forest lands that were leased to villagers
	Construction of Wangqing Tianqiaoling Nature protection area	Project Executive Office of Jilin Province	Wangqing County	50,055 hectares	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
	Construction	Project Executive Office	Hunchun	19,800 hectares	X	X	√	Within state-owned

Project Category	Project Name	Construction Unit	Location	Construction Content and Scale	Involve Land Expropriation or Not	Involve Demolition or Not	Decrease Livelihood Area or Not	Remarks
	Project of Hunchun Lanjia protected areas	of Jilin Province	City					forest farm, no involvement of land expropriation or demolition
Tiger-friendly Forest Management Activities	Forest Tending Project	Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Muling County	3,260 hectares	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Dongning County	6,711 hectares	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of Heilongjiang Province	Dongning County	3,000 hectares	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of Jilin Province	Wangqing County	4,132 hectares	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Subtotal		17,103 hectares	X	X	√	Within state-owned forest farm, no

Project Category	Project Name	Construction Unit	Location	Construction Content and Scale	Involve Land Expropriation or Not	Involve Demolition or Not	Decrease Livelihood Area or Not	Remarks
								involvement of land expropriation or demolition
	Vegetation Restoration (Afforestation in Glade)	Project Executive Office of Heilongjiang Province	Dongning County	500 hectares	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
Construction Project of Supplementary Feeding Stations	Construction Project of Supplementary Feeding Stations	Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Muling County	To build 6 new supplementary feeding stations	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of the General Bureau of Heilongjiang Forest Industry	Dongning County	To build 6 new supplementary feeding stations	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of Heilongjiang Province	Dongning County	To build 5 new supplementary feeding stations	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Project Executive Office of Jilin Province	Hunchun City	To build 10 new supplementary feeding stations	X	X	√	Within state-owned forest farm, no involvement of land expropriation

Project Category	Project Name	Construction Unit	Location	Construction Content and Scale	Involve Land Expropriation or Not	Involve Demolition or Not	Decrease Livelihood Area or Not	Remarks
								or demolition
		Project Executive Office of Jilin Province	Wangqing County	To build 1 transitional enclosure	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition
		Subtotal		To build 27 new supplementary feeding stations, captivate one transitional field	X	X	√	Within state-owned forest farm, no involvement of land expropriation or demolition

3.2 Recognition of Relevant Stakeholders

Based on the project content and the economic and social status in the project area, the main stakeholders include the implementation and management units, interest groups affected directly by the project, and common public who are indirectly affected but have no key interest conflicts with the project.

According to the project content and the economic and social status in the project area, the main stakeholders include the General Bureau of Heilongjiang Forestry Industry and its subordinate departments; Heilongjiang Forestry Department and its subordinate forestry departments; Jilin Forestry Department and its subordinate forestry departments; farmers and people engaged in forestry in reserves of Heilongjiang Province and Jilin Province and surrounding areas. Among these stakeholders, the assessment team mainly recognize the affected villagers and forest farms. The positive and negative impacts on each stakeholder are shown in Table 3-1.

Based on 3 investigation, the assessments team collect the basic situation of 24 rural communities and 25 forest farms. It's identified that 14 villages and 25 forest farms are affected. The basic information of 24 rural communities is shown in Table 3-2. Based on these 3 investigation and confirmed by the local forestry departments, these 14 villages are Qianying, Chaoyanggou, Miaoling, Hongxing and Liangzichuan in Heilongjiang Niaoqingshan Siberian Tiger Reserve; Duhuangzi village in Xinancha Forest Farm of Wangqing National Reserve; Lanjia Village near Chunhua Forest Farm in Jilin Hunchun Lanjia protected areas; Guandaogou Village, Xiacaomao Village, Shagncaomao Village, Fenshuiling Village, Yantonglazi Village, Songlin Village and Dongala Village in Jilin Hunchun Siberian Tiger National Reserve.

The basic information of 25 forest farms is shown in Table 3-3. Based on these 3 investigation and confirmed by the local forestry departments, these 25 forest farms are Duhuangzi Forest Farm, Dahuanggou Forest Farm, Lanjia Forest Farm, Xinancha Forest Farm, and Jincang Forest Farm in Jilin Wangqing National Reserve; Shanghe Forest Farm, Neihe Forest Farm, Huapi Forest Farm, Xiangyang Forest Farm, and Xidahe Forest Farm in Jilin Tianqiaoling Siberian Tiger Reserve; Gonghe Forest Farm, Heping Forest Farm, and Longzhuagou Forest Farm in Muling Northeast Taxus Chinensis Nature Reserve; Chaoyanggou Forest Farm in Heilongjiang Niaoqingshan Nature Reserve; Nuanquanhe Forest Farm, Sanchahe Forest Farm, Sanjialazi Forest Farm, Yuanshan Forest Farm, and Zhongguli Forest Farm in Heilongjiang Laoyeling Siberian Tiger Reserve; the Chunhua Forest Farm which is located in both Hunchun Siberian Tiger National Reserve and Lanjia protected areas; and Qinglongtai Forest Farm, Sandaogou Forest Farm, Yangpao Forest Farm, Banshi Forest Farm, and Jingxin Forest Farm in Hunchun Siberian Tiger National Reserve.

The transformation of livelihood methods of forest farm staffs, people in surrounding communities and relevant vulnerable groups would be affected in this project. Status about affected farmers is shown in Table 3-4. The construction of 4 out of 6 project areas has impacts on peasants, involving 1462 households, 4559 people in total. All these farmers would be affected by animal-caused accidents. 250 households in 13 villages would be affected in that they could not get raw materials to plant agaric such as sawdust, involving 728 people. 444 households who live on gathering under-forest products would be affected by the prohibition policy of logging in the reserves, involving 1299 people. Besides, some households that keep cattles would be affected by animal-caused accidents and the transformation of state-owned forest farms to reserves, involving 207 people in 77 households. After the Chaoyanggou state-owned forest farm in Dongning County, Heilongjiang Province, is transformed into nature reserves, farmlands of the forest farms which are leased to rural

households will be resumed, involving 122 households and 352 people.

Status about affected forest farms is shown in Table 3-5. The prohibition of deforestation cover an area of 5095575 mu, involving 25 forest farms, 1515 households and 4344 forest farm staffs. Impacts on agaric planting involve 18 forest farms, 1182 households and 3327 forest farm staffs. Impacts on pasturing involve 4 forest farms in two nature reserves, 11 households and 33 forest farm staffs. Impacts on collecting under-forest products involve 9 state-owned forest farms, 725 households and 2150 people.

Table 3-1: Impact Status of Stakeholders

Construction Type	Construction Name	Construction Unit	Location	Content	General Bureau of Heilongjiang Forest Industry and its subordinate departments	Heilongjiang Forestry Department and its subordinate departments	Jilin Forestry Department and its subordinate departments	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	poachers
Construction of Conservation Station	Construction of Conservation Station	projective office of General Bureau of Heilongjiang Forest Industry	Muling City	to renew 13 conservation stations	+			-	+	=	+	-
		projective office of General Bureau of Heilongjiang Forest Industry	Doning County	to renew 7 conservation stations	+			-	+	=	+	-
		projective office of Heilongjiang Province	Doning County	to build 3 new conservation stations; to renew 2 conservation stations		+		-	+	=	+	-
		projective office of Jilin Province	Wangqing County	to renew 15 conservation stations			+	-	+	=	+	-

Construction Type	Construction Name	Construction Unit	Location	Content	General Bureau of Heilongjiang Forest Industry and its subordinate departments	Heilongjiang Forestry Department and its subordinate departments	Jilin Forestry Department and its subordinate departments	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	poachers
		projective office of Jilin Province	Hunchun City	to renew 10 conservation stations			+	-	+	=	+	-
	Building construction of Wangqing Reserve Administration	projective office of Jilin Province	Wangqing County	room of 1350 m ²			+	-	+	=	+	-
	Construction of the Siberian tiger remote monitoring station in Hunchun Reserve	projective office of Jilin Province	Hunchun City	room of 700 m ²			+	-	+	=	+	-
Construction or Expansion of Nature Reserves	Expansion of Niaoqingshan Nature Reserve	projective office of Heilongjiang Province	Doning County	17856hectares		+		-	+	=	+	-
	New construction of Tianqiaoling Nature Reserve	projective office of Jilin Province	Wangqing County	50055 hectares			+	-	+	=	+	-

Construction Type	Construction Name	Construction Unit	Location	Content	General Bureau of Heilongjiang Forest Industry and its subordinate departments	Heilongjiang Forestry Department and its subordinate departments	Jilin Forestry Department and its subordinate departments	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	poachers
	New construction of Lanjia protected areas	projective office of Jilin Province	Hunchun City	19800 hectares			+	-	+	=	+	-
Tiger-friendly Forest Management	Forest tending	projective office of General Bureau of Heilongjiang Forest Industry	Muling City	3260 hectares	+			-	+	=	+	-
		projective office of General Bureau of Heilongjiang Forest Industry	Doning County	6711 hectares	+			-	+	=	+	-
		projective office of Heilongjiang Province	Doning County	3000 hectares		+		-	+	=	+	-
		projective office of Jilin Province	Wangqing County	4132 hectares			+	-	+	=	+	-

Construction Type	Construction Name	Construction Unit	Location	Content	General Bureau of Heilongjiang Forest Industry and its subordinate departments	Heilongjiang Forestry Department and its subordinate departments	Jilin Forestry Department and its subordinate departments	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	poachers
	Vegetation restoration	projective office of Heilongjiang Province	Doning County	500 hectares				-	+	=	+	-
Construction Of Supplementary Feeding Stations	Construction of supplementary feeding stations	projective office of General Bureau of Heilongjiang Forest Industry	Muling City	to build 6 supplementary stations	+			-	+	=	+	-
		projective office of General Bureau of Heilongjiang Forest Industry	Doning County	to build 6 supplementary stations	+			-	+	=	+	-
		projective office of Heilongjiang Province	Doning County	to build 5 supplementary stations		+		-	+	=	+	-
		projective office of Jilin Province	Hunchun City	to build 10 supplementary stations			+	-	+	=	+	-

Construction Type	Construction Name	Construction Unit	Location	Content	General Bureau of Heilongjiang Forest Industry and its subordinate departments	Heilongjiang Forestry Department and its subordinate departments	Jilin Forestry Department and its subordinate departments	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	Farmers in and close to reserves of Heilongjiang	Forest farm workers in reserves of Heilongjiang	poachers
		projective office of Jilin Province	Wangqing County	to build 1 transitional enclosure			+	-	+	=	+	-

Notes: “+” represents beneficial ; “-” represents detrimental; “=” represents both beneficial and detrimental.

Table 3-2: Status of 24 Affected Villages That Are Surveyed

N o.	Nature Reserve	Town	Village	Population				Net Income of Peasants					Status of Resources			Remark
				Total number of households	Total population	Engaged in agriculture	People engaged in non-agricultural industries	Average net income of peasants	Planting (%)	Under-forest economy (%)	Husbandry (%)	Working (%)	Farmland (mu)	Forest land(mu)	Grassland(mu)	Affected or not
1	Heilongjiang Niaoqingshan Nature Reserve	Sanchakou	Qianying	60	252	252		25000	80	10	5	5	1025	3000		Yes
2	Heilongjiang Niaoqingshan Nature Reserve	Sanchakou	Chaoyanggou	78	289	289		25000	83	10	2	5	3980	2900		Yes
3	Heilongjiang Niaoqingshan Nature Reserve	Sanchakou	Miaoling	120	480	420	10	30000	84	13	1	2	2100	2800		Yes
4	Heilongjiang Niaoqingshan Nature Reserve	Daduchuan	Hongxing	85	245	245	0	15000	84	10	2	4	2200	1040		Yes
5	Heilongjiang Niaoqingshan Nature Reserve	Daduchuan	Liangzichuan	115	315	315	0	15000	80	15	0	5	4400	2400		Yes
6	Jilin Wangqing National Nature Reserve	Fuxing	Duhuangzi	131	436	436	0	12000	80	2	10	8	1270	1110		Yes
7	Jilin Hunchun Lanjia protected areas	Yangpao	Lanjia	50	149	149	0	7800	35	30	20	15	630	10000	9000	Yes
8	Jilin Hunchun Siberian Tiger Protection area	Yangpao	Yantonglazi	38	96	83	13	12686.2	20	18	2	60	440	4700	1800	Yes
9	Jilin Hunchun	Yang	Songli	226	639	582	57	15000	60	10	15	15	6660	39960	13320	Yes

N o.	Nature Reserve	Town	Village	Population				Net Income of Peasants					Status of Resources			Remark
				Total number of households	Total population	Engaged in agriculture	People engaged in non-agricultural industries	Average net income of peasants	Planting (%)	Under-forest economy (%)	Husbandry (%)	Working (%)	Farmland (mu)	Forest land(mu)	Grassland(mu)	
	Siberian Tiger National Reserve	pao	n													
10	Jilin Hunchun Siberian Tiger National Reserve	Yangpao	Dongala	286	849	127	0	10600	50	20	20	10	3864.4	12500	5010	Yes
11	Jilin Hunchun Siberian Tiger National Reserve	Yangpao	Lishugou	77	160	130	20	20000	80	3	5	12	1440	9300	3800	No (production activities is not within reserves)
12	Jilin Hunchun Siberian Tiger National Reserve	Jingxin	Baishi	38	79	23	18	10000	20	20		60	630	5670		No (production activities is not within reserves)
13	Jilin Hunchun Siberian Tiger National Reserve	Jingxin	Daducuan	95	245	212	33	12000	50	10	10	30	1995	17955	5985	No (production activities is not within reserves)
14	Jilin Hunchun Siberian Tiger National Reserve	Chunhua	Xiacao mao	76	268	78	48	15000	60	10	15	15	2175	19575	6525	Yes
15	Jilin Hunchun Siberian Tiger National Reserve	Chunhua	Shangc aomao	57	169	140	29	16000	60	10	15	15	1560	14040	4680	Yes
1	Jilin Hunchun	Chun	Fenshu	49	150	134	16	12000	80	5	5	10	2430	21870	7290	Yes

N o.	Nature Reserve	Town	Village	Population				Net Income of Peasants					Status of Resources			Remark
				Total number of households	Total population	Engaged in agriculture	People engaged in non-agricultural industries	Average net income of peasants	Planting (%)	Under-forest economy (%)	Husbandry (%)	Working (%)	Farmland (mu)	Forest land(mu)	Grassland(mu)	
6	Siberian Tiger National Reserve	hua	iling													
17	Jilin Hunchun Siberian Tiger National Reserve	Chunhua	Hongqihe	140	401	354	47	10000	0	3	2	95	3050	27450	9150	No (production activities is not within reserves)
18	Jilin Hunchun Siberian Tiger National Reserve	Chunhua	Miaoliang	69	201	190	11	13000	90	1	2	7	1725	15525	5175	No
19	Jilin Hunchun Siberian Tiger National Reserve	Hadamen	Guandaogou	91	222	114	11	18000	70	10	10	10	702	6318	2106	Yes
20	Jilin Hunchun Siberian Tiger National Reserve	Machuanzi	Hongxing	121	356	160	20	15000	40			60	3225	29025		No (production activities is not within reserves)
21	Jilin Hunchun Siberian Tiger National Reserve	Machuanzi	Nanshan	211	658	599	59	13000	60		10	30	2175	19575	6525	No (production activities is not within reserves)
22	Jilin Hunchun Siberian Tiger National Reserve	Machuanzi	Yili	248	751	360	41	15000	80		10	10	4215	37935	12645	No (production activities is not within reserves)

N o.	Nature Reserve	Town	Village	Population				Net Income of Peasants					Status of Resources			Remark
				Total number of households	Total population	Engaged in agriculture	People engaged in non-agricultural industries	Average net income of peasants	Planting (%)	Under-forest economy (%)	Husbandry (%)	Working (%)	Farmland (mu)	Forest land(mu)	Grassland(mu)	Affected or not
23	Jilin Hunchun Siberian Tiger National Reserve	Cooperation area	Mengling	267	788	707	81	15000	80			20	5415	48735		No (production activities is not within reserves)
24	Jilin Hunchun Siberian Tiger National Reserve	Cooperation area	Taiyang	222	670	563	107	20000	60			40	6270	56430		No (production activities is not within reserves)
	In total			1462	4559	3364	184									

