

China

China Snow Leopard Conservation Action Plan

(Revised Manuscript)

State Forestry Administration,

People's Republic of China

September, 2013

Evaluation and Argument Comments for China Snow Leopard Conservation Action Plan

Snow leopards, as a top predator and umbrella species in alpine mountain plateau ecosystem, are highly endangered big cats. International attention has been drawn to the protection of snow leopards. Among 12 snow leopard range countries in the world, the distribution area and population of the species in China accounted for more than 50% of the global total, and it occupies an important status in protecting snow leopard globally. In order to promote the recovery and growth of snow leopard populations in China the Department of Wildlife Conservation and Nature Reserve Management of State Forestry Administration organized and drafted a China Snow leopard Conservation Action Plan (Draft) (hereinafter referred to as the 'Plan (draft)') according to the present status of conservation management for snow leopard population and habitat, and combined with the present global snow leopard conservation situation. The Plan (draft) was then reviewed and argued on 13th of Aug, 2013 to ensure it was scientific, accurate, and feasible. Evaluation and argument committee includes experts from Beijing Forestry University, Northeast Forestry University, Feline Research Center of SFA, Chinese Academy of Forestry, World Wildlife Fund, World Conservation Union, and academicians Mr. Ma Jianzhang and Mr. Yin Weilun from the Chinese Academy of Engineering. Mr. Ma Jianzhang and Mr. Yin Weilun have been selected and agreed to take charge of chairman and vice chairman of the committee, respectively.

The evaluation and argument committee has gone through the objectives, priority area, priority action and policy guarantee in the Plan (draft), examined the scientific content, necessity and feasibility, and verified the scientific basis for them, and comments were formed as follows: First, the existing snow leopard population of China is facing serious survival threats due to constant snow leopard habitat loss, illegal hunting, other human interference, and other reasons. In order to conserve snow leopard population resources based on the existing conservation outcomes, we should combine implementation of Natural Forest Protection, Returning Farmland To Forest, Wildlife And Plants Conservation And Nature Reserve Construction, and in a timely manner carry out habitat restoration of snow leopard and its prey, strengthening specific scientific research, and compensating the human and livestock injuries. With the implementation of targets listed above and other conservation activities, we hope to promote the quality of snow leopard habitat restoration making snow leopard populations show a gradual recovery trend. However, there is an urgent need to develop a strategic, comprehensive, systematic plan to guide the orderly implementation of conservation actions. Therefore, the drafting of "Chinese Snow Leopard Conservation Action Plan (Draft)", is not only very necessary and timely, but also will play an important role in guiding the conservation of snow leopard population of China in the future. In addition, in the situation of high concern about snow leopard conservation from the international community, the drafting of the "Plan (Draft)" will make the foundation of strengthening further cooperation and exchanges on snow leopard conservation.

Second, the "Plan (Draft)" accurately grasps the four major constraints of conservation work based on the analysis of wild snow leopard population and habitat management status. Setting conservation targets on reasonable conservation outcomes and economic development will help to ensure the realization of the objectives within the capacity of the country. The proposed five priority areas and 12 priority actions for the content, highlights the future direction and focus of conservation efforts, especially the habitat restoration. China is implementing eco-civilization construction through the convergence with Beautiful China Construction, Protection of Natural Forests, Returning Farmland to Forests, Wildlife Conservation and Nature Reserve Construction, Returning Grazing Land to Grassland, and other projects, as well as wildlife damage compensation and the second national survey of wildlife resources, etc. It is scientific, rational, and orderly in planning. The objectives can be achieved through piloting and demonstration work steps, but also ensuring that the various tasks are steadily pushed forward, helping improve the efficacy as much as possible in order to maximize the protection of the minimum investment objectives. The policy support is mainly based on existing laws, regulations and policies, which needs to be adjusted based

on new proposed policy direction, also in line with the overall direction of China's ecological construction. The above arguments, the committee agreed that the "Plan (Draft)" had a strong scientific basis and is feasible enough to be used as a guiding framework document for the future of snow leopard conservation and restoration work.

Third, the evaluation and argument committee has put forward some suggestions about the format and content of the Plan (draft). In addition, the committee pointed out the inappropriate and unscientific statements one by one in the Plan (draft) and proposed amendment suggestions.