Table 3-3: Status of Investigated Forest Farms

No.	Reserve	Forest Farm	Population			Area at present		Average annual income (yuan)	Percent	Income from self-run business (%)	Percent of self-run business (%)					Affected or not
			Number of peasant	total number of households	total population	Forest land	Farmland (mu)				Undeveloped economy (%)	Planting (%)	Husbandry (%)	Working (%)	Others (%)	
1	Wangqing National Nature Reserve	Duhuangzi	125	124	170	337000	/	21550	90.00	10.00	30	10.00	30	30		Yes
2	Wangqing National Nature Reserve	Dahuanggou	92	65	214	277245	/	18000	32	26			57	15	2	Yes
3	Wangqing National Nature Reserve	Lanjia	86	30	86	164040	/	22000	95	5	20		20	60		Yes
4	Wangqing National Nature Reserve	Xinancha	85	80	251	354315	/	23000	90	10	10	30	10	50		Yes
5	Wangqing National Nature Reserve	Jincang	189	424	1202	507600	/	20000	80	20	10	20	10	60		Yes
6	Jilin Tianqiaoling Siberian Tiger Nature Reserve	Shanghe	33	18	54	220335	1649	40000	40	60	60	40				Yes
7	Jilin Tianqiaoling Siberian Tiger Nature Reserve	Neihe	45	30	105	251685	60	40000	40	60	30	50	15	5		Yes
8	Jilin Tianqiaoling Siberian Tiger Nature Reserve	Huapi	33	11	36	118245	99	40000	40	60	20	80				Yes
9	Jilin Tianqiaoling Siberian Tiger Nature Reserve	Xiangyang	73	52	157	220335	525	50000	40	60	50	50				Yes
10	Jilin Tianqiaoling Siberian Tiger Nature Reserve	Xidahe	45	15	45	237660	20.55	60000	30	70	100					Yes
11	Muling Northeast Taxus Chinensis Nature Reserve	Gonghe	30	28	105	123900	1038	36714	58.4	41.6		90.7		9.3		Yes
12	Muling Northeast Taxus Chinensis Nature Reserve	Heping	36	35	110	126495	4335	40429	58.3	41.7	57.6	38.1		4.2		Yes

No.	Reserve	Forest Farm	Population			Area at present		Average annual income (yuan)	Percent	Income from self-run business (%)	Percent of self-run business (%)					Affected or not
			Number of peasant	total number of households	total population	Forest land	Farmland (mu)				Undeveloped economy (%)	Planting (%)	Husbandry (%)	Working (%)	Others (%)	
13	Muling Northeast Taxus Chinensis Nature Reserve	Longzhuogu	20	20	58	126915	3247	41143	33.3	66.7	9.4	90.6				Yes
14	Heilongjiang Dongning Niaoqingshan Natural Reserve	Chaoyanggu	108	105	315	261540	2000	8400	90	10		50		30	20	Yes
15	Heilongjiang Niaoqingshan Natural Reserve	Nuanquanhe	36	32	108	165240	700	46512	47.3	52.7	38.3	14.4				Yes
16	Heilongjiang Niaoqingshan Natural Reserve	Sanchahe	44	40	112	167985	500	44177	49.8	50.2	50.2					Yes
17	Heilongjiang Niaoqingshan Natural Reserve	Sanjielazi	52	50	156	26100	2025	44898	49	51	48		3			Yes
18	Heilongjiang Niaoqingshan Natural Reserve	Yuanshan	40	38	114	334800	305	55000	40	60	42.2	10.8	10			Yes
19	Heilongjiang Niaoqingshan Natural Reserve	Zhongguli	37	35	106	252720	640	50000	44	56	40	11	5			Yes
20	Hunchun Siberian Tiger Nature Reserve, Lanjia protected areas	Chunhua	90	60	160	690000	/	39000	74.3	25.7	42.1	16.3	8.1	14.3	19.2	Yes
21	Hunchun Siberian Tiger Nature Reserve	Qinglongtai	65	35	110	28968	/	39000	74.3	25.7	34.1	27.9	7.4	13.5	17.1	Yes
22	Hunchun Siberian Tiger Nature Reserve	Sandaogou	74	74	220	45623	/	39000	74.3	25.7	37.4	17.5	6.3	12.1	26.7	Yes
23	Hunchun Siberian Tiger Nature Reserve	Yangpao	37	37	120	15869	/	39000	74.3	25.7	41.2	19.7	9.2	14.6	15.3	Yes
24	Hunchun Siberian Tiger Nature Reserve	Banshi	36	36	108	14928	/	38000	73.6	26.4	33.5	29.8	14.6	11.6	10.5	Yes
25	Hunchun Siberian Tiger Nature Reserve	Jingxing	41	41	122	26032	/	39000	74.3	25.7	27.6	8.3	11.7	31.2	21.2	Yes
In total			1552	1515	4344											

Table 3-4: Impact of the Project on Peasants around the reserves

project	Reserve Name	Town		Animal-Caused Accidents			Impacts on Pasturing			Impacts on Under-Forest Collecting			Impacts on Agaric Planting Affected by Decrease of Sawdust			Impacts of Farmland Resumption of Forest Farms		
			Village	Affecte d area (mu)	Affecte d househo lds	Affected populati on	Number of livestoc k	Affected househo lds	Affected populati on	income from collecting	Affect ed house holds	Affect ed popula tion	Affect ed area (mu)	Affect ed house holds	Affect ed popula tion	Affecte d area (mu)	Affect ed house holds	Affec ted popul ation
new constr uction and expans ion of nature reserv es	Jilin Hunchun Lanjia Protected Areas	Chunhua	Lanjia	10000	50	149	18	5	14	15000	30	85	28	14	40			
	Heilongjian g Doning Niaoqingsh an Reserve	Sanchako u	Qianying	3000	60	252	20	4	12	82000	41	126	93	31	95			
			Chaoyangg ou	2900	78	289	8	2	6	80000	40	123	51	17	52	151.91	42	120
			Miaoling	2800	120	480	4	1	4	74000	37	144	78	26	101	271.1	52	160
		Daduchu an	Hongixng	1040	85	245	8	2	6	84000	42	134	168	56	178			
			Liangzichu an	2400	115	315				80000	40	77	120	40	77	24.5	28	74
Constr uction of protect ion station s and forest	Jilin Hunchun National Reserve	Chunhua	Xiacaomao	19575	76	268	60	8	28	60000	30	106	9	6	21			
			Shangcaom ao	14040	57	169	40	5	15	80000	40	119	15	10	30			
			Fenshuiling	21870	49	150	33	4	12	60000	30	92	7.5	5	15			
		Hadamen	Guandaogo u	6318	91	222	30	3	7	40000	20	49	15	10	24			
		Yangpao	Yantonglaz i	4700	38	96	10	2	5	114000	19	49	0	0	0			
			Songlin	39960	226	639	50	8	23	80000	20	57	15	10	28			

tending			Dongala	12500	286	849	50	8	24	25000	25	76	22.5	15	46			
	Wangqing National Reserve	Fuxing	Duhuangzi	1110	131	436	80	25	51	60000	30	62	20	10	21			
In total				142213	1462	4559	411	77	207	934000	444	1299	642	250	728	447.51	122	354

Table 3-5: Impact of the Project on Forest Farm Staffs around the reserves

project	Reserve Name	Forest Farm	Prohibition of Logging			Impacts on Agaric Planting Affected by Decrease of Sawdust			Impacts on Under-forest Collecting			Impacts on Pastureing		
			Affected area (mu)	Affected households	Affected population	Affected area (mu)	Affected households	Affected population	income from collecting	Affected households	Affected population	Number of livestock	Affected households	Affected population
Construction of new nature reserves	Jilin Tianqiaoling Siberian Tiger Reserve	Shanghe	220335	18	54	4	18	54	50000	18	54	200	4	12
		Nenhe	251685	30	105	22	30	105	100000	30	105	70	1	3
		Huapi	118245	11	36	12	11	36	110000	11	36			
		Xiangyang	220335	52	157	52	52	157	260000	52	157			
		Xidahe	237660	15	45	14	15	45	70000	15	45			
	Jilin Hunchun Lanjia Protected Areas	Chunhua	690000	60	160	180	60	160						
Expansion of nature reserves	Heilongjiang Doning Niaoqingshan Reserve	Chaoyang gou	261540	105	315	10	105	315						
Construction of protection stations and forest tending	Heilongjiang Laoyeling Siberian Tiger Reserve	Nuanquan he	165240	32	108	324	32	108						
		Sanchahe	167985	40	112	1080	40	112						
		Sanjielazi	26100	50	156	756	50	156						
		Yuanshan	334800	38	114	1000	38	114						
		Zhongguli u	252720	35	106	1378	35	106						

project	Reserve Name	Forest Farm	Prohibition of Logging			Impacts on Agaric Planting Affected by Decrease of Sawdust			Impacts on Under-forest Collecting			Impacts on Pastureing		
			Affected area (mu)	Affected households	Affected population	Affect ed area (mu)	Affected househo lds	Affected population	income from collectin g	Affected househo lds	Affected populatio n	Number of livestoc k	Affected household s	Affected populati on
	Heilongjiang Muling Taxus Cuspidata Nature reserve	Gonghe	123900	28	105									
		Heping	126495	35	110	12	28	105						
		Zhongzhu agou	126915	20	58	360	20	58						
	Jilin Wangqing National Reserve	Duhuangz i	337000	124	170	16	124	170						
		Dahuangg ou	277245	65	214	10	65	214	170000	65	214			
		Lanjia	164040	30	86				130000	30	86			
		Xinancha	354315	80	251				65000	80	251	40	1	3
		Jincang	507600	424	1202	14	424	1202	655000	424	1202	200	5	15
	Jilin Hunchun National Reserve	Chuanhua	690000	60	160									
		Qinglongt ai	28968	35	110	240	35	110						
		Sandaogo u	45623	74	220									
		Yangpao	15869	37	120									
		Banshi	14928	36	108									
		Jingxin	26032	41	122									
In total			5095575	1515	4344	5484	1182	3327	1610000	725	2150	510	11	33

3.2 Analysis of Stakeholders

3.2.1 The General Bureau of Heilongjiang Forest Industry and Its Subordinate Departments

The General Bureau of Heilongjiang Forest Industry governs 40 forestry bureaus and 627 forest farms, involving 1,558,000 people employed in forestry, 369,000 staffs, and 248,000 retired people. Those 40 forestry bureaus are distributed in 10 prefecture-level cities and 37 countries (cities) in Heilongjiang province. Among them, there are 4 trans-provincial bureaus and 19 bureaus that are located across over two country-level cities.

In this project, the General Bureau of Heilongjiang Forest Industry is one of the major executive units. Its subordinate departments mainly include Suiyang Forestry Bureau of Heilongjiang Province, Muling Forest Bureau of Heilongjiang Province. They are responsible for the construction of relevant projects of Heilongjiang Laoyeling Siberian Tiger Nature Reserve and Heilongjiang Muling Northeast Taxus Chinensis Nature Reserve respectively. There is overlap area between the project area and forest farms subordinated to Heilongjiang Forestry Department and those of Jilin Forestry Department.

The General Bureau of Heilongjiang Forest Industry and its subordinate departments are the main beneficiaries of this project. The restoration and extension of project involve forest farms subordinated to the General Bureau of Heilongjiang Forest Industry. In January, 2014, the State Forestry Administration introduced *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*. From 1st April, 2014, commercial logging shall be completely ceased in Heilongjiang province, which has substantial impacts on the income from logging. Therefore, the General Bureau of Heilongjiang Forest Industry and its subordinate departments hope to continue the function transformation, and take eco-tourism as the pillar industry. Till the end of 2013, the achievements have been remarkably—in 2002, the annual output value of tourism in Heilongjiang province only reached 140 million yuan with 350,000 person times of visitors; in the end of 2013, it increased greatly to 4.1 billion yuan with 7.9 million person times of visitors. The purposes and methods of the Landscape Approach to Wildlife Conservation in Northeast China Project meet the requirements of tourism development of the General Bureau of Heilongjiang Forest Industry and its subordinate departments.

Under this background, the General Bureau of Heilongjiang Forest Industry and its subordinate departments face the following demands:

- to improve related construction projects of Heilongjiang Laoyeling Siberian Tiger Nature Reserve and Heilongjiang Muling Northeast Taxus Chinensis Nature Reserve.

- to further promote the tourism demand in the project area through the Landscape Approach to Wildlife Conservation in Northeast China Project.

- to achieve employment transformation of forest farm workers through construction projects in the reserves under the background of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation* introduced in 2014.

- to solve resource conflicts between the reserve and forest farm workers, such as issues of compensation for incidents caused by animals, restriction on picking matsutake and other forest products.

- to improve the capability to better construct, manage, and protect the reserves.

- to coordinate with Heilongjiang Forestry Department and Jilin Forestry Department to in construction, management of the reserves and benefit distribution in the future.

3.2.2 Heilongjiang Forestry Department and Its Subordinate Forestry Departments in Each City and County

As one of the major executives, the responsibilities of Heilongjiang Forestry Department are the following: (1) to establish 3 new protection stations and maintain 2 protection stations in Dongning County; (2) to expand Niaoqingshan Nature Reserve; (3) to complete forest tending project of 3,000 hectares and establish 5 new feeding stations in Dongning County. This project overlaps these conducted by the General Bureau of Heilongjiang Forest Industry in Heilongjiang Laoyeling Siberian Tiger Nature Reserve and Heilongjiang Muling Northeast Taxus Chinensis Nature Reserve. The extension of Niaoqingshan Nature Reserve of Dongning County, Heilongjiang province was officially approved by Heilongjiang provincial government in 2007, which included Shimenzi Forest Farm subordinated to Heilongjiang Forestry Department. The establishment of these reserves will cause resource competition between the reserves and local farmers. By the end of 2013, with considerable achievements, the transformation has achieved fundamental success. Since 2013, logging has been comprehensively banned in Dongning County. In January, 2014, the State Forestry Administration introduced *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*. The comprehensive prohibition of logging has substantial impacts on the income from logging.

Under this background, Heilongjiang Forestry Department and its subordinate forestry departments in each city and county have the following demands:

- Complete the reserve construction: (1) establish 3 new protection stations and maintain 2 protection stations in Dongning County; (2) expand Niaoqingshan Nature Reserve; (3) complete forest tending project of 3,000 hectares and build 5 new feeding stations in Dongning County.

- Update Niaoqingshan Nature Reserve to national Nature Reserve so as to strive for more financial support;

- Resolve resource conflicts between the reserves and local farmers, such as issues of compensation for accidents caused by animals, restriction on picking matsutake and other forest products, and poaching, etc.

- Improve the ability to better construct, manage, and protect the reserve

- Coordinate with Heilongjiang Forestry Department and Jilin Forestry Department to in construction, management of the reserves and benefit distribution in the future.

3.2.3 Jilin Forestry Department and Its Subordinate Forestry Departments

As one of the major executive units of the project, Jilin Forestry Department is mainly responsible for: (1) to maintain and renew 15 protection stations in Wangqing County and 10 protection stations in Hunchun County; (2) to build office room of 1,350 m² for Wangqing Reserve Administration and 700 m² for the Siberian Tiger Remote Monitoring Center of Hunchun Reserve. The construction land are owned by Wangqing County Forestry Bureau and Hunchun City Forestry Bureau; (3) to conduct the new construction of Tianqiaoling Nature Reserve in Wangqing County and Lanjia protected areas in Hunchun City; (4) to develop 4,132 hectares forest tending in Wangqing County; (5) to build 10 new feeding stations in Hunchun City and one transitional enclosure in Wangqing County.

In terms of resource competition in the reserve, the *Compensation Methods for the Personal Injury and Property Damage Caused by Specially Protected Terrestrial Wildlife in Jilin Province* was introduced in 2006. It deals with compensation issues caused by animals at the legal level. Therefore, it is unnecessary to build a mechanism to resolve compensation issues caused by animals.

In several major projects, Wangqing National Nature Reserve has actually been

national Nature Reserve since 2013, which included Lanjia Forest Farm, Xinancha Forest Farm, Duhuangzi Forest Farm, Jincang Forest Farm, and Dahuanggou Forest Farm that subordinated to Heilongjiang Forestry Department. Those mentioned forest farms carried out protection station constructions. Since national Natural Forest Protection Project was conducted, timber cutting in the newly built Tianqiaoling Nature Reserve in Wangqing County has been restricted, mainly covering the areas of Xidahe Forest Farm, Xiangyang Forest Farm, Neihe Forest Farm, Yepidianzi Forest Farm, Xinkai Forest Farm; Lanjia protected areas in Hunchun City ranges over Chunhua Forest Farm and Lanjia Tangzi Village. In recent years, poaching are raging in Hunchun City. From 2012 to 2013, Chunhua Town protection station got rid of over 2,200 hunting tools.

Under this background, Jilin Forestry Department and its its subordinate forestry departments have the following demands:

- Complete related work of the project;
- Expand protection stations so as to strive for more financial support from the state;
- Improve the ability to better construct, manage, and protect the reserve
- Resolve resource confront issues between the reserves and local farmers, especially poaching issues, etc.

3.2.4 Farmers in Heilongjiang Reserves and Surrounding areas

People employed in agriculture in reserves and surrounding areas in Heilongjiang Provinces includes forest farm workers in the reserves and farmers in surrounding areas. The statistics show that average land area of forest farm workers is 20 mu per household; as for farmers in surrounding area, it is 44.5 mu per household. With the construction of reserves, possibilities of accidents caused by animals in Heilongjiang province will be further enhanced in a larger range. However, no compensation document about incidents caused by animals has been introduced in Heilongjiang Province. Thus farmers who specialize in planting and breeding may be affected negatively. The introduction of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation* will restrict the logging. Thus raw materials of agaric planting and farmers' income will be affected. The area where farmers can gather forest products will be further narrowed. During the project, we can encourage farmers to take part in forest tending, wildlife monitoring and protection, and agritourism to share the mutual benefits.

With the above background, demands of farmers in the reserves and the surrounding areas in Heilongjiang Province are the following:

- Compensation for damages caused by animals;
- Livelihood-oriented sustainable development.
- Forest tending, wildlife monitoring and protection, and employment in rural tourism.