Fourth, the committee indicated in the Plan (draft) the budget for specifically estimating the expenditures for future actions, and this can be considered later for future specific assignment according to actual situation after being accounted and declared. However, considering the important significance of snow leopard on ecology, culture and international cooperation, and the particularity and professional nature of the related work, the committee thinks it is necessary to arrange special funds and specify total amount of the funds. Funding allocation to different regions will be based on declared projects, and used to implement tasks scientifically, moderately and reasonably. In addition, it is necessary to announce the amount of the investment for planned expenditure, which would further indicate the position of China towards practical actions and active protection, which is conducive to establish the image of a responsible country and enhance the international reputation.

Fifth, according to the present conditions of the endangered status for snow leopard population in China and the situation of international conservation, the committee strongly suggested early releasing and implementing the Plan (draft) based on the relevant regulations and process of the state, and afterwards adjusting and improving it.

Argument committee Chairman: Ma Jianzhang

Vice Chairman: Yin Weilun

13th of Aug, 2013

China Snow leopard Conservation Action Plan (Draft) (2013-2020)

Snow Leopard (*Panthera uncia*) is on the top of the food chain in the plateau and mountainous region ecosystem, and it plays a very important role in maintaining the balance and stability of the plateau ecosystem. However, the wild snow leopard populations are facing threats of climate change, habitat destruction and degradation, poaching and illegal trade. Chinese government attaches great importance to the snow leopard and habitat protection. In 1988, Snow Leopard was included in national class I Protected wildlife, and through a series of measures like the construction of nature reserves, returning grazing land to grassland, compensating losses caused by snow leopards, and combating poaching and illegal trade, projects have been actively improving the habitat conditions for snow leopard and maintaining the security of the snow leopard population. In the future, China will further strengthen the wild snow leopard population and habitat monitoring and conservation, crack down on poaching and illegal trade, extensively carry out publicity and education, coordinate the conflict between snow leopard conservation and local production, living and economic development, and finally achieve the balanced and sustainable development of snow leopard conservation, ecological optimization and coordination of local social economic.

1. Basic Situation

Basic situation of snow leopard population and habitat

In China, the snow leopard mainly distributes in the mountainous region between 3000-4500 meters above sea level of the Pamirs, Qinghai-Tibet Plateau, Kunlun, Altun, Tianshan, Altai and Qilian Mountain. In recent years the species has been found in some low altitude areas of Hami of Xinjiang, Urat and Alashan of Inner Mongolia. The distribution region includes Xinjiang, Qinghai, Gansu, Sichuan, Yunnan, Inner Mongolia and other provinces. It is initially speculated that its historical distribution area is about 1.82 million square kilometers, the distribution area has been reduced to 1.1 million square kilometers nowadays, accounting for more than 50% of the total area of the global distribution of snow leopard; its population is initially estimated between 2000-2500, also share more than 50% of global snow leopard population. Due to natural and geographical changes, anthropogenic disturbances and other reasons, our snow leopard habitat is divided into more than a dozen areas of varying sizes, which in some regions like northern Yunnan, western Sichuan, Altay of Xinjiang, Yin Mountain of Inner Mongolia, the populations are isolated in their relatively small scale, and they are in a very endangered status and need to strengthen conservation urgently.

Conservation Status

As the world's most important snow leopard range country, the Chinese government has been making great efforts to conserve snow leopard and has made a series of conservation outcomes.

- a) In 1988, the PRC State Council approved the snow leopard as a class I national protected wildlife, to implement rescue and conservation according to the law;
- b) China has established 26 nature reserves in snow leopard distribution range with a total area of about 600,000 square kilometers, and covering more than 50% of the snow leopard habitat, which constructing the most basic network for snow leopard conservation and monitoring. It plays an extremely important role in maintaining snow leopard population and the safety of their habitats.
- c) Since 1950s, snow leopard has been listed as one of the elements of natural scientific investigation. After carrying out regional surveys and biological and ecological research, snow leopard was listed as the priority species for the first national survey of terrestrial wildlife resources. Meanwhile, a more comprehensive preliminary investigation was also carried out. On this basis, China began to insist on monitoring and evaluation for snow leopard key population and the habitats, to grasp snow leopard population and habitat conditions and the facing threats, and finally to provide a reliable scientific basis for snow

leopardconservation.

- d) Since 2000, many snow leopard distribution areas have been included in some major ecological construction projects such as China's natural forest resources protection, returning farmland to forests, returning grazing land to grassland, wildlife conservation and construction of nature reserve etc. It is efficiently curbing habitat reduction trend and greatly promoting the improvement for snow leopard habitat;
- e) In Tibet, Qinghai, Yunnan and Gansu provinces, damages caused by snow leopard have already been included in the range of government compensation, which ease the conflicts between snow leopard and the local people's production and living and to promote understanding and support of the local public for snow leopard conservation.
- f) China does not have clothing and apparel production industry that using snow leopard and snow leopard bone is not listed in China's official pharmacopoeias as medical ingredients. Since2008, we have started identification management system and implementing registration for snow leopard skins and products from personal history collections and other legitimate sources. The commercial sales of snow leopard products are not permitted and it is effectively curbing the illegal trade in snow leopard skin products.
- g) Snow leopard poaching and smuggling, illegal deals of snow leopard skin and bones and other crimes have long been as priorities for wildlife law enforcement to crack down on, and through continuing to strengthen habitat patrol, port inspection and market inspection, we effectively curbed the momentum of illegal and criminal activities of snow leopard.
- h) Carrying out publicity and education of snow leopard and other wildlife conservation includes warning the public not to buy snow leopard skins and bones products, to encourage the public to report illegal activity information by setting up telephone hotlines and e-mails, and to emphasize the time sensitive nature of snow leopard conservation.
- i) Efforts to gradually expand and strengthen international communication and cooperation in snow leopard conservation through information exchanges and training with relevant international organizations and institutions in snow leopard researches, and also by actively participating in and promoting global snow leopard conservation cooperation process.

Threats and Problems

According to the present stage of snow leopard population and habitat surveys, monitoring and research, snow leopard population and habitat is facing the following main threats:

- a) In China, the snow leopard core distribution area basically remains in its natural state, but the edge of its distribution area has long been impacted by grazing activities, resulting in habitat encroachment and vegetation degradation. Prey populations are in decline as are their sympatric distribution, so that the capacity for bearing snow leopard and other top predators has been reduced. It is effective to eliminate the grazing activities encroaching on the snow leopard habitat, but in some areas fencing would have a negative impact on snow leopard activities, especially in a few areas it isolated snow leopard populations.
- b) Snow leopard distribution range is more sensitive to climate change and they are also extreme natural disaster-prone areas. Wildlife diseases in these areas have occurred as well. The above will affect the abundance of vegetation, water conservation and prey resources in the range resulting in habitat change, then it can affect the survival and reproduction of snow leopard population directly and indirectly.
- c) Illegal mining and inappropriate road construction will not only have a direct interference with snow leopard behavior and activities, it will also reduce habitat quality and cause habitat fragmentation.
- d) Although cases of poaching snow leopard for a special purpose to get skin and bones rarely happens, there are still cases of poaching wild animals such as ungulates, leading to

decreased snow leopard prey resources. By using hunting sets, clamps and other illegal hunting tools sometimes create accidental injury and death to the snow leopard. In addition, there are still a few cases of smuggling, illegal sales of snow leopard skins and bones.

- e) In strengthening snow leopard population and its habitat protection, we are also facing many difficulties and problems, they are embodied as follows:
- f) Many snow leopard distribution areas have not been included in the nature reserve system yet and there are no appropriate protection and management institutions.
- g) Some problems, like understaffing and uneven quality in the protection agencies at a local level is very common. The equipment and facilities are extremely undeveloped, the funding is deficient, and it is difficult to establish corresponding effective monitoring and protection duties.
- h) The data for the snow leopard population and its habitat conditions is insufficient. There is also no adequate understanding of its ecological habits and activity patterns. The impact of climate change on snow leopard population and its habitat is almost blank, which restricts protection decisions and scientific management on snow leopard population and its habitat.
- i) Education publicity on snow leopard protection is weak, even in some communities surrounding the snow leopard distribution range, and the significance of snow leopard conservation has not been widespread understanding and perceiving. For local people, the participation, the willingness, and initiative of supporting snow leopard conservation is also relatively lacking.
- j) The compensation for the losses caused by snow leopard attacking livestock is relatively low, which to some extent dampened the willingness of local people to protect snow leopard, and it is not conducive to mobilize local people for anti-poaching.

2. Conservation goals and Counter-measure

In snow leopard distribution areas, the vast plateau and mountain region share unique biodiversity. The ecosystems play a very important role in water conservation, carbon exchange reserves, climate regulation and so forth. Snow Leopard, also known as "Mountain Plateau Wizard", owns a unique cultural symbol and high aesthetic value. Therefore, the conservation of snow leopards and their habitats will not only improve regional biodiversity conservation, promote ecosystem stability and health, improve ecological functions in water conservation, carbon exchange reserves, climate regulation and so on, but also in the promotion of ecological culture, and ultimately helping to maintain the coordination of local social and economic sustainable development.