3.2.5 Workers Employed in Forestry in Heilongjiang Reserves

After the introduction of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*, people engaged in forestry in reserves of Heilongjiang Province would face employment transformation. In fact, many big forest farms have already started developing forestry sidelines, planting and breeding industry. Some workers have transferred their jobs from logging to protecting; and some have been employed in forestry sidelines, planting and breeding industry. With the intensified protection and the development of tourism projects of the Siberian tiger, some workers will turn to tourist industry.

Under this background, main demands of forest workers in Heilongjiang reserves are the following:

- Improve the protecting ability;
- Create jobs of afforestation and forest tending;
- Develop forestry sidelines, planting and breeding industry;

3.2.6 Farmers of Jilin Reserve and Surrounding Areas

The farmers in reserves and surrounding areas of Jilin Province include farmers both in forest farms and surrounding areas. According to the survey, the average land area of forest farm workers is 10.7 mu per household. As for farmers in surrounding areas, it is 15.4 mu per household. With the intensified construction of the reserves, the possibilities of animal accidents will increase in the adjacent regions of the northeast Jilin Province and Heilongjiang Province, Russia and North Korea. The grain crop and livestock of farming workers in and near the reserves could be affected by animal accidents. Thus Jilin province issued the *Compensation Methods for the Personal Injury and Property Damage Caused by Specially Protected Terrestrial Wildlife in Jilin Province*. Once the damage occurs, related compensation will be allocated. Besides, the establishment of these reserves would restrict the logging and decrease sources of raw materials to plant agaric. Thus the income of farmers may be affected negatively. Furthermore, areas where farmers can gather forest products will be further narrowed. During the project, we can encourage farmers to take part in forest tending, wildlife monitoring and protection, and agritourism to share the mutual benefits.

Based on the background, the demands of farmers of Jilin reserves and surrounding areas are the following:

- Livelihood-oriented sustainable development.
- Forest tending, wildlife monitoring and protection, and rural tourism employment.
- Compensation for damages caused by animals;

3.2.7 Jilin Reserve Forest Workers

After the introduction of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*, people engaged in forestry in reserves of Jilin Province would face employment transformation. In fact, many big forest farms have already started developing forestry sidelines, planting and breeding industry. Some workers have transferred their jobs from logging to protecting; and some have been employed in forestry sidelines, planting and breeding industry. With the intensified protection and the development of tourism projects of the Siberian tiger, some workers will turn to tourist industry.

Under this background, main demands of forest workers in Heilongjiang reserves are the following:

- Improve the protecting ability;
- Create jobs of afforestation and forest tending;
- Develop forestry sidelines, planting and breeding industry;

3.2.8 Poachers

Though it is totally banned by law to hunt and kill wildlife especially the national protective animals, and law enforcement is quite strictly in Heilongjiang Province and Jilin Province, there still exist poaching phenomena in both provinces. In the new project, new wildlife reserves will be established and wildlife species will increase. Poaching will still exist. Currently, the major ways of poaching is to set up hunting traps. Most poachers are driven by economic interests. Their demands mainly include:

- Economic interests;
- Living habits.

3.2.9 Vulnerable Group

There are some vulnerable households in the newly-built or expanded reserves and nearby

villages of the project area. Among them, there are 17 household of forest farm workers, 40 people in total; and 8 households of farmers, 21 people in total. The detailed information is shown in Table 3-4.

Table 3-4: List and Description of Vulnerable Group

Name of reserve	Name of forest farm or village	Name of householder	Number of family members	Description
Jilin Tianqiao ling Siberian Tiger Reserve	Xidahe Forest Farm	Qi Chengquan	3	No salary income; in poor health
		Liu Xulong	2	No salary income; in poor health condition; divorced
		Lu Xueyi	3	No salary income; in poor health condition
		Li Yongjie	3	No salary income; physically disabled
		Zhao Xiuju	3	No salary income; physically disabled
	Shanghe Forest Farm	Guan Heping	3	Low-income
		Yang Haigang	4	Low-income
		Chi Fenglin	3	Low-income
	Huapi Forest Farm	Zhang Guoli	2	Low-income
		Wang Tailai	2	Low-income
		Song Yueyong	3	Low-income
		Sun Xiangbao	1	Physically disabled
Wanqin g Nature Reserve	Dahuanggou Forest Farm	Zhang Jianmin	4	With old people and the couple in bad health condition; with children at school
	Jincang Forest Farm	Shi Xiuyun	1	elderly person of no family
		Sun Xigui	1	household enjoying the minimum living guarantee
		Mao Shulian	1	elderly person of no family
		Lv Shulan	1	Physically disabled
Subtotal			40	
Wanqin g Nature Reserve	Duhuangzi Village	Lin Zhaojun	2	The householder has cancer.
		Zhao Benfa	2	The householder has cancer and high blood pressure.
		Jia Juguo	1	The householder has cirrhosis.
		Du Jinxing	3	household enjoying the minimum living guarantee
		Zhou Wen	2	The householder has cancer; impoverished household.
		Xu Hongcai	4	The householder has cancer.
		Xiao Ying	2	The householder has cerebral thrombosis.
	Dahuanggou Village	Li Zhigang	5	in poor health condition; with children at school
Subtotal			21	
In total			61	

Chapter 4 Participation Process and Results

4.1 Participation process and methods

According to the environment and social security policies of the World Bank, advance, informed, adequate and free community participation is required in the project. Field survey in the social assessment is important to discover and avoid social risks in the project. It is also an important step of adequate community participation in the preparation stage.

In the social assessment process, multiple forms of notification, social surveys and community consultation are conducted to key stakeholders involved in this project. Specific research methods and numbers are shown in the following Table:

Table 4-1: Participation Process and Methods of Stakeholders

Surveyed Stakeholder	Research Methods	Workload	Research Place
the General Bureau of Heilongjiang Forest Industry and its subordinate departments	meeting and consultation interview with key figures focus group interview	6 times 4 times 3 times	Beijing, Harbin Harbin Harbin
Heilongjiang Forest Department and its subordinate departments	meeting and consultation interview with key figures focus group interview	6 times 4 times 3 times	Beijing, Harbin Harbin Harbin
Jilin Forest Department and its subordinate departments	meeting and consultation interview with key figures interview with focus groups	6 times 4 times 3 times	Beijing, Changchun Changchun Changchun
Farmers in Heilongjiang reserves	questionnaire focus group interview	75 copies 1 times	Muling City Muling City
Forestry workers in Heilongjiang reserves	questionnaire focus group interview	65 copies 1 times	Muling City Muling City
Farmers in areas Surrounding Heilongjiang reserves	interview with key figures questionnaire focus group interview	2 times 48 copies 1 times	Doning County Doning County Doning County
Farmers in forest farms of Jilin reserves	interview with key figures questionnaire focus group interview	1 times 6 copies 1 times	Wangqing County Wangqing County Wangqing County
Forest workers of Jilin reserves	interview with key figures questionnaire	2 times 89 copies	Wangqing County, Muling City Wangqing County, Muling City
Farmers in surrounding areas of Jilin reserves	interview with key figures questionnaire interview with focus groups	2 persons 50 copies 1 times	Hunchun City Hunchun City Hunchun City
Poacher	Secondary literature (illegal hunting, relevant respondents were difficult to find)	/	/

4.2 Research on Project Awareness Rate

According to the statistical analysis of the questionnaire survey, 62% of forest farm workers and farmers are aware of the Landscape Approach to Wildlife Conservation Project. In spite of that, 38% of them are not aware of it. In-depth publicity is still necessary.

From the perspective of project area, according to the statistical data shown in the Table 4-2, in Heilongjiang province, the project awareness rate of farmers is 68.8%, of forest farm workers is 58.0%. It shows that in Heilongjiang project areas not all farmers and forest farm workers are covered in the publicity process, and the awareness rate of forest farm workers is lower than that of farmers. However, the survey results in Jilin project areas are much different. The project awareness rate of forest farm workers (70.1%) is higher than that of farmers (49.0%). This indicates that in Jilin project areas the publicity efforts among farmers in surrounding areas should be strengthened, and in Heilongjiang project areas the publicity efforts among forest farm workers should be strengthened. In general, the awareness rate of forest farm workers is higher than that of farmers in all project areas; therefore, publicity among farmers is still needed in this project.

Table 4-2: Do You Know the Landscape Approach to Wildlife Conservation in Northeast China Project

Province	Respondent	Statistical data	Yes, I do.	No, I do not.
Heilongjiang	Farmers	Number	33	15
		Percentage	68.8%	31.3%
	Forest farm workers	Number	83	60
		Percentage	58.0%	42.0%
Jilin	Farmers	Number	25	26
		Percentage	49.0%	51.0%
	Forest farm workers	Number	68	29
		Percentage	70.1%	29.9%
In total	Farmers	Number	58	41
		Percentage	58.6%	41.4%
	Forest farm workers	Number	151	89
		Percentage	62.9%	37.1%

Seen from the information source, analysis of publicity paths of the project can help to improve the publicity effects.

Table 4-3: Information Source of the Project

Province	Respondent	Respondent	File	Meeting	Media	Leaflet	Notice board	Other ways
Heilongjiang	Farmers	Number	0	0	9	19	1	3
		Percentage	0.00%	0.00%	28.10%	59.40%	3.10%	9.40%

Province	Respondent	Respondent	File	Meeting	Media	Leaflet	Notice board	Other ways
	Forest farm workers	Number	8	15	45	10	1	1
		Percentage	10.00%	18.80%	56.30%	12.50%	1.30%	1.30%
Jilin	Farmers	Number	1	1	15	6	2	0
		Percentage	4.00%	4.00%	60.00%	24.00%	8.00%	0.00%
	Forest farm workers	Number	10	20	25	9	2	1
		Percentage	14.90%	29.90%	37.30%	13.40%	3.00%	1.50%
In total	Farmers	Number	1	1	24	25	3	3
		Percentage	1.80%	1.80%	42.10%	43.90%	5.30%	5.30%
	Forest farm workers	Number	18	35	70	19	3	2
		Percentage	12.20%	23.80%	47.60%	12.90%	2.00%	1.40%

According to the statistical data shown in Table 4-3, In Heilongjiang project areas, the farmers' major information source of the project is leaflet, accounting for 59.4%; then it is the media, accounting for 28.1%. Other sources accounts for a small percentage. For forest farm workers, their major information source is media, which accounts for 56.3%; then it is meeting, accounting for 18.8%; leaflet ranks the third. This indicates that in Heilongjiang project areas, forest farm workers have more channels to know this project than farmers. However, in Jilin project areas, the survey shows that the farmers' major information source of the project are media (60%), leaflets (24%), and then it is the notice board. For forest farm workers, their major sources are media (37.3%), meetings and then documents. This indicates that the publicity through media plays an important role both among farmers and forest farm workers; and because a forest farm is an independent organization, it is more convenient for workers to get the information of the project, which can be seen from the wide sources of meetings and documents.

Overall, it can be seen that the farmers' major information source of the project is leaflet, while for forest farm workers, it is the media. Therefore, the project awareness rate needs to be improved in project areas of Heilongjiang and Jilin Province.

4.3 Survey on Project Recognition Rate

The project recognition rate has direct bearing on the sustainability of the project. According to the questionnaire survey of local villagers (see Table 4-4), the recognition rate of farmers reaches up to 89.4%, and these who object to the project only accounts for 1.2%. There are some villagers who show an indifferent attitude to the project (9.4%). This indicates that most villagers are in favor of the project.

Table 4-4 Overall Attitude of Farmers and Forest Farm Workers toward the Project

Attitude	Number of people	Percentage
Supportive	296	89.4%
Opposed	4	1.2%

Indifferent	31	9.4%
In total	331	100.0%

The project participation willingness of the interviewed villagers can further verify their recognition degree. As shown in Table 4-5, 90% of them are willing to participate in the project; only 1.8% of villagers are not; and 8.2% of them hold indifferent attitude.

Table 4-5: Are You Willing to Participate in This Project

Attitude	Number of people	Percentage
Supportive	297	90.0%
Opposed	6	1.8%
Indifferent	27	8.2%
In total	330	100.0%

The result of the questionnaire survey indicates that the recognition rate of farmers and forest farm workers are high. Though the project may limit the villagers' forestlands space and cause some environmental destruction, it also has professional and scientific planning and provides sustainable livelihood for the villagers, thus they hold a supportive attitude toward the project on the whole. See Table 4-6.

Table 4-6 Attitude of Respondents toward the Project in Different Provinces

Province	Respondent	Statistical data	Supportive	Opposed	Supportive
Heilongjiang	Farmers	Number	43	0	3
		Percentage	93.50%	0.00%	6.50%
	Forest farm workers	Number	124	2	11
		Percentage	90.50%	1.50%	8.00%
Jilin	Farmers	Number	38	2	11
		Percentage	74.50%	3.90%	21.60%
	Forest farm workers	Number	91	0	6
		Percentage	93.80%	0.00%	6.20%
In total	Farmers	Number	81	2	14
		Percentage	83.50%	2.10%	14.40%
	Forest farm workers	Number	215	2	17
		Percentage	91.90%	0.90%	7.30%

From the statistical data of Table 4-7, it can be seen that in Heilongjiang project areas, 93.5% of surveyed farmers support the project. For forest farm workers, the support proportion is 90.5%. However, in Jilin project areas, 74.5% of surveyed farmers support the project and 21.6% of them show indifferent attitude. For surveyed forest farm workers, the support proportion is 93.8%. Based on the above data, it can be seen that the support rate of surveyed farmers in Jilin is lower than that in Heilongjiang; while the support rate of surveyed forest farm workers in Jilin is higher than Heilongjiang. This further indicates that in Heilongjiang project areas publicity among forest farm workers need to be strengthened to improve their recognition of the

project; in Jilin project areas publicity among farmers need to be strengthened.

Table 4-7 Participation Willingness of Respondents in Different Provinces

Province	Respondent	Statistical data	Unwilling		
			Willing	g	Indifferent
Heilongjiang	Farmers	Number	43	0	3
		Percentage	93.50%	0.00%	6.50%
	Forest farm workers	Number	126	3	9
		Percentage	91.30%	2.20%	6.50%
Jilin	Farmers	Number	38	2	10
		Percentage	76.00%	4.00%	20.00%
	Forest farm workers	Number	90	1	5
		Percentage	93.80%	1.00%	5.20%
In total	Farmers	Number	81	2	13
		Percentage	84.40%	2.10%	13.50%
	Forest farm workers	Number	216	4	14
		Percentage	92.30%	1.70%	6.00%

Based on the project investigation in the two provinces, it can be seen that different respondents have different participation willingness, which undoubtedly lead to higher requirements of the project implementation in different areas. In Heilongjiang project areas, the participation willingness rate of surveyed farmers is 93.5%, of forest farm workers it is 91.3%. In Jilin project areas, the participation willingness rate of surveyed forest farm workers is higher than that of farmers. In general, the statistic data show that more forest farm workers are willing to participate in the project than farmers. Therefore, we need to take account of the overall participation willingness of both farmers and forest farm workers, as well as the regional participation willingness of different respondents, so as to achieve wider recognition of the project.

4.4 Main Findings in the Community Participation

Though most villagers are in favor of the project, they also hold different opinions in aspects of their families, the way they participate in the project, and the employment mode. Thus to know their opinions and expectations in of great importance in project practices at primary levels.

Any project would generate some impacts on current social and economic structure, and the negative impacts draw the most attention. It can be seen from the table below that main negative impacts include “income decrease caused by limitation of production activities” (31.3% of the villagers agree), “change of lifestyle” (65%) and “other aspects” (6.7%). This indicates that villagers are more concerned about the lifestyle change than income decrease caused by the project. In their opinion, culture and lifestyle are more important than livelihood and income, which is because of the residents’ income increase. However, it also reminds the project operators to respect and adapt to the local customs during the implementation, and minimize the negative impacts of the project on the villagers’ lifestyle.

Table 4-8: Negative Impacts of the Project on Households from the Perspective of Farmers and Forest Farm Workers

Answer	income decrease	Proportion	change of lifestyle	Proportion	other aspects	Proportion
Yes	75	31.3%	156	65.0%	16	6.7%
No	165	68.8%	84	35.0%	224	93.3%
In total	240	100.0%	240	100.0%	240	100.0%

As analyzed in the context above, farmers in surrounding areas and forest farm workers are willing to participate in the project in general. It is found that their participation way mainly include “participate in patrol management”, “adjust or change the production mode”, and “join forestry organizations”; the willingness rate of which are 61.42%, 16.36%, and 24.38% respectively (see Table 4-9). It can be seen that peasants hope to get new sustainable sources of livelihood.

Table 4-9: Participation Ways of Farmers and Forest Farm Workers

Answer	Participate in patrol management	Percentage	adjust or change the production mode	Percentage	join forestry organizations	Percentage
Yes	199	61.42%	53	16.36%	79	24.38%
No	125	38.58%	271	83.64%	245	75.62%
In total	324	100.00%	324	100.00%	324	100.00%

Farmers and forest farm workers hold different opinions in terms of specific participation form which include “long-term participation”, “contract worker”, “temporary worker” and “others forms”. The proportion are 62.97%, 6.01%, 26.9% and 4.11% respectively. Considering the long-term livelihood, most farmers choose long-term participation. However, 26.9% of farmers tend to participate in the project as temporary workers. The reason may lie in that they will go out as migrant workers. In addition, farmers who choose to work as contract workers account for a small proportion, which shows the flexibility of their employment mentality.

Table 4-9 Employment Forms to Participate in the Project of the Farmers and Forest Farm Workers

Employment Form	Number	Percentage
Long-term participation	199	62.97%
Contract worker	19	6.01%
Temporary worker	85	26.90%
Others forms	13	4.11%
In total	316	100.00%

Chapter 5 Assessment of Social Effects and Co-adaptability

The implementation of the project will definitely have some social effects on the local production, life and customs. Therefore, the co-adaptability assessment of those social effects is needed.

5.1 Law, Regulations and the Adaptability of the Project

The project conforms to *Regulations of the People's Republic of China on Nature Reserves*. The regulations stipulate that a Nature Reserve can be divided into a core area, a buffer area and an experimental area. Area with intact natural ecosystem and centralized distribution of rare endangered animals and plants should be delimited as the core area of a Nature Reserve. In the core area, entities and individuals are prohibited from entering or doing scientific researches. The peripheral area of the core area can be delimited as the buffer area. Only scientific research and observation are allowed here. The peripheral area of the buffer area is the experimental area. It is allowed to do scientific experiments, teaching and internship programs, visiting and investigation, tourism and domestication, and to breed rare endangered animals and plants.

The project will be carried out in Jilin Hunchun National Siberian Tiger Nature Reserve, Jilin Wangqing National Nature Reserve, Heilongjiang Laoyeling Siberian Tiger Nature Reserve and Heilongjiang Muling Northeast Taxus Chinensis Nature Reserve. The regions originally belong to Nature Reserves, covering state-owned forest lands of relative forest farms and no living quarters of residents. The new project has no negative effects on the original reserve and conforms to *Regulations of the People's Republic of China on Nature Reserves*. However, a mutualistic symbiosis has come into being between the communities and reserves. In 2014, Jilin Hunchun Siberian Tiger National Nature Reserve applied to move the villages that are located in the buffer and experimental zones out of the reserve. This was announced in the Environmental Protection Department of Jilin Province. Thus the project has no negative impacts on the original reserves. And it conforms to *Regulations of the People's Republic of China on Nature Reserves*. At present, the right of project implementation belong to each forestry department. The ownership belongs to state-owned forest farms. See the Appendix 5.

Heilongjiang Niaoqingshan Nature Reserve, Hunchun Lanjia protected areas and Jilin Tianqiaoling Siberian Tiger Nature Reserve are expanded and newly-built projects. The range includes public welfare forest lands in each state-owned forest farms, not covering living quarters of farmers. Meanwhile, a mutualistic symbiosis can be established between the reserves and nearby communities. For example, Jilin Wangqing National Nature Reserve, which has already been established, has a symbiosis relationship with Duhuangzi Village. Duhuangzi Village provides a large number of labor sources for the reserve protection of collection of under-forestry resources in the experimental zone of the Wangqing National Nature Reserve. It conforms to *Regulations of the People's Republic of China on Nature Reserves*. At present, the right of project implementation belong to each forestry department. The ownership belongs to state-owned forest farms. See the Appendix 5.

The project conforms to present laws and policies about forest protection in China, Heilongjiang Province and Jilin Province. It promotes the transformation from forest harvesting to forest tending and management, Nature Reserve protection and ecological economy, which has been conducted for many years in the project area. The project areas in Heilongjiang Province, Jilin Province and the General Bureau of Heilongjiang Forest Industry all belong to state-owned forest lands.

In January, 2014, the State Forestry Administration released the *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*. The range where logging is banned in state-owned forest farms of Heilongjiang Province extends from the public welfare forests to all areas including commercial forests. The new project supports forest tending, which conforms to the policy.

The project conforms to the present policy of hunting prohibition. According to the *Implementing Methods on Prohibiting Hunting of Terrestrial Wildlife in Jilin Province*, the Nature Reserve authority, State Forestry Administration, forest management bureau, state-owned forest farms and forest armed police force should establish the patrolling system to ensure the implementation of the hunting prohibition. According to the *Wild Animals Protection Ordinance in Heilongjiang Province*, hunting and other activities which interfere with the living and breeding of wild animals are forbidden in the Nature Reserves and hunting-prohibited areas during closed seasons.

5.2 Social Customs and the Adaptability of the Project

The project mainly includes construction of protection stations and supplementary feeding station, forest tending and vegetation recovery. They do not involve migration, relocation or other activities that directly interfere with residents' production and living. Therefore, problems related to social customs adaption are not involved.

The extension projects of Niaoqingshan Nature Reserve, Wangqing Tianqiaoling Nature Reserve and Hunchun Lanjia protected areas involve the transformation of state-owned public welfare forests to reserves. The reserve extension has much to do with the new policy of hunting prohibition introduced by the State Forestry Administration. Therefore, the function of state-owned forest farms can be changed from logging and tending to tending and wildlife protection. As staffs of state-owned forest farms may face problems of custom adaption, they will learn new skills of animal protection anew.

The extension projects of Niaoqingshan Nature Reserve, Wangqing Tianqiaoling Nature Reserve and Hunchun Lanjia protected areas will further reduce the poaching range. The range of protection stations, patrolling and equipment clearing activities in the reserves will be further extended. Thus the poaching range will be limited. The poachers will face the situation where they need to choose new means of livelihood.

Column 5-1: Poaching Habits in Hunchun City

On December 12th, 2013, when a man was poaching for the roe deer with snares in a mountain near Taipinggou, Chunhua Town, Hunchun City, he was caught on spot by the patrollers of the Wildlife Monitoring Protection Station of Hunchun Forestry Bureau. The patrollers removed and took over 43 snares for roe deer, 5 snares for hares and took over a snared hare. At present, the case has been submitted to the public security brigade of Hunchun Public Security Bureau for further trial.

In recent years, through the information obtained from field monitoring, the forestry bureau of the city has found that many endangered felines extend their range of activity, such as the Siberian tigers and panthera leopards. The trace of Siberian tigers and panthera leopards was detected in mountain area to the north of the Provincial Road 201, to Chunhua and Lanjia in the east, Hadamen and Heshan in the west. Based on this, the city forestry bureau sets up a protection station in Chunhua Town, conducting patrolling and snare clearing in peripheral mountains of the Hunchun National Siberian Tiger Nature Reserve. Up to 2002, more than 2200 various snares have been taken over.

5.3 Administrative Departments of Forestry and the Adaptability of the Project

The forestry administrative departments adapt well to the project, which includes Heilongjiang Forestry Department, the General Bureau of Heilongjiang Forest Industry, Jilin Forestry Department and the subordinate project units. Since the implementation of natural forests protection project, the issue of how to transform the state-owned forest farms has always been considered by the above units. In January, 2014, the State Forestry Administration introduced *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*. The issue of transformation and development becomes more prominent. In fact, the forest farms have begun to make transformations. The General Bureau of Heilongjiang Forest Industry and its subordinate forest farms have developed forestry sidelines, planting and breeding industry. At present, more than 300 types in 13 categories of products have been developed, including nut series, edible mushroom series, honey series, wild vegetable series, health care products series, beverage series, etc. In 2013, the sales volume of black fungus reaches more than 4 billion yuan.

Landscape Approach to Wildlife Conservation in Northeast China Project is in favor of further forestry transformation. Meantime, it helps related forestry bureaus to apply for funds for wildlife protection, and to realize the transformation of the administrative units in the reserves from logging to managing and protection.

5.4 Livelihood of Forest Farm Staffs and Farmers in Areas Surrounding the Reserves and the Adaptability of the Project

The livelihood of the forestry farm staffs and farmers in surrounding regions of the reserves could adapt to the project. Before the project, the State Forestry Administration has introduced *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*. Logging in the state-owned forest farms of Heilongjiang Province and Jilin Province has been banned. Function transformation of state-owned forest farms has been on the agenda. Before this, the natural forest protection project has constantly propelled the transformation of state-owned forest farms. Forestry economy has become the major business of state-owned forest farms, such as mushroom planting, agaric planting, etc.



Picture 5-1: Mushroom Planting under the Forest in Wangqing County

With regard to the implementation of the project, the main means of livelihood of farmers and forest workers, i.e., the land, should be considered first. Seen from the statistical data in the following table, the average land area of surveyed farmers in

Heilongjiang Province is 44.49 mu per household, 42.89 mu of which is dry land. As for the surveyed farmers in the project area of Jilin Province, the average land area is 15.36 mu per household, 13.25 mu of which is dry land. As for forest workers, the average land area is 15.36 mu per household, 13.25 mu of which is dry land.

Table 5-1: Land Information of Forest Workers and Farmers in the Project Area
(unit: mu)

Province	Respondents	Statistics	Land	Dry Land	Paddy Field
Heilongjiang	Farmer	Average	44.49	42.89	4.33
		Minimum	10	10	1
		Maximum	205	203	45
Jilin	Farmer	Average	15.36	13.25	5.52
		Minimum	1.1	0.4	0.4
		Maximum	60	60	16
Total	Farmer	Average	30.24	28.73	4.77
		Minimum	1.1	0.4	0.4
		Maximum	205	203	45

From the Table 5-3, it can be seen that 62% of the surveyed farmers don't know whether the project would have negative effects on their families or not; 29% of them think the project won't have negative effects on them; and 7.14% of them think the project will have negative effects on them. The unpredictability and uncertainty of the project make the villagers fail to evaluate the negative effects of the project. And a small number of villagers believe that the project has negative effects on their families, which indicates that further explanation about the scientificity of the project is still needed for farmers in order to eliminate their doubts.

Table 5-2 Whether the Project Has Negative Effects on Forest Farm Workers' Families

Yes	No	I don't know
18	157	59
7.69%	67.09%	25.21%

For state-owned forest farm staffs, the project will increase their sources of income because more job opportunities will be offered, including jobs of forest tending. From the Table 5-3 it can be seen that about 67.1% of forest farm workers don't think that the project will have negative effects on their families. 7.96% of them think it will bring negative effects. The others don't know whether the project will bring negative effects to their families or not. It shows the project has good effects of publicity in state-owned forest farms.

Table 5-3 Whether the Project Has Negative Effects on Farmers' Families

Yes	No	I don't know
7	29	62
7.14%	29.59%	63.27%

5.5 Livelihood of Vulnerable Groups and the Adaptability of the Project

Considering of the actual situation in local forest farms, the vulnerable groups mainly refer to households with low income. The newly-built reserves will inevitably affect the quantity of forestry products they can get, which will decrease their means

of livelihood. Thus, more plans to expand their sources of livelihoods need to be made.

Compared with the affluent families, these with low income are relatively vulnerable groups. Among them, some are forest farm staffs and some are farmers of the surrounding regions. They depend much on local resources. From the Table 5-4, it can be seen that among the surveyed farmers and forest farm workers, households without subsistence problems account for the most, then it is low-income families, accounting for 10.5%. These two kinds of family account for 97.3% of the total. Thus, the actual effects of the project on them need to be further observed.

Table 5-4 Living Standards of the Surveyed Farmers and Forest Farm Workers

Category	Number	Percentage
Impoverished	35	10.5%
Subsistence level	289	86.8%
Rich	9	2.7%

From the Table 5-5, it can be seen that 17.6% of the impoverished families believe that the project will bring negative effects on their families; 47.1% of them say they don't know. 6.5% of households at subsistence level believe that the project will bring negative effects to them; and 35.5% of them say they don't know. It can be seen that compared with households at subsistence level, the impoverished families react more strongly to negative effects of the project.

Table 5-5 Whether Impoverished Families and These at Subsistence Level Think that the Project will Bring Negative Effects to Them

Category	Statistics	Will	Won't	Don't know	Total
Impoverished families	Number	6	12	16	34
	Percentage	17.6%	35.3%	47.1%	100.0%
Families at subsistence level	Number	18	162	99	279
	Percentage	6.5%	58.1%	35.5%	100.0%

The Table 5-6 provides more information to further analyze the specific negative effects that the project brings to people at different living standards. It can be seen that in terms of income and living habits, people think that the project has most impacts on households at subsistence level followed by impoverished families and affluent families.

Table 5-6 Impacts of the Project on the Income and Living Habits of People at Different Living Standards

	Reducing Income				Changing Living Habits			
	Yes	No	Percentage	Percentage	Yes	No	Percentage	Percentage
impoverished	12	14	16.2%	8.8%	10	16	6.6%	19.3%
Medium	59	144	79.7%	90.0%	139	64	92.1%	77.1%
impover	3	2	4.1%	1.3%	2	3	1.3%	3.6%

Therefore, during the implementation of the project we need to pay attention to the potential negative effects on vulnerable groups, and classify the vulnerable groups as well. We need to consider respectively and minimize the negative effects of the project on different types of vulnerable groups.

Chapter 6 Risk Assessment

Any project involves various unpredictable risks in its implementation and future development. Reasonable and objective analysis of these risks would be conducive to sustainable implementation of the project. The project aims to protect wildlife including the Siberian tiger, thus it will involve risks of accidents caused by wild animals and risks of forest resource utilization. Meanwhile, though without temporary land occupation risks, the construction and maintenance of new-built reserves and conservation stations involve environmental risks and other risks.

6.1 Risks of Accidents Caused by Wild Animals

Farming lands would decrease in size for villagers living around the reserves since the project involves a newly-built reserve, a protection area, a projected reserve and an extended reserve. Villagers who remain unfamiliar with new protection area, may step into the new reserves. This would raise the possibilities of attacks by big feline animals including tigers. Risks of villagers and livestock being attacked mean accidents risks caused by wild animals.

It is shown in Table 6-1 that in recent years many accidents caused by wild animals happen in the project area. Dongning County ranks the first with 47 accidents. Then it is Muling City with 28 accidents, accounting for 38.9% of total respondents in this city. Though the Muling Forestry Bureau only witnesses 12 accidents caused by wildlife, while they account for 80% of these respondents.

Table 6-1 Accidents Caused by Wild Animals to Stakeholders in Various Areas

Region	Statistical data	Yes	No
Wangqing County	Number	17	79
	Percentage	17.7%	82.3%
Hunchun City	Number	8	35
	Percentage	18.6%	81.4%
Doning County	Number	47	0
	Percentage	100.0%	0.0%
Muling City	Number	28	44
	Percentage	38.9%	61.1%
Muling Forestry Bureau	Number	8	43
	Percentage	15.7%	84.3%
Muling Forestry Bureau	Number	12	3
	Percentage	80.0%	20.0%

From the above analysis, it can be seen that many accidents caused by wild animals happen in the project area. Though these accidents vary in different regions, it would be necessary to avoid such risks and also protect the wildlife during and after the project. Damages to the livestock and crops caused by wild animals are increasing. In Hunchun City in Jilin Province, the government distributed compensation for those damages and 116 households got compensation of 680,000 yuan in total. Therefore more attention should be paid to the wildlife accidents risks and the compensation matters.

6.2 Risks of Forest Resources Utilization Conflict

Since the new-built and extended reserves would cover some state-owned forest where villagers used to pick fungi and other natural products in forest, thus this

project involves risks of forest resources utilization conflicts. Before the establishment of the reserve, villagers nearby could enter the forest farms and picked fungus like matsutake and other forest products. It is illegal but acquiescent because the forest farms are too vast to be fully patrolled and protected. Once the reserve is set up, such behavior will be deemed illegal. At the same time, the reserve will be patrolled to prevent villagers from picking products furtively, and the area where they are allowed to gather forest products will also be restricted. However, at present such behaviors also exist. Therefore, since the project is implemented, there will be conflicts of resource utilization between villagers and the reserves in a long term.

6.3 Risks of Poaching

One major purpose of reserve construction lies in protecting the completeness of biological chain for wildlife such as the Siberian tiger. However, poaching would bring various challenges and risks, for example, animals as supplementary feeding might be poached by illegal hunters, and poacher would do harm to the Siberian tiger and other wildlife.

6.4 Risks of Shortage of Raw Material for Agaric Planting

Shortage of raw material for agaric planting would increase the possibilities that forest farm workers and villagers make a live on local forest resources again. With the implementation of the project and the introduction of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*, severe shortage of wood surplus would appear and no substitute material has been invented. Thus the forest farms and farmers would face a shortage of raw material for edible fungi industry, which will be faced in many other areas of Heilongjiang province. However, from the prohibition of logging in 2014 to the social impact assessment in March, 2015, the impacts on agaric planting is not so great. At present, 60% of the sawdust consumed in local place is imported from Russia; 15% from Jilin Hunchun and other places; 20% from Haerbin City and nearby areas; the other 5% is from local area. The import of sawdust is operated by border trading companies. Deforestation is prohibited from April, 2014 in Heilongjiang Province. No shortage of sawdust is found during the investigation in March, 2015.

However, more and more households plant agaric, and the competition is more and more intensified. Phenomenon of loss incurred in Heilongjiang Province in 2014. Among the 6 investigated forest farm staffs that plant agaric, 4 households earned some profit and 2 households sustain losses. One of them grew 80,000 bags of agaric, and lost 30,000 yuan. The other household lost money too because 20,000 bags of agaric were burned due to the fire accident.