Based on the huge significance of snow leopard conservation, in accordance with the present stage to strengthen eco-civilization requirements, snow leopard conservation objectives and countermeasures are proposed as follows:

Conservation goals (2013-2020)

Conservation goals throughout the sub-region include carrying out surveys and monitoring the snow leopard population and habitat in the field, scientific planning, rational distribution, improving the basic protection management system, strengthening the technology support system, implementing habitat restoration, optimizing ecological corridor construction, cracking down on illegal poaching snow leopard and snow leopard products and other illegal activities, extensive publicity and education, expanding international cooperation and exchanges, and supporting local eco-friendly economical pattern. By 2020, the trend of the rangelands occupying and encroaching on snow leopard habitat should be curbed; the habitat of snow leopard activities should be optimized and extended; the ecological corridor between isolated populations and important populations should be constructed and achieve gene flow, ensure the snow leopard populations overall increasing steadily, habitat quality improving significantly and effectively promote the harmonious development between snow leopard conservation and local production and living.

Conservation measures

- a) To strengthen scientific and technological support on snow leopard conservation to ensure population and habitat monitoring, assessment, basic research, and providing a scientific basis for scientific conservation.
- b) The national wildlife protection and nature reserve construction work can gradually improve the monitoring system to protect the grass-roots level of the snow leopard distribution, and also to improve the protection and management capacity to ensure that the important snow leopard habitat can be effectively patrolled and scientifically managed to prevent the poaching of snow leopards and other wildlife activities;
- c) the implementation of the specialized projects, such as protecting the natural forests, restoring farmland to forest and pasture, and other major projects, to promote snow leopard habitat improvement and optimization, and establish an ecological corridor between the isolated populations and the source populations
- d) To improve multi-sectorial law enforcement coordination system to strengthen law enforcement information exchange, to achieve multi-link linkage enforcement in combating poaching, smuggling and illegal trade of snow leopard, their prey, and their products;
- e) Extensive publicity and education to raise public awareness of conservation, especially in the surrounding communities, can encourage the public making them conscious of snow leopards living in their home areas. In hopes that the public will resist purchase of the illicit snow leopard and other wildlife products. Also encouraging the public to report information on illegal activities, improving the efficiency of law enforcement
- f) Losses caused by snow leopards attacking people and livestock are compensated and compensation standards should be improved reasonably. Exploring proactive preventive measures to support eco-friendly production and lifestyle by promoting the coordinated development between snow leopard conservation and local production and living;
- g) To expand international cooperation and exchanges which adapt to the protection of snow leopards, promoting multi-level cross-border area snow leopard protection to share protecting experiences and information, improve international law enforcement coordination mechanism to promote the protection of the global snow leopard.

3. Priority areas and actions

To realize the snow leopard conservation objectives of China, according to snow leopard conservation strategy, China will take conservation actions in the following priority areas:

Investigating and monitoring snow leopard populations and habitat dynamics, strengthening basic research and conservation planning

Carrying out snow leopard population and habitat surveys in different regions, comprehensively and systematically to grasp the basic situation and to monitor their dynamic changes in order to provide a scientific basis for the study of developing snow leopard conservation strategies and measures. Key habitats can be selected for climate change impact studies to enhance habitat management and recovery technology. Undertake population ecology and other basic research that provides scientific and technical support to related protection and management work. According to the results of survey monitoring and basic research, regionally coordinate geographical habitat conservation planning to guide conservation management practices.

Action 1: Carry out snow leopard population and habitat survey and monitoring

Based on the existing information and data, China's snow leopard population distribution area is divided into nine regions: the Pamir's Kunlun Mountains - Karakoram, Himalayas, Hengduan Mountains, Qinghai-Tibet Plateau -Tanggula - Hoh Xil - Gangdis - Bayan Kala Area, Altun-Qilian Mountains region, the Tianshan Mountains, Altai, Yinshan, Helan Mountain and so on. We will

regionally form our professional teams to individually carry out a comprehensive, systematic investigation and scientific assessments to determine snow leopard key distribution, population size, habitat area, structure, diffusion channels, and the main threat factors; making some investigation and assessment to their populations and habitats, establish snow leopard databases and geographic information system to determine the sampling points, lines, and transects on snow leopard population for habitat dynamics monitoring. This proposes to create an accurate scientific basis for snow leopard conservation and management policies and strategies' development.