Sawdust in Jilin Tianqiaoling and Wangqing Nature Reserve mainly come from the surplus material of logging in collective forest farms. The agaric planting in state-owned forest farms around Wangqing National Nature Reserve demands for about 9000 tons of surplus material of logging; 2000 tons of it is produced within the reserve and 7000 tons of it is bought from nearby areas.

80% of the material to plant agaric in state-owned forest farms around Tianqiaoling Reserve is also from external areas. The agaric-planting materials of nearby peasants all come from the surplus material of logging in collective forests and other provinces.

6.5 Environmental Risks in Construction Period

Earthwork construction and road maintenance involved in reserve construction

would inevitably damage the current natural landscape, influence the self-renewal capability of forest, and will generate many construction and household waste which may not be effectively disposed. All these would destroy the original forest ecology and result in unrecoverable environmental risks.

Workers engaged in reserve management, forest tending, supplementary feeding would create household waste, including plastic bags, food residue and excrement, which would possibly influence the effectiveness of the project.

Chapter 7 Impacts on Ethnic Minorities

According to the environmental and social operational policy OP4.10 of the World Bank, when the project affects Indigenous Peoples, targeted analysis and development plans for indigenous peoples shall be conducted. According to the definition of OP4.10, indigenous peoples involved in this project shall possess core elements as follow:

- self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories
- customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture;
- an indigenous language, often different from the official language of the country or region.

In Jilin Hunchun Siberian Tiger National Nature Reserve, Jilin Wangqing National Nature Reserve, Heilongjiang Laoyeling Siberian Tiger Nature Reserve and Heilongjiang Muling Northeast Taxus Chinensis National Nature Reserve within the project area, maintenance and construction of conservation stations and supplementary feeding stations are conducted within state-owned forest lands. Heilongjiang Niaoqingshan Nature Reserve and Jilin Tianqiaoling Siberian Tiger Nature Reserve are new-built and extended, which also lie in state-owned forest lands. They do not overlap with residential quarters.

The Lanjia protected areas in Hunchun, Jilin Province, is not included in the state-owned forest lands, but it is adjacent to these reserves. With the increasing construction of reserves, accidents caused by wild animals are likely to increase in northeast Jilin Province which is adjacent to Heilongjiang Province, Russia, and North Korea. The livestock and grain crops of farmers in the surrounding areas might suffer loss from wildlife attacks. According to the *Compensation Methods for the Personal Injury and Property Damage Caused by Specially Protected Terrestrial Wildlife in Jilin Province*, compensation will be distributed once damage or loss is caused. Besides, the establishment of these reserves would restrict the logging and decrease sources of raw materials to plant agaric. Thus the income of farmers may be affected negatively. Furthermore, areas where farmers can gather forest products will be further narrowed. During the project, we can encourage farmers to take part in forest tending, wildlife monitoring and protection, and agritourism to share the mutual benefits.

These affected people main live in Jilin Hunchun Lanjia protected areas , Jilin Hunchun Siberian Tiger National Reserve and Wangqing National Reserve. The status of these affected people is shown in Table 7-1.

Table 7-1: Status of Ethnic Groups That May Be Affected

Reserve Name	Town	Village	Ethnic Groups			
			Nationality	Household	People	Percent among all people in the community
Jilin Hunchun Lanjia protected areas and Jilin Hunchun Siberian Tiger National Reserve	Chunhua Town	Lanjia	Chosen	26	75	39.47%
		Guandaogou	Chosen	26	63	28.38%
		Xiacaomao	Chosen	16	57	21.27%
		Shangcaomao	Chosen	12	35	20.71%
		Fenshuiling	Chosen	16	50	33.33%
	Yangpao Town	Yantong Lazi	Chosen	39	100	100.00%
		Songlin	Man	48	136	21.28%
			Chosen	76	215	33.65%
		Dong’ala	Chosen	179	544	60.38%
Wangqing National Reserve	Fuxing Town	Duhuangzi	Chosen	6	12	4.03%
			Hui	1	1	0.34%
			Man	1	3	1.01%
In total				513	446	1291

There are 513 households of the Chosen, Man and Hui nationality. Among them 1 household is of Hui nationality; 49 are of Man nationality, 1291 people in total, 30.87% of all people in the community.

Based on the abovementioned background, the Chosen nationality residents in Jilin Province who used to depend on harvesting in state-owned forest lands mainly have the following demands:

- Demand for sustainable development of livelihood;
- Demand for alternative technique of planting agaric and demand for other alternative techniques;

Based on the investigation, people of the Chosen nationality amount to 100% in Yangpao Town, Yantong Lazi Village; 60.83% in Dong'ala Village. In Songlin Village, people of the Chosen and Man nationality are 54.93% of the total. Ethnic minorities in these four villages account for more than 50% of the total. The social assessment team will specially compile the *Ethnic Minority Development Plan*.

Chapter 8 Impacts on Involuntary Resettlement

According to requirements of the World Bank, involuntary resettlement should be avoided as much as possible in the preparation and construction period of the project. However, the newly-built and expanded reserves involved in this project need to change state-owned forest to Nature Reserves and improve the protection level in these reserves. Thus the involuntary resettlement is inevitable to some extent. According to the operational policy OP4.12 of the World Bank *Involuntary Resettlement* and the enclosure (effective from Jan 1st, 2002), and operational procedure BP4.12 *Involuntary Resettlement* and the enclosure (effective from Jan 1st, 2002), it is found in the social assessment:

- Areas covered in this project all belong to the state-owned forest farms with clear ownership. This project involves no issues concerning land acquisition and demolition with residents.
- The project covers an area of 87,711 hectares which would transform from state-owned forest farms to Nature Reserves. It includes state-owned forest lands subordinated to Heilongjiang Forestry Department and Jilin Forestry Department. According to the investigation, forest farm workers from 25 forest farms and nearby farmers from 14 villages are affected by this project.
- In January 2014, the State Forestry Administration enacted *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation*. And it was implemented in the state-owned forest farms in Heilongjiang and Jilin Province. The new-built and extended Nature Reserves were also affected by this policy and logging was prohibited completely. Relevant policies need to be formulated to solve the alternative livelihood problems that forest farm staffs are faced with.
- The policy of logging prohibition in newly-built and expanded reserves that was conducted from 2014 would affect the output of sawdust. Thus the agaric planting of nearby residents would be affected.
- Residents in surrounding regions of the project area would face greater risks of wildlife accidents.
- The prohibition of under-forest activities will have some influences on forest farm staffs and nearby villagers. Their income from gathering under-forest resources will be decreased.
- After the forest farms are transformed to reserves, the lands used to be rent to nearby villagers would be taken back. Thus villagers' income would be decreased.
- Some villagers and forest farm staffs are engaged in farming and pasturing. Further estimation is still needed to confirm whether the pasturing activities are within the reserves, and whether the impacts still exist after the state-owned forest farms are transformed to reserves and management is strengthened in these reserves.

In one word, the newly-built and expanded reserves will transform state-owned forest farms to Nature Reserves and will bring about impacts on forest farm staffs and nearby residents. Thus the social assessment team will specially compile the *Resettlement Plan*.

Chapter 9 Social Management Plan

9.1 Mitigation Plan for Social Impacts

9.1.1 Mitigation Measures for Impacts on Forest Farm Staff

Due to the reserve construction, forest farm staff will face job alteration. The mitigation measures include:

- to provide training on wildlife protection and management and create relevant jobs for forest farm staffs;
- to provide training on forest tending and create relevant jobs for forest farm staffs;
- to provide training on farming and breeding industry and improve the livelihood for forest farm staffs;
- to compensate for the prohibition of deforestation to affected forest farms, and this can be implemented through the natural forest protection project.

9.1.2 Mitigation Measures for Impacts on Farmers in Surrounding Regions

The project will have impacts on farmers in terms of resources in state-owned forest farms. The mitigation measures include:

- to provide training on wildlife protection and management and create relevant jobs for farmers;
- to provide training on forest tending and create relevant jobs for farmers;
- to provide training on farming and husbandry and improve the livelihood for farmers;

9.1.3 Mitigation Measures for Impacts on Poverty-Stricken Family

Poverty-stricken families in the project area include forest farm staffs and farmers in surrounding regions. The mitigation measures include:

- to provide training on wildlife protection and management and create relevant jobs;
- to provide training on forest tending and create relevant jobs;
- to provide training on farming and husbandry and improve their livelihood.

9.2 Risk Mitigation Plan

9.2.1 Mitigation Measures for Wildlife Accidents Risks

The perfection and expansion of reserves will inevitably increase wildlife accident risks. Jilin Province has promulgated the *Compensation Methods for the Personal Injury and Property Damage Caused by Specially Protected Terrestrial Wildlife in Jilin Province* and the *Implementation Regulations of Compensation Methods for the Personal Injury and Property Damage Caused by Specially Protected Terrestrial Wildlife in Jilin Province*. However, there is still no official measures of such case in Heilongjiang Province. Mitigation measures of wildlife accident risks include:

- to advance legislation on wildlife-caused loss;
- to establish special fund of wildlife accidents in counties and cities involved in the project; the State Forestry Administration will include Heilongjiang Province into the special support program of compensation for animal-caused accidents.
- to recommend that Heilongjinag Province establish mechanisms of recognition compensation for wildlife accidents with reference to these of Jilin Province;
- to set warning signs at places where tigers and leopards regularly appear; warn the risks of under-forest activities to villagers.

9.2.2 Mitigation Measures for Forestry Resources Utilization Conflicts

Mitigation measures to prevent farmers of the surrounding regions from entering the reserves and gathering forest products include:

- to establish a mechanism to co-manage the peripheral communities and the reserves, and set up a benefit-sharing mechanism of the nearby communities and villagers based on the co-management mechanism. Some peasants would still collect forest products in state-owned forest farms and the experimental areas of the reserves. They will be allowed to still collect forest products in the experimental areas of the reserves after the project is implemented.

- to provide training on farming and breeding techniques in surrounding communities, and reduce their dependence on the reserves by improving their income;

9.2.3 Mitigation Measures for Poaching

Mitigation measures for adverse impacts of poaching include:

- to trace and monitor shops that sell hunting tools like sticky nets and traps and as well as their sales status;

- to co-manage the reserve with the nearby communities and employ residents in nearby communities to clear away the hunting tools;

- to establish a pressure mechanism for the nearby communities, to give financial incentives to communities with less hunting tools;

- to encourage experienced hunters to participate in reserve protection, to transform their job from hunting to protecting;

- to provide them with relevant training on understory planting techniques.

9.2.4 Mitigation Measures for Material Shortage Risks in Fungus Planting

Though the material shortage of fungus planting is due to adjustment of national and provincial forestry policies, mitigation measures are also put forward in this project:

- to provide training on mushroom and herb planting for local farmers;

- to encourage farmers of surrounding communities to participate in reserve construction and management.

9.2.5 Mitigation Measures for Environmental Impacts

Main measures of environmental impact include:

- For exhaust gas, noise, dust, polluted water, sludge, and impacts on water and soil conservation and traffic, the construction unit shall decrease the adverse impacts of the project construction on residents of surrounding regions and wildlife on the base of designing requirements and abovementioned risk aversion measures.

- In the implementation period, environmental laws, regulations and industrial technical standards shall be strictly conducted. Household waste in the reserve area shall be reasonably disposed to decrease the adverse environmental impacts.

9.2.6 Mitigation Measures for Impacts on Indigenous Peoples

We shall compile the *Ethnic Minority Development Plan*, mainly to solve the problem of ethnic minorities' relying on sawdust when cultivating agaric in Hunchun City.

9.2.7 Mitigation Measures for Involuntary Resettlement

The implementation of this project and the introduction of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation* in 2014 would have interactive influences on the resettlement of state-owned forest farm workers in Jilin and Heilongjiang Province. Thus the Resettlement Plan is needed to transform their job from logging to management and protection, and to develop under-forest economy.

9.3 Benefit Strengthening Plan

The positive impacts of this project include the environmental, economic and social benefits. By related social management measures, the positive impacts shall be enlarged and the objectives of the project could be better achieved.

9.3.1 Environmental Management System Construction

In this project, we shall improve the ecological environment and carry out forest management which is friendly to the Siberian tiger and its prey. This will promote the protection and restoration of wildlife resources in Northeast China. Meantime, this project involves some engineering construction, including maintenance and construction of protection stations, tiger-friendly forest management (afforestation, forest tending and livelihood alteration), construction or expansion of Nature Reserves and supplementary feeding stations. All these will have some positive impacts on local community, ecological environment and wildlife species, and meet the requirement of protecting the ecological environment in the project area.

Environmental management system construction include: to strengthen legal norms of Nature Reserves; to update protection and restoration plans of Jilin province; to draw up protection and restoration plans in forest regions of the General Bureau of Heilongjiang Forest Industry; to set up the Siberian tiger regional conservation consultative committee; to establish China-Russia trans-boundary conservation coordination mechanism; to legislate/update rules/plans of each Nature Reserve; to expand the two existing reserves; to specify the legal status and implementation arrangements; to set up supplementary feeding stations, release domesticated wild boar into nature and increase prey population; to conduct publicity through television, broadcast, journal, slogan, leaflet and improve people's awareness of the Siberian tiger protection, etc.

9.3.2 Measures to Improve Social Benefits

The project will promote economic development and social stability in peripheral regions. It has obvious social benefits.

To enhance the social benefits, the following measures are put forward in this report:

- Farmers and laid-off workers should be allowed to set up mobile stalls to sell forest specialties and fruits, on the condition that they do not affect normal defensive functions of wildlife protection in Nature Reserves. Meanwhile, management of these mobile stalls should also be standardized and strengthened.

- Contracts can be signed with schools to build teaching and research centers, which can be used to popularize science knowledge and publicity education among students. Meanwhile, they can improve the social influences of these Nature Reserves.

9.3.3 Measures to Improve Economic Benefits

The environmental and social benefits of this project, though cannot be measured directly by economic indicators, could generate great economic values from indirect benefits which are immeasurable and much more than the direct economic benefits.

- After the eco-tourism is developed, periphery area outside of the nature reserves can be used as ecological landscape for visiting. A co-management mechanism can be established to promote tourism and stimulate development in other industries.

- Develop the livelihood methods of nearby community and the protection of nature reserves by means of co-management. For example, to connect the under-forest products collecting and pasturing with the patrolling and management of nature

reserves; give full play to nearby peasants' monitoring and protection towards the nature reserves (such as clearing hunting tools). This will not only decrease the workflow of reserves in terms of monitoring and protection, but also guarantee the income of households that live on forestry products collecting. It's recommended to conduct tests at 2-3 communities and reserves.

--Besides, the training on panting north medicine in forest farms can include nearby peasants. Scale merit can be obtained through develop agricultural orders and fully utilize the local resources.

9.4 Training Program

To smoothly implement and effectively manage the project, training of managerial persons and other relevant personnel is included in the training program. According to the project design, major training plans and contents are shown in the following Table 9-1 (Training contents can be adjusted accordingly; the key point is to alleviate influences and risks of the project).

Table 9-1: Training Program in the Project

No.	Trainees	Forest farm workers in the project area	Personnel in nature reserves, county and city forestry departments and forest industry bureaus	Managerial personnel of project offices	Managerial personnel of forest farms in the project area
1	Objectives	To transform forest farm workers' job from logging to developing under-forest economy and protecting wildlife	To improve the management capability of project operation	To improve the management and monitoring capability in the whole process of the World Bank project	To improve the management capability in the project area
2	Contents	Planting techniques of agaric (alternative techniques of saw dust), under-forest mushroom, ginseng and herbal medicines; training on wildlife protection and management of nature reserves	Training on management of nature reserves and wildlife reserves	Training on engineering project, goods procurement, bid inviting and submitting, capability of financial staff and monitoring, etc.	Research activities at home and abroad, forest farm management, etc.
3	Period	2014-2017	2014-2017	2014-2017	2014-2017
4	Responsible institutions	Heilongjiang Forestry Department, General Bureau of Heilongjiang Forest Industry, Jilin Forestry Department	Heilongjiang Forestry Department, General Bureau of Heilongjiang Forest Industry, Jilin Forestry Department	Heilongjiang Forestry Department, General Bureau of Heilongjiang Forest Industry, Jilin Forestry Department	Heilongjiang Forestry Department, General Bureau of Heilongjiang Forest Industry, Jilin Forestry Department

5	Number and batch of trainees	100 trainees/ batch; 5 batches/ year	6 trainees/ batch; 2 batches/ year	5 trainees/ batch; 2 batches/ year	5 trainees/ batch; 2 batches/ year
6	Training place	Suiyang Forestry Department, Dongning Forestry Department, Muling Forestry Department, Hunchun City Forestry Department, Hunchun Forestry Department, Wangqing Forestry Department, Wangqing County Forestry Department, Tianqiaoling Forestry Department and its subordinated state-owned forest farms.	Suiyang Forestry Department, Dongning Forestry Department, Muling Forestry Department, Hunchun City Forestry Department, Hunchun Forestry Department, Wangqing Forestry Department, Wangqing County Forestry Department, Tianqiaoling Forestry Department and its subordinated state-owned forest farms.	Heilongjiang Forestry Department, General Bureau of Heilongjiang Forest Industry, Jilin Forestry Department	Suiyang Forestry Department, Dongning Forestry Department, Muling Forestry Department, Hunchun City Forestry Department, Hunchun Forestry Department, Wangqing Forestry Department, Wangqing County Forestry Department, Tianqiaoling Forestry Department and its subordinated state-owned forest farms.
7	Budget	This part is included in the resettlement pan. The part of ethnic minorities is included in the <i>Ethnic Minority Development Plan</i> .	400000 yuan	224000 yuan	160000 yuan

9.5 Participation, Appeal and Complaint Mechanisms for Forest Farm Workers and Rural Households in Peripheral Areas

During the planning, design, preparation, implementation, monitoring and assessment of the project, it will be favorable to select proper stakeholders to participate in the program, mainly including the participation and appeal mechanisms. The participation mechanism includes participation goals, means, conditions and contents, and participating institutions, personnel, time, place and budget as well. The appeal and complaint mechanism means that stakeholders can complain or appeal to concerned institutions if they still have not got satisfactory solutions after their participation.

1. Means to Collect Discontents and Complaints

(1) To collect and analyze problems existing in complaints of the masses, progress and measures of the work through the reports of the project office.

(2) Coordination problems found in the on-site investigation of construction sites of owner units.

(3) Relevant information reflected by external inspection institutions.

(4) Letters and visits from affected people.

(5) Reflections from agencies of the project executive units.

2. Procedures of Appeal and Complaint

Forest farm works and rural households in peripheral areas are always encouraged to participate in the project. But more or less, problems will still arise in practice. In addition to the ongoing petition and compliant channels at all levels of forestry departments, the project also establishes transparent and effective channels and mechanisms of appeal for affected people to ensure timely and effective resolving of these problems and smooth progress of the project.

3. Principles to Handle Appeals and Complaints

Complaints from the masses must be investigated through field researches, their opinions must be heard and consulted patiently. Objective and justified counter-measures must be put forward in the light of principles and standards stipulated in national regulations or the project. As for complaints which they are not able to solve, the concerned units must report to upper-level departments and assist the upper-level departments to complete the investigation.

If decision-making institutions at the former stage do not reply to the appeal before the specified date, the declarant has right to continue the appeal.

4. Contents and Means to Reply to Appeals

1. Contents of the reply

- Brief introduction of the complainer's discontents;
- Investigation results;
- Relevant national regulations, principles and standards of the project implementation;
- Counter-measures and specific base.

2. Means of reply

- For particular individual complaints, replies in written materials can be directly sent to complainers.
- For frequently reflected complaints, staff meetings or village committee can be held and documents can be sent to notify the concerned forest farms or communities.

Whichever means of reply is adopted, the reply materials must be sent to forest farms or communities to which the complainers belong.

5. Records and tracking feedbacks of appeals and complaints

In the design and implementation period of the project, the monitoring team should cooperate with respective department in the registration and management of the complaint materials and the handling results, and regularly report to the project management office by means of written materials. The project management office will regularly check the handling and registration of the complaints.

To completely record the complaints handling situation and relevant problems of affected people, the project management office has worked out related registration chart as follows.

Table 9-2 Registration Chart for Complaints and Appeals of Landscape Approach to Wildlife Conservation in Northeast China Project

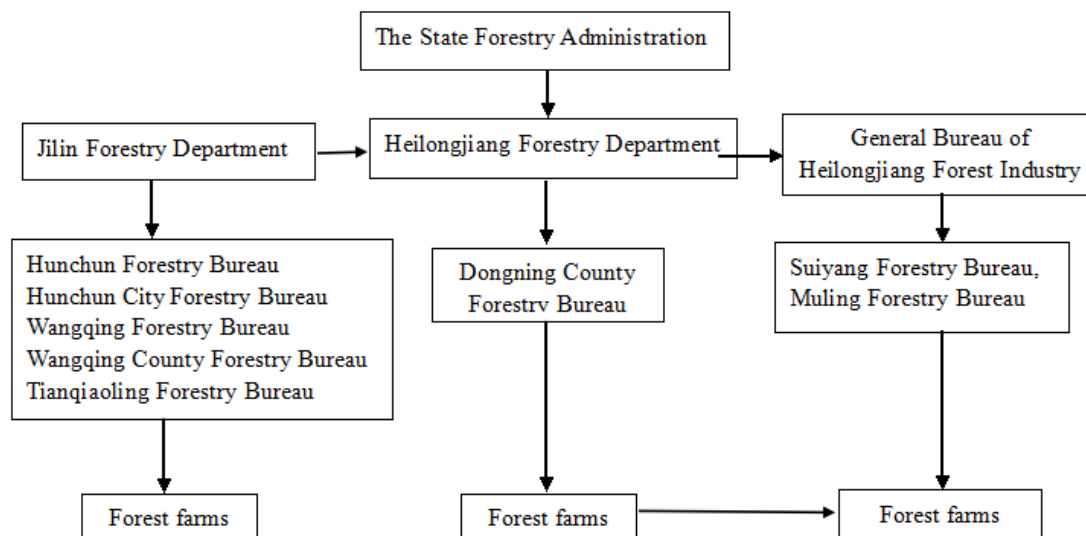
Approach to Wildlife Conservation in Northeast China Project					
Complaint Receiving Unit		Date		Place	
Name of the Complainer	Contents of the Complain	Required Solution		Proposed Solution	Actual Situation of Handling
Signature of the Complainer				Signature of the Recorder	
Note: 1. The recorder should correctly put down the contents and requirements of the complainer. 2. Any disturbance and obstacle should be avoided in the process of the appeal. 3. The proposed means of solution should be communicated to the complainer within specified time.					

In addition, channels relevant to appeals and complaints will be publicly released to affected groups, and will be sent to each affected forest farms and community in the form of publicity materials before the implementation of this project.

9.6 Organization Arrangement

At present, a system of operation and management institutions with forestry system as the core has been initially formed in the Landscape Approach to Wildlife Conservation in Northeast China Project. The main structure is shown in the Diagram 9-1 as below.

Diagram 9-1: Diagram of the Management Institution System



9.6.1 Leading Group of the State Forestry Administration

In order to strengthen the management, coordination and cooperation in the project, the State Forestry Administration takes the lead and set up the leading group for the protection project of the Siberian tiger. The leading group is headquartered in the administration.

The leading group of the State Forestry Administration is responsible for the coordination, management, supervision and service in the implementation of the project. At the same time it reports the implementation process of the project to the World Bank, coordinates all relevant divisions, provides technological aid in related activities, and coordinates the research and training.

9.6.2 Provincial Leading Groups

The leading group of State Forestry Administration has set up executive offices of the Siberian tiger habitat protection project respectively in Jilin Forestry Department, Heilongjiang Forestry Department and the General Bureau of Heilongjiang Forest Industry. These project offices are in charge of the coordination, management, supervision and service of the project activities within each department; arranging bid inviting and purchasing; writing annual financial plan; controlling engineering project quality; organizing technological assistance, research and training in the project area of each unit.

9.6.3 City and County Leading Groups

In accordance with the building pattern of the provincial leading groups, each city and county establish their own leading groups for the Landscape Approach to Wildlife Conservation in Northeast China Project. The leaders of each city and county forestry bureau play the role of team leader, and the group members are major leaders of each county forestry bureau, development and reform bureau, construction bureau, planning bureau, finance bureau, land and resources bureau, environmental protection bureau, agriculture bureau, audit bureau and public security bureau, etc.

Major responsibilities of city and county leading groups are to coordinate relevant units to carry out the construction work of the project, hold conference regularly;

check and supervise the quality and process of the construction of the project; make timely evaluation on the effect of the project construction; report the project process and solve major and difficult problems that appear in the project.

To ensure a smooth process of the project, the management institution is established for the Landscape Approach to Wildlife Conservation in Northeast China Project. The project office sets up comprehensive team, finance team, management team, bid inviting and offering team, etc.

The comprehensive team is responsible for business contact, materials and documents transfer, training of managerial persons, skill communication and inspection. It is required to report regularly to upper-level leading groups and the project office about the situation of the project.

The finance team is in charge of handling the expenses and receipts of loan capitals from the World Bank, completing relevant financial reports and cooperating with the audit department to do the capital audit work in the project.

The management team is responsible for the specific implementation of the project. It takes charge of the coordination among different departments, such as consulting, design and construction departments, to implement the project as required by the World Bank, and providing assistance to the World Bank to monitor the project process.

The bid inviting and offering team is responsible for the bidding of construction projects, and purchase of goods and equipments according to requirements of the World Bank.

Persons who are in charge of the project implementation have the overall responsibility for decision-making, commanding, implementing, bid inviting and offering, negotiation and contact in the project process.

Column 9-1: Major duties and responsibility of the project office in the implementation and management of the project

Equipment purchasing and installation, and civil construction activities are determined through bid inviting and offering. The project executive unit is responsible for bidding documents for the above activities. The technological part of these documents shall be worked out with the assistance of the project design unit. Every executive unit of planning, supply, construction and installation shall confirm to related laws and regulations, and the liability for breach shall be conducted in accordance with related laws.

The project executive unit shall cooperate with the project implementation unit and make the project implementation schedule. They shall notify all relevant parties before the implementation. Initial project implementation procedures and process arrangement can be found below.

The project executive units should create favorable conditions for project implementation units, and in turn, the project implementation units should comply to the command and dispatch of the project executive units.

To ensure a smooth implementation of the project, project offices of all sub-projects should undertake the management during project implementation. They should consist of technicians and managerial personnel majoring in relevant fields of the project construction. The proposed duties and responsibilities of each department in project implementation and management institutions are the following:

Administrative management: responsible for daily administrative work, the reception and liaison of project implementation units.

Financial planning: responsible for the financial plan and the implementation

plan; arrangement of the cooperation and procedure with project implementation units; capital using plan and payment procedures.

Technological management: responsible for the management of technical documents and files, organizing joint review of the design drawing, handling technology related problems, organizing technical communication, technical training and examination of professional skills for the staffs.

Construction management: responsible for the coordination and direction of the civil engineering construction and installation, construction process and plan, supervision and examination of construction quality and safety, inspection and acceptance of the project.

Material management: responsible for the ordering, purchasing, storage and allocation of equipment and materials in the project.

9.6.4 Project Operation Management Institution

A leading group in charge of the operation and maintenance after the project is implemented is set up for the Landscape Approach to Wildlife Conservation in Northeast China Project. It consists of major leaders and relevant responsible persons of forestry bureaus. The main duties and responsibilities lie in the establishment of operation management mechanism, supervision of project capital transfer, coordination among all public departments in project operation management.

Column 9-2: Introduction to the project organization management institutions

Arrangement of the Project Executive Institutions and Management Method of the Landscape Approach to Wildlife Conservation in Northeast China Project

In order to effectively manage and smoothly implement the loan project of the World Bank, the following project management (execution) institutions and project management methods have been established based on features of the ongoing system and government functions.

1. Project Executive Institutions

A leading group of the project Landscape Approach to Wildlife Conservation in Northeast China Project is set up for the coordination and convenience in the work.

(1) Landscape Approach to Wildlife Conservation in Northeast China Project Leading Group

Duties and responsibilities of the leading group:

1. Comprehensive arrangement of the project.
2. Coordination among different departments.
3. Financial Raising.
4. Reimbursement, allocation and repayment of loan capital.
5. Raising funds for the project preparation, implementation and operation.
6. The using of project funds and supervision of project quality.

(2) The Project Office of the Landscape Approach to Wildlife Conservation in Northeast China

Duties and responsibilities of the project office:

1. Recognition and preparation of the project,
2. Planning and research of the project,
3. Design and assessment of the project,
4. Implementation and construction of the project.
5. Monitoring and assessment of the project.

6. Check and acceptance, and balancing of the project after its completion.
7. Operation and management of the project.

2. Project Management Institution

After the project is completed, a management leading group of the Landscape Approach to Wildlife Conservation in Northeast China Project will be established.

Main duties and responsibilities of the management leading group:

Establishment of a project management mechanism; transfer of project capital; monitoring and assessment of project benefits, repayment of loans, fund raising for project management.

The management of project funds and the repayment of loans will be based on the management habits of the department. For example, roads management will be transferred to the highway bureau, water supply system to water supply companies, drainage system to municipal corporations, greening management to the greening office, etc.

Liabilities will also be transferred when the project is transferred.

9.7 Monitoring and Assessment of Social Management Plans

9.7.1 Arrangement of Monitoring and Assessment Institutions

Monitoring and assessment of the project includes self-monitoring and assessment, and that of independent institutions. Responsibilities and obligations of different organizations and stakeholders are shown in the Table 9-3 as below.

Table 9-3: Organization Arrangement of Monitoring and Assessment

Relevant Institutions	Roles in the Monitoring and assessment	
	Self-Monitoring and assessment	Assessment of Independent Monitoring Institutions
The State Forestry Administration, provincial forestry departments, bureaus of forestry industry	organizer and coordinator	organizer and coordinator
County and city forestry bureaus, state-owned forest farms, protection stations	executor	organizer, coordinator, and information provider.
Neighborhood committee and village committee in peripheral areas of the reserves Rural households and residents in peripheral areas of the forest farms The constructor of the project Responsible departments in the county government	coordinator and information provider	coordinator and information provider
Monitoring institutions of the project	-	executor

9.7.2 Contents and Indicators in the Monitoring and Assessment

According to contents involved in the social assessment report, main contents of the monitoring and assessment are the following:

- To carry out tracking monitoring and assessment of social management plan

in the light of the social monitoring and assessment indicators defined in the social management plan.

- To analyze and evaluate the actual benefits, influences and risks according to the investigation results of the tracking monitoring.
- To focus on the implementation of mitigation measures to eliminate negative effects of the project, and put forward timely measures to eliminate obstacles which impede the achievement of social goals, and adjust the plan appropriately if necessary.
- To recognize and analyze social problems and risks in the project and put forward measures and recommendations of correction and improvement.

Estimated indicators of monitoring and assessment are the following:

Table 9-4: Monitoring and Assessment Indicators

Types of Indicators	Objectives	Core Indicators
indicators of project implementation and construction	To know the project progress	The implementation construction contents, time, place, financial management, resources management, staff management and engineering management of the project.
Indicators of Project Input and Output	To know the project progress	Total amount of capital input, structure of capital sources, fields and structure of capital investment; direct and indirect output of the project
System Set-up	To improve the feasibility of the project	The establishment of animal accident compensation mechanism; The establishment of appeal and complaint mechanism; Changes of reform mechanism in state-owned forest farms; Changes of management mechanism in national forests and reserves.
Social Effects	To improve the feasibility of the project	Income structural and quantitative changes of forest farm works; Income structural and quantitative change of rural households in peripheral areas; Income structural and quantitative change of households living in poverty;
Social Risks	To improve the feasibility of the project	Quantity of animal accidents and compensation standard, and whether the standard meets demands of the impaired party; Willingness of forest farm works and residents to continue collecting forestry products in the reserves; Confiscation of hunting tools and handling of hunting cases; Alternative technique in agaric planting; Environmental behaviors of staffs engaged in reserve protection;
Public Participation	To improve the feasibility of the project	Awareness rate, participation willingness and satisfaction degree of forest farm works; Awareness rate, participation willingness and satisfaction degree of rural households in peripheral areas.
Stakeholders	To improve the feasibility of the project	To focus on analyzing the awareness rate, participating willingness and satisfaction degree of all stakeholders.

Note: (1) The project implementation and construction indicators, and relevant indicators involved in project input and output have been explicated in the content and

background of the project, thus they will not be repeated here. (2) Monitoring indicators of forest farms' participation have been mentioned in the forest farms' participation of this report, thus they will not be repeated here.

Chapter 10 Conclusion and Recommendation

10.1 Conclusion

Through the elaboration on economic and social background, and investigation of Landscape Approach to Wildlife Conservation in Northeast China Project, the Social Assessment draws the following conclusions.

-The project has overall great environmental, economic and social benefits, and it is in line with China's current policy of forest conservation instead of harvesting. Particularly with the introduction of *Notice on Implementing Pilot Work of Completely Stopping Commercial Deforestation* in 2014, this project can help to promote the transformation of function and livelihood of various stakeholders in the project area, serving the practical demands of related parties as well as the economic and social development of the project area in a medium and long term, and thus it bears significant compatibility of economic, social and ecological function.

-The construction of the project will make great contribution to improve the ecological environment and will create a friendly habitat for the Siberian tiger and its prey, boosting the protection and recovery of wildlife resources in northeast China.

-The site design of the project has been optimized in the early stage and nearby communities will be moved out of the reserves. The strategy of joint management with circumjacent communities has been developed, thus the implementation of the project will not cause involuntary immigrant resettlement or negative influences on indigenous peoples.

-Peasants in the project area basically do not live on forestry resources. Some peasants would still collect forest products in state-owned forest farms and the experimental areas of the reserves. They will be allowed to still collect forest products in the experimental areas of the reserves after the project is implemented.

-Under the background of logging prohibition enacted by the State Forestry Administration, the livelihood of forest farm workers, nearby farmers and impoverished farmers would be affected to some extent.

-Residents of Chosen nationality in Jilin province, who used to live on logging in state-owned forest farms, may be affected in terms of their livelihood. Thus the *Ethnic Minority Development Plan* need to be formulated.