Activities :

- a) Teams composed of experts from protection and management institutions to develop technical solutions and procedures for survey monitoring. Technical training can be divided into different levels and phases;
- b) Inspecting and collecting the existing snow leopard population distribution and their surrounding area on topography, vegetation, roads, residential areas and other information on all aspects. Carry out field surveys and assess their habitat conditions based on existing research results, and model future important habitat of snow leopard and possible ecological corridors, to determine the area of operation at each stage's objectives;
- c) Within the snow leopard distribution plots and transects assess the quality of habitat;
- d) Doing the analysis of the survey data, summarizing the results, completing the surveys and evaluation reports of the snow leopard population and their habitat, and creating snow leopard conservation GIS databases for supporting information and data of scientific conservation;
- e) Carry out follow-up monitoring of the snow leopard and their habitat, in the meantime to grasp the snow leopard population and habitat dynamics.

Action 2: Strengthen basic research about the snow leopard conservation impacts of climate change, habitat management recovery technology, population ecology and so on

Within the snow leopard distribution, doing the survey and collecting information about temperature, precipitation, vegetation, and other indicators of biodiversity data. Conduct research and monitoring of climate change impacts and assessment of climate change on the impact of the snow leopard and their habitat; identify the major threats to their population and habitat, study and propose snow leopard population rejuvenation and habitat management techniques for the snow leopard population structure, territorial behavior, diffusion mechanisms, predation ecology and so on.

Activities:

- a) Organizing experts propose some important basic research projects on snow leopard conservation impacts of climate change, habitat management recovery technology, population ecology and so forth, meanwhile in the key distribution area of snow leopard selecting and delineating study area;
- b) Investigating meteorological data of the study area like temperature, precipitation and other related data, through quadrates, transects and other methods monitoring vegetation, biodiversity and other related indicators' dynamic change; analyzing meteorological factors and ecological factors data, building models of climate change impacts, assessment of climate change on their populations and habitats;
- c) Conduct some surveys inside of the snow leopard habitat such as mining, road construction, grazing and other human disturbance factors, analyzing the factors of such behaviors on snow leopard populations and their habitats, and proposing coping strategies and techniques to study the development of snow leopard habitat restoration and management technical regulations;
- d) Using camera traps and non-invasive genetic sampling, GPS tracking, geographic information

systems and other means to carry out snow leopard population ecology, conservation biology and other aspects of basic research for technological supporting of protecting snow leopard and their habitat scientifically.

Action3 : Sub-regionally make scientific planning for snow leopard

According to snow leopard distribution natural geography, then divide them into different territory, and compile planning for snow leopard population and their habitat research according to survey results.

Activities:

- a) According to the results of investigation on snow leopard population and their habitats: Do protection tactic research, compiling the protection planning, and then dividing the habitats into high quality habitats (habitats that need expanding, potential habitats and ecological corridor) and ensure the corresponding protection measures.
- b) For construction activities within the planning area: During the environmental impact assessment we must take the influences on snow leopard population and their habitats into the first consideration and prevent the inappropriate construction activities from doing harm to snow leopard habitats which cannot recover.
- c) Coordinate the implementation of ecological construction programs different sub areas; carry out the effect of assessment program.

Perfect the management system of protection, enhance the protection of habitats

Working within nature reserves and conservation areas to arrange the basic snow leopard protection system scientifically, and enhance the scientific technological support system, ability building, wildness patrol, management and recovery of habitats, build ecological path between isolated population and source population, thus realize the development of leopard habitats and the stable growth of leopard's population.

Action 4: Perfect the system of conservation management of snow leopard population and their habitats, which is with the nature reserves as mainstay.

About 50% of snow leopard range in China has been zoned into nature reserves, and some basic conservation stations have also been built outside the nature reserves. To enhance snow leopard population and habitat conservation, strengthening of existing nature reserves and establishment of ground conservation stations is primarily needed. For those places that have snow leopard but without protection management organization, we will try to adjust the range and level of existing nature reserves, and build new protection management organizations in batches, eliminate the dead zones step by step; establish expert group of snow leopard researchers, provide technical guidance for snow leopard protection actions, collect the information of snow leopard protection, assess the development of protection program and efficiency.