-The newly-built and expanded reserves involved in this project need to change state-owned forest farms to nature reserves, which covers an area of 1,999,800 mu. Besides, areas where functional construction and forest tending need to be strengthened cover an area of 3,785,775 mu. Though the jobs of original forest farm staffs would be changed to protection jobs, involuntary resettlement is inevitable to some extent. Thus the *Resettlement Plan* is needed.

-The compensation mechanism of animal accidents has been enacted in Jilin province, while in Heilongjiang Province no compensation mechanism has been established, and formal official documents of loss compensation for animal accidents are still to be made.

-The technique training on sawdust alternative could mitigate the influences of poaching, forest farm staffs and nearby farmers' relying on forest resources due to the sawdust shortage when planting agaric, and the behavior of staffs in the reserves.

-Plans for social impact and risk mitigation, interest enhancement, and training should be made rigorously aiming at problems found in this Social Assessment.

-The public participation mechanism is being established, especially the mechanism where state-owned forest farms will take part in designing, operating, monitoring, and evaluating of the project.

10.2 Recommendation

During the project implementation, it is recommended that the following content should be given special attention:

- To monitor the livelihood of state-owned forest farm staffs, hunters and under-privileged people in the project area, especially the tendency of their income.
- To strengthen the participation of the forest farm staffs and the farmers in surrounding areas and to establish a co-management mechanism in terms of collecting under-forest products and clearing hunting tools in the experimental areas and forest farms that are not be included in the reserves;
- To improve the project information transparency, publicize the information through such media as the Internet, television, newspaper and glass-fronted billboard to introduce the project progress and publicize the project significance, and improve residents' sense of belonging to the project;
- Heilongjiang Province shall set about formulating relevant compensation policies for wildlife accidents. Before the formal establishment of the policy, Heilongjiang Forestry Department shall coordinate with relevant departments and establish a recognition mechanism and a special financial fund of wildlife accident compensation, which will provide early-stage preparations for the smooth implementation of the project;
- To set special funds for training on planting and breeding for forest farm staffs and nearby farmers; to decrease impacts of the prohibition of logging;
- To improve the transparency of the information through the Internet, television, newspapers, and showcases, to publicize the progress and meaning of the project; thus to increase their sense of belonging;
- To compile the *Ethnic Minority Development Plan* and the *Resettlement Plan*.

Appendix 1: Outline of Social Assessment Monitoring

1. Objective of Social Impact Monitoring and Assessment

Separate assessment and monitoring about the social impacts of the “Landscape Approach to Wildlife Conservation in Northeast China Project” is conducted based on the operation policy of the World Bank. The assessment and monitoring task will mainly aim at checking the livelihood level of forest farm workers, affected peasants and ethnic minorities; and resettlement measures about the compensation for prohibition of deforestation, impacts of decrease of surplus material from logging, impacts of animal-caused accidents; progress, fund and management of the resettlement. Reports will be handed to the World Bank, project office and relevant competent department regularly (once a year). At the same time, relevant information and recommendation will be offered for reference. By the separate monitoring and assessment, the World Bank and project office can be clearly aware of whether the resettlement work is completed in time and qualified. They can also point out the existing problems, and put forward recommendation for improvement.

2. Contents of Social Impact Monitoring and Assessment

Capacity assessment of institutions that are in charge of resettlement implementation: the work capacity and efficiency of institutions that are in charge of resettlement implementation.

The progress, compensation standard and payment of resettlement.

The impact analysis of land reclamation and resettlement.

Tracking investigation and assessment of the income level of households that are affected by land reclamation and resettlement (sample proportion is 10%).

Monitoring of typical state-owned forest farms: situation of production recovery, income recovery of forest farm staffs, and resettlement quality.

Monitoring of typical peasants: situation of production recovery, income recovery of peasants, and resettlement quality.

Monitoring of ethnic minorities villages: situation of production recovery, income recovery of peasants, and resettlement quality.

Resettlement measures of vulnerable groups.

Public participation and negotiation: participation of people involved in resettlement during the plan formulating and implementation period and the monitoring of its effects.

Resettlement appeal: monitoring of the registration and settlement of mitigated people.

3. Separate Institution in Charge of Monitoring Work

The separate monitoring and assessment work of the mitigation measures for social impacts is undertaken by the planning and design institute of forest products industry of the state forestry administration.

4. Organization and division of Social Impact Monitoring and Assessment

(1) By invitation for bids, the project office will entrust external expert team or institution to manage the detailed investigation and data collection of the monitoring work, to calculate the data and examine the results.

(2) The monitoring center of social impacts will establish the “monitoring and assessment team of the Landscape Approach to Wildlife Conservation in Northeast China Project”. Its tasks include: under the guidance of the World Bank, to monitor and assess the social impacts of the project and resettlement work; to formulate the outline of social assessment and monitoring; to set up monitoring sites; to undertake the on-site investigation and internal analysis; to formulate the monitoring and

assessment reports, etc.

(3) During the on-site monitoring and investigation period, the project office will coordinate with the monitoring and assessment team in terms of staff, transportation, etc.

5. Methods of Social Impact Monitoring and Assessment

(1) On-site investigation, data analysis and comprehensive assessment of experts will be adopted in the monitoring and assessment work.

(2) To line work at selected spots with that in entire areas can be adopted during the investigation work. The progress, fund, institution and management of the resettlement should be investigated comprehensively. Sample surveys should be conducted to people involved in resettlement.

(3) Respondents of sample surveys should be classified and random. Fixed-point tracking and investigation should be conducted towards typical households and enterprises that are involved in resettlement. The sample proportion: 10% of the households that are involved in land reclamation; 20% of state-owned forest farms.

(4) Methods of form investigation, informal discussion and inquiry about documents and files can be adopted during the comprehensive investigation.

(5) Besides written material, pictures, records, videos and physical materials should be collected.

6. Schedule of Social Impact Monitoring and Assessment

May, 2015—set up separate monitoring and assessment team of social impacts, formulate outline for the monitoring and assessment work.

June, 2015—prepare for the separate monitoring and assessment, including compiling the outline and form of investigation, establish monitoring system, identify the tasks and select the monitoring sites.

August, 2015—put forward the Monitoring and Assessment Report No.1 (base report).

February, 2016—conduct the second investigation, submit the Monitoring and Assessment Report No.2.

February, 2017—conduct the third investigation, submit the Monitoring and Assessment Report No.3.

February, 2018—conduct the fourth investigation, submit the Monitoring and Assessment Report No.4.

Appendix 2: Questionnaire of Forest Farm Workers and farmers

No. _____

Questionnaire of the Siberian Tiger Conservation Project

Place of Survey: ____County ____Town/Forest farm____Village____Group

Investigator: _____ Date: 2014 ____month ____day

1. Basic Information of Respondents

Name		Gender		Age		nationality	
Education Level		Profession		Tel/Phone No.			

2. Basic Information of Respondents' Family

1. How many family members have meals together every day?
(1) 1 to 2 (2) 3 to 4 (3) above 5
2. What's the total income of your family?
(1) less than 5,000RMB (2) 5000 to 20,000 RMB (3) above 20,000 RMB
3. What's the main income source of your family?
(1) Crop farming (2) Breeding (3) Handicraft
(4) Small workshop (5) Business (6) Employment by others
(7) salary (8) Others (Please write it here) _____
4. What's the total expense of your family last year?
(1) Less than 5,000 yuan (2) 5000-20,000 yuan (3) 5000-20,000 yuan
5. What's the main expense of your family?
(1) Living expense (food, cloth, furniture, etc.) (2) Production expense
(3) Transport expense (4) Education expense (5) Medical expense (6) Others _____
6. The land area of your family is ____mu, including ____mu of dry land, ____mu of paddy land; ____mu of forest land; ____mu of fishpond; and ____mu of orchard.
7. You have ____livestock, including ____cows; ____pigs; ____goats; ____horses; and other things ____.
8. You have ____domestic fowl, including ____chicks; ____ducks; ____geese; and other things: ____.
9. Your house is built in the year of ____; the area is ____m²; costs ____yuan.
10. What living level do you think your family belong to?
(1) Poor (2) At subsistence level (3) Rich
11. Are you content with your economic status?
(1) Quite satisfied (2) Basically content (3) Just so so (4) Not really (5) Absolutely not

3. Opinions and Recommendations on the Project

1. Before this survey, did you know the Landscape Approach to Wildlife Conservation in Northeast China Project?
(1) Yes (2) No
2. If you know about this project, how did you get the information?

- (1)File (2)Meeting (3)Media (4)Leaflet (5)Bulletin board (6)Others ()
3. Have your family ever suffered loss caused by wild animal accidents of tigers or wild bores?
- (1) Yes (2)No
4. Do you think this project will bring help or benefits to you and your family?
- (1) Yes (2)No (3)I do not know
5. What kind of help or benefits do you think this project can bring to your family?
- (1)Participation in the project can increase income (2)Changes in the production mode can increase income (3)Others (Please explain it)
6. Do you think this project will have negative impacts on your family?
- (1)Yes (2) No (3)I do not know
7. What negative impacts will be brought about by the project?
- (1)Income decrease caused by restricted production activities (2)Changes in living habits (3)Others (Please explain it)
8. What's your overall attitude toward this project?
- (1)Supportive (2) Opposed (3)Neutral attitude
9. Will you participate in this project?
- (1)Yes (2)No (3) Neutral attitude
10. In which way do you prefer to participate in this project?
- (1)Participation in patrol management (2)Adjusting or switching to other production (3)Taking part in forestry organization
11. Which employment form do you like to participate in the project?
- (1)Long-term participation (2)Contract worker (3) Part-time worker (4)Others

4. Development of ethnic minorities (answered by ethnic minorities)

1. Can many people of your nationality speak your native language?
- (1)Yes (2)No (3)Not sure
2. Can you speak the language of your ethnic group?
- (1)Yes (2)So so (3)No
3. Does you ethnic group have any custom?
- (1)Yes (2)No (3)Not sure
4. Does your ethnic group any traditional festival?
- (1)Yes (2)No (3)Not sure
5. Does your ethnic group have any religious belief?
- (1)Yes (2)No (3)Not sure
6. Do you have any costume of your ethnic group at home?
- (1)Yes (2)No
7. Do you think your ethnic group is different from the Han nationality?
- (1)Yes (2)No
8. Are many people in your ethnic group married with the Han people or people from other ethnic groups?
- (1)Yes (2)No
9. What benefits do you think the project will bring to the ethnic minorities?
- (Multiple choice)
- (1)It will improve forest resources quality.
- (2)It will improve the environment of human and wild animals.
- (3)It will increase people's income.
- (4)It will create jobs.
- (5)It will promote the development of the ethnic minorities.

(6)It will promote gender equality

(7)Other aspect_____

10. Do you think this project would bring about negative influences on the local minorities?

(1)Yes

(2)No

(3)Maybe

(4)Do not know

11. If you think there exist negative influences, what are they? (Multiple choice)

(1)It will reduce forest industry income.

(2)It will impede the development of other industries.

(3)It will hinder poverty alleviation.

(4)It will increase threats to human and livestock safety.

(5)It is unfavorable to female development.

(6)It will accelerate the disappearance of ethnic minority's culture.

(7)Other aspect_____

Appendix 3 Outline for Villagers Symposium

The Siberian Tiger Conservation Project Outline for Village Cadres Interview

1. General Information of the Villages

- 1.1 Population (number, gender, ethnic group, belief, vocation, number and ratio of rural people and non-rural people);
- 1.2 Natural resources (land, forest, minerals, etc.) and their utilization status in the village;
- 1.3 Income, source of income and its ratio, rank in the town;
- 1.4 Composition of livelihood mode (agriculture, non-agriculture, animal husbandry) and the development conditions;
- 1.5 Economic development level of the village: per capita income, poverty situation, rank of economic development, status of collective economy;
- 1.6 Development history and planning of the village;
- 1.7 Problems and current situation of the infrastructure;
- 1.8 Influence of wildlife on local people;
- 1.9 Composition and operation of formal and informal institutions in the village;
- 1.10 Experience of similar projects conducted in the village;

2. Ethnic Minorities (This part is for villages with many ethnic minorities. It can be neglected in villages with no or few ethnic minorities).

- 2.1 Type, population, ratio and residence of the ethnic minorities in the village;
- 2.2 Source of ethnic minorities;
- 2.3 Informal social organizations of ethnic minorities;
- 2.4 Main natural resources of ethnic minorities, customs and customary laws of environmental protection;
- 2.5 Economic development of ethnic minorities;
- 2.6 Beliefs of ethnic minorities;
- 2.7 Production and consumption of ethnic minorities;
- 2.8 Government assistance of ethnic minorities;
- 2.9 Contact (intermarriage) between different ethnic groups;

3. Opinions on this Project

- 3.1 What the benefits will the project bring to the villages?
- 3.2 What difficulties exist in the implementation of the project?
- 3.3 Will there be any influence on local activities after the implementation of the project? If yes, what is it?
- 3.4 Is there enough labor force to participate in the management and protection?
- 3.5 Who do you think will get the most benefits from the project?
- 3.6 What factors will affect the implementation of the project?
- 3.7 What negative impacts the project will have on local areas? (social, cultural, economic and environmental impacts)
- 3.8 How to alleviate these negative impacts?
- 3.9 Are women and ethnic minorities willing to take part in this project?
- 3.10 Will there be any conflict among the Siberian tiger, human and the livestock? If yes, how to avoid it?

(Note: This outline can also be adopted for group interview or officials' interview in towns. Questions can be added or deleted accordingly. It aims to get social, economic and cultural background information of the project area, and opinions from villagers and officials on this project.)

Appendix 4: Questionnaire of Community and Forest Farm

The Siberian Tiger Conservation Project Questionnaire about Basic Information of Administrative Villages

Administrative area (the name of the location is in the brackets)

County/city/district	Village/town	Administrative village
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Resident population and labor force

the number of villagers teams:

Total number of households in the village(team):	Per capita net income: RMB (in 2013)	
Population of the village:	Number of male:	Number of female:
Quantity of labor force in the village (team):	Number of male:	Number of female:
Quantity of labor force staying in the village all year round:	Number of male:	Number of female:
The number of households that totally rely on agriculture, forestry and animal husbandry:	The number of practitioners:	
The number of households partly engaged in forestry:	Operating area: mu (1 mu = 0.0667 hectares)	The number of practitioners:
The number of households specialized in forestry:	Operating area: mu	The number of practitioners:
The number of ethnic minorities households in the village(team):	Ethnic group: The number:	Ethnic group: The number:
	Ethnic group: The number:	Ethnic group: The number:
	Ethnic group: The number of households:	Ethnic group: The number of households:
	Ethnic group: The number of households:	Ethnic group: The number of households:
Ethnic composition of village cadres	Ethnic group: The number of cadres:	Ethnic group: The number of cadres:
	Ethnic group: The number of cadres:	Ethnic group: The number of cadres:
The number of intermarriage households in the village:	Ethnic groups: The number:	Ethnic groups: The number:
	Ethnic groups: The number:	Ethnic groups: The number:

Subsidiary business (till year:)

Number of households of migrant workers: ; including households of ethnic minorities:
Number of migrant workers : ; including male: , female:
Main types of jobs of migrant workers:
Main working places of migrant workers:

Daily wages of migrant workers: the least: ; the most: ; average:

Residents' education status (population)

Education degree	Illiteracy/semi-illiteracy (adult)	Primary school graduates	Middle school graduates	Senior high school graduates	Above high school	School dropout
Male						
Female						
In total						
Male of minorities						
Female of minorities						
In total						

Land Usage and Ownership Type

Total land area of the village(team): mu		Average per capita land area: mu	
Cultivated land: mu	Paddy field: mu Dry land: mu		
Forest land: mu	Collective operation: mu	Private plot: mu	Contracted land : mu State-owned forest: mu
Barren land: mu	Contracted land: mu		Non-contracted land: mu

Infrastructure (tick)

Traffic	Village-level road <input type="checkbox"/>	Unsurfaced road <input type="checkbox"/>	No pathway <input type="checkbox"/>
Electricity	All household have electricity <input type="checkbox"/>	Some households have electricity <input type="checkbox"/>	No electricity <input type="checkbox"/>
Clean water	Tap water <input type="checkbox"/>	Well water <input type="checkbox"/>	No clean water <input type="checkbox"/>

Poverty situation

1 There are low-income households: accounting for % of the village population.	Characteristic: have thatched house, no labor force, no television; per capita net income is less than RMB.
2 There are middle-income households, accounting for % of the village population.	Characteristic: have television, labor force, enough food and discretionary money; per capita income is about RMB
3 There are high-income households, accounting for % of the village population.	Characteristic: have building, motorcycle, running business or having regular work, phone; per capita net income is above RMB.
Ethnic minorities in 1	
Ethnic minorities in 2	
Ethnic minorities in 3	

Gender (tick)

Who has the right to use the forest land?	Male	Female	Both
Who is willing to participate in the	Male	Female	Both

project?			
Who is willing to attend the technical training?	Male	Female	Both

General Information of the villages (tick)

Is forestry development included in the overall development plan of the village? (Yes or No)

Is livestock husbandry development included in the overall development plan of the village? (Yes or No)

Is there any poverty reduction plan in the village? (Yes or No)

How many enterprises/companies/forestry cooperation organizations are there in the village?

Is there any forestry enterprise/forestry cooperation organization in the village? (Yes or No)

How do they perform their work?

Are there still forestry workers in your locality? (Yes or No)

Who do these forestry workers work for?

How much is the salary of these forestry workers?

Is there any cultural relic reservation in your village? (Yes or No)

Which type of cultural relic reservation it is?

Have these relics been protected? (Yes or No)

Is there any destructive accident caused by wild animals in the village? (Crops, human or livestock)

Who has the most knowledge of traditional culture in the village?

General Information of Forestry

There are mu of forestry lands in the village currently.

The current number of forestry workers in the village:

The ratio of forestry income in the overall income of the family:

The ratio of forestry income in the overall income of the village:

Main forms of forestry production and management in the village:

Is deforestation allowed in the village? (Yes or No)

Is there any limitation of deforestation? (Yes or No)

Is there any regulation on getting forest by-products, fuel wood and grazing? (Yes or No)

Was any forestry project conducted in the village? (Yes or No)

The previous forestry projects are about planting:

(Public welfare forest Economic forest Timber forest Protection forest)

Problems in the previous forestry projects:

(Land ownership Labor shortage Low revenue)

Was there any forestry technical service? (Yes or No)

If yes, what kind of services?

(Forestation technology Forest tending Grafting Pest control and prevention
Others)

Who provided these technical services?

(Forestry department Village government Forestry cooperation organization)

Was there any damage like forest fire or pest disease in the village forest? (Yes or No)

Is the forest used for multiple operation currently? (Yes or No)

The Siberian Tiger Conservation Project

Is any forest land involved in the project area?

The area of: (1) public welfare forest: mu;
(2) projected public welfare forest: mu;

If it is needed, is there enough labor force in the village to participate in the project?
(Yes or No)

Who shall organize these activities?

(Village committee Farmers themselves Forestry cooperation)

What are the benefits of taking part in this project?

(Service income Subsidy Others)

Will these benefits be equally distributed to the poor and the rich, the Han people and ethnic minorities? (Yes or No)

What are the bad impacts of this project?

Is there any need of resettlement because of the project? (Yes or No)

Will the whole village or part of it be relocated?

What kind of farmers are willing to be resettled? (Low income household, Middle income household, or High income household)

Are the poorest villagers willing to be resettled? (Yes or No)

Are women willing to be resettled? (Yes or No)

Are women willing to attend other activities in the project? (Yes or No)

Are the ethnic minorities willing to be resettled? (Yes or No)

If the labor force participate in the project, which way to account working days will be reasonable in farmers' opinion?

Your recommendation on improving the project:

Appendix 5: Outline of Forum with Forest Farm Workers and Villagers

The Siberian Tiger Conservation Project Outline of Villagers Forum

1. Questions:

- 1.1 Do you know about the project? When do you know it? How do you know it? What do you know already? What do you also want to know?
- 1.2 Is your village a wealthy one or a poor one compared with other villages? If it is poor, what do you think leads to the poverty?
- 1.3 Is there any indemnity when your family or others in the village suffered damages caused by wild animals?
- 1.4 Are you for or against this project? If against, please give your reasons.
- 1.5 What kind of influence will this project have on your family after its implementation? (both positive and negative ones).
- 1.6 What are you concerned the most about this project? Please list them in order of importance.
- 1.7 Who can get the most benefits from the project?
- 1.8 Do you have any recommendation for this project? (Please list them in order of recognition degree);
- 1.9 What influence will the project have on the current natural environment of your village? What influence will the project have on the culture, historic relics, religion and tourist attractions of your village?
- 1.10 What influence will the project have on the production and living of women? What demand or recommendation do they have for this project? (Only for women);
- 1.11 What influence will the project have on production, living and customs of your ethnic group? Do you have any recommendation? (Only for ethnic minorities);

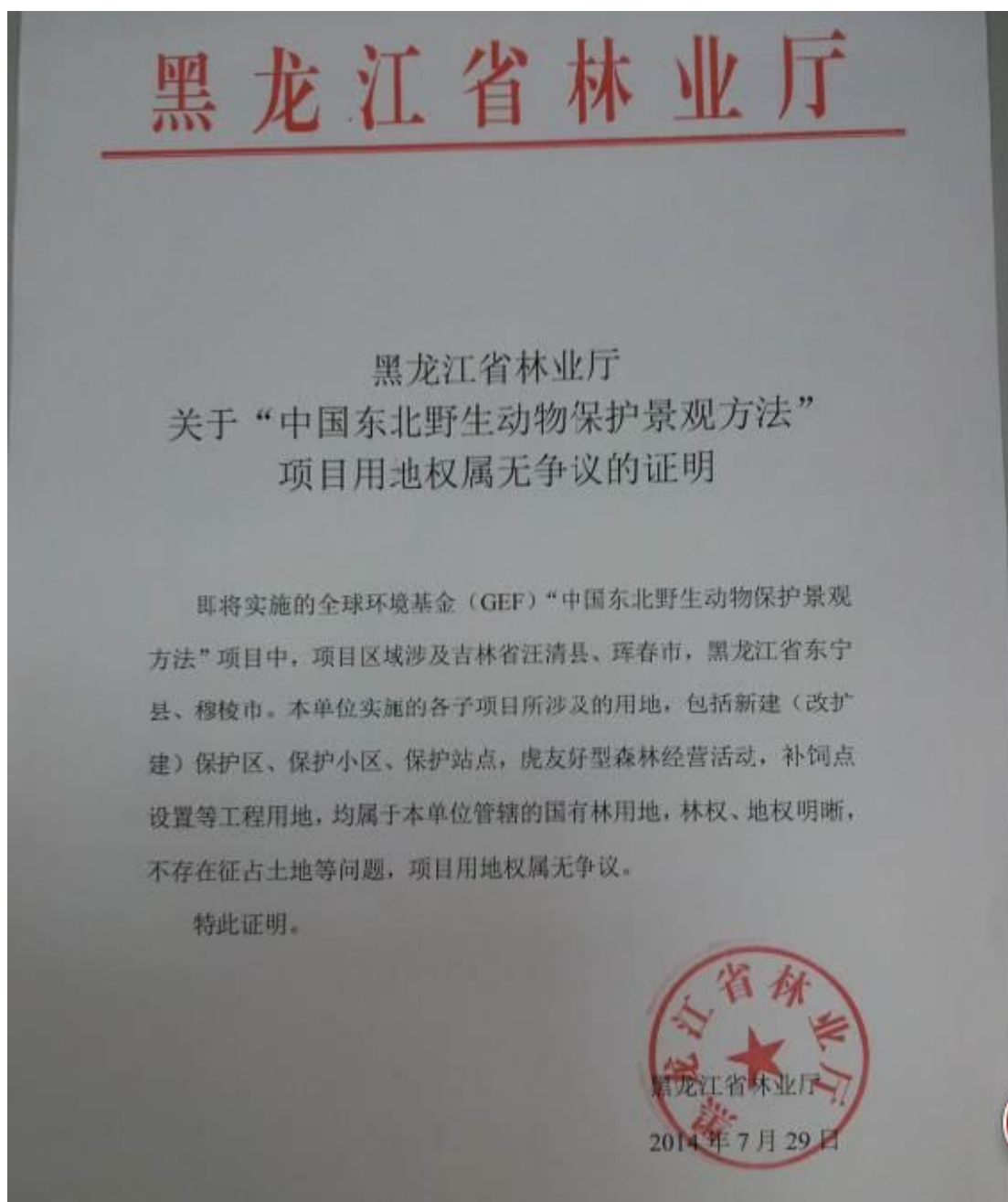
2. Graphing

- 2.1 Draw figures of daily life and activities in four seasons respectively by gender;
- 2.2 Draw figures of daily traveling and daily contact respectively by gender;

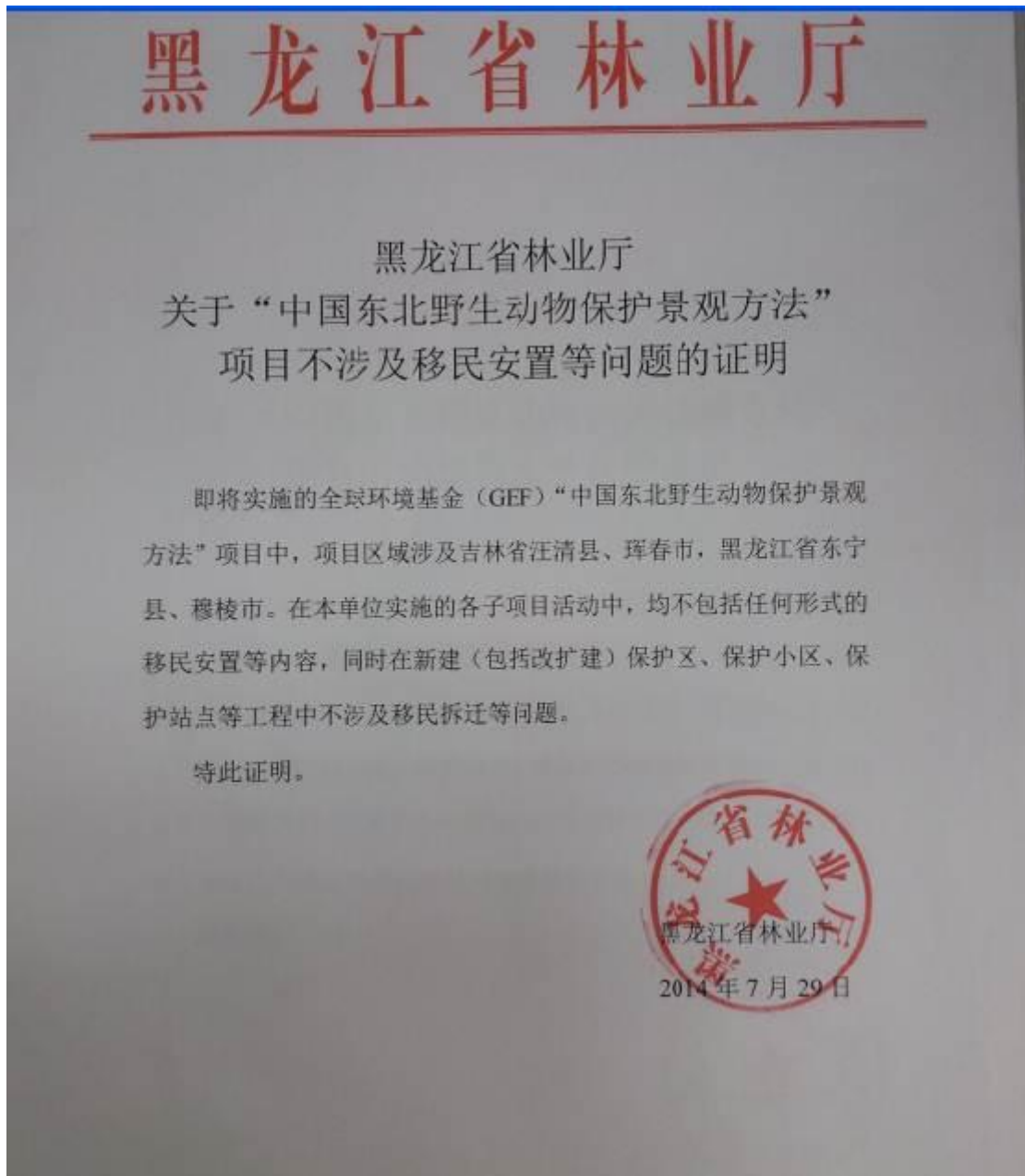
(Notes: This outline is based on the questionnaire survey.)

Appendix 6: Ownership Certificate of Each Project Executive Unit

Appendix 6.1: Proof Document of Land Ownership in the Project of Heilongjiang Forestry Department



**Appendix 6.2: Proof Document of No Resettlement Problem Involved
in the Project of Heilongjiang Forestry Department**



Appendix 6.3: Proof Document of Land Ownership in the Project of General Bureau of Heilongjiang Forestry Industry

黑龙江省森林工业总局

黑龙江省森林工业总局 关于“中国东北野生动物保护景观方法” 项目用地权属无争议的证明

即将实施的全球环境基金（GEF）“中国东北野生动物保护景观方法”项目中，项目区域涉及森工林区的绥阳林业局（老爷岭东北虎保护区）和穆稜林业局（东北红豆杉保护区）。本单位实施的各子项目所涉及的用地，包括新建（改扩建）保护区、保护小区、保护站点，虎友好型森林经营活动，补饲点设置等工程用地，均属于本单位管辖的国有林用地，林权、地权明晰，不存在征占土地等问题，项目用地权属无争议。

特此证明。



Appendix 6.4: Proof Document of No Resettlement Problem Involved in the Project of General Bureau of Heilongjiang Forest Industry

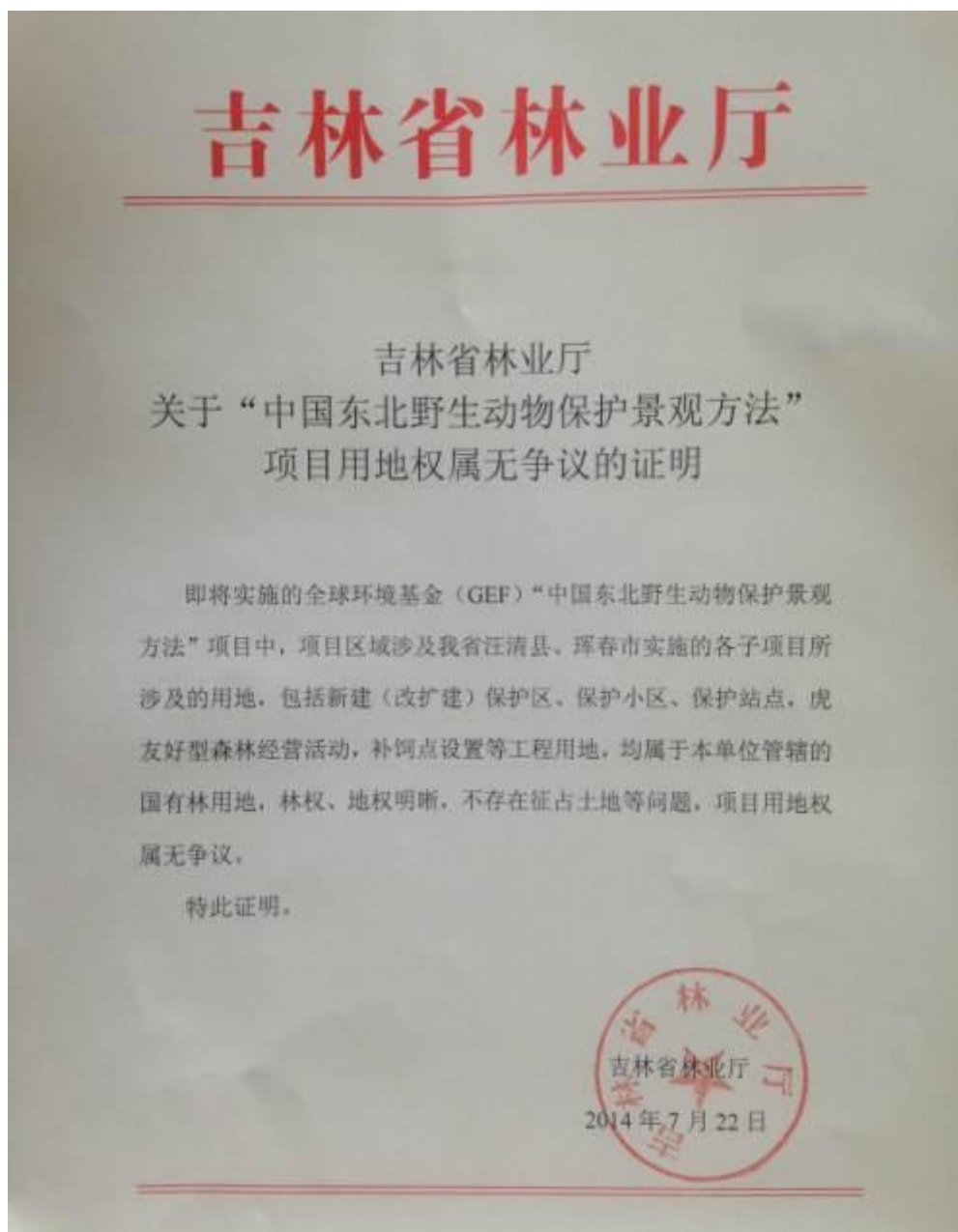
黑龙江省森林工业总局

黑龙江省森林工业总局 关于“中国东北野生动物保护景观方法” 项目不涉及移民安置等问题的证明

即将实施的全球环境基金（GEF）“中国东北野生动物保护景观方法”项目中，项目区域涉及森工林区的绥阳林业局（老爷岭东北虎保护区）和穆稜林业局（东北红豆杉保护区）。在本单位实施的各子项目活动中，均不包括任何形式的移民安置等内容，同时在新建（包括改扩建）保护区、保护小区、保护站点等工程中不涉及移民拆迁等问题。



Appendix 6.5: Proof Document of Land Ownership in the Project of Jilin Forestry Department



Appendix 6.6: Proof Document of No Resettlement Problem Involved in the Project of Jilin Province