Activities:

- a) Focus on strengthening construction and management of existing nature reserves within snow leopard range based on snow leopard population and habitat survey results, and then adjust nature reserve range to ensure effective protection for snow leopard core populations and habitat, and promote their continuous improvement;
- b) Studying and analyzing the existing setting of conservation and monitoring areas, finding conservation and monitoring blind areas, and gradually establishing ground conservation stations in the blind areas, effectively expanding conservation and management range.
- c) Establishing snow leopard conservation expert group under the guidance of national wildlife management department, taking the responsibility of technical support and coordination of snow leopard population and habitat survey, monitoring and implementation of conservation projects over China. According to the actual situation and scientific evaluation adjust the existing nature reserve areas if necessary, and strengthen conservation more

scientifically and effectively.

- d) Divide responsibilities within snow leopard conservation areas, having clear responsibility forth conservation and monitoring units, ensuring action regions are covered in a comprehensive conservation and monitoring range.

Action 5: Strengthening the capacity building of snow leopard conservation and management system

Actively increasing team capabilities through professional trainings and upgrading equipment for the existing conservation and management units. The actions include increasing management ability of anti-poaching, scientific management, habitat restoration, and coordinating local society.

Activities:

- a) According to the area of responsibility staffing each conservation and management unit with appropriate personnel to increase conservation, monitoring and conservation team scale.
- b) Improving conservation and monitoring equipment, introduce new techniques for conservation and management. Making work guidelines for field patrol, habitat management restoration, community coordination in snow leopard distribution range, guiding conservation management units carry out work according to the unified standard.
- c) Organizing and having training for conservation and management staff at different levels.
- d) Through the development of meeting system, information system, joint action system and a series of rules and regulations, establishing a coordinating mechanism between conservation and management mechanism, ensuring that the field patrol, anti-poaching, habitat management and restoration, community co-management and other work can be done comprehensively and coordinately in snow leopard distribution areas.
- e) Regularly assessing the conservation management, improving conservation and management measures and effectiveness.

Action 6: Conserving, restoring and extending snow leopard habitat

Combined with the implementation of key national ecological projects like “Returning farmlands to forests”, “Returning grazing land to grassland”, “Wildlife conservation and nature reserve construction”, strengthening the construction project and environmental impact assessment along with the coordination of snow leopard conservation, conserving snow leopard core habitat from damaging, scientifically managing and restoring snow leopard habitats which are located in the overlap areas of agriculture and grazing, and gradually establishing ecological corridors between isolated populations and source population, improving habitat conditions, promoting the snow leopard population stability and growth.

Activities:

- a) Establishing and improving rules and regulations, strengthening field patrol in snow leopard distribution area, timely finding and stopping illegal mining activities and improper grazing, cleaning traps, snares and other illegal hunting tools.
- b) Investigating and evaluating the impact of over grazing, fencing, illegal mining, improper road construction, excessive tourism development and other human activities on snow leopard population and habitat. Proposing policies and technical specifications of various production development activities in the snow leopard distribution ranges. To strengthen the coordination of the construction monitoring environmental assessment and snow leopard conservation in the snow leopard distribution area, effectively preventing the undue influence on snow leopard population and habitat from construction, or reduce it to an acceptable minimum level.
- c) In key snow leopard habitat including where agriculture and grazing overlap area, the ecological corridors between isolated populations and source population, take measures to forbid hunting activities, strengthen scientific management strictly according to the technical

standard, and prevent further disturbance and crowding of grazing.

- d) Studying and formulating necessary policies, implementing special projects of habitat restoration, restoring the important areas which have been occupied by the overlap areas of agriculture and grazing into snow leopard habitat, establishing ecological corridors between isolated populations and source population, improving snow leopard habitat quality.
- e) Regularly assessing effectiveness of snow leopard habitat conservation, management and restoration, pertinently improving conservation and management measures to improve effectiveness.

Coordination of snow leopard conservation and the local community's social and economic development

We need to strengthen conservation publicity and education, compensating livestock damage or loss done by snow leopards, and highly concerning the demands of local community economy development, supporting and developing eco-friendly production modes.

Action 7: Compensating damage or loss of snow leopard depredation

Based on the current development of compensation work, focusing on improving compensation mechanism, scientifically and reasonably adjusting the compensation standards, strengthening supervision and inspection to ensure that the compensation in place, safeguarding the legitimate rights and interests of the public, alleviating people – snow leopard conflict.

Activities:

- a) Formulating more convenient reporting and verification procedures, ensuring local residents can timely report and get compensation after the depredation;
- b) Actively promoting the compensation extending to all the snow leopard distribution areas, and other wildlife species which distribute in the same areas with snow leopard.
- c) According to the actual compensation, promoting rational adjustment of compensation standard, exploring the compensation system that combined with the commercial insurance.
- d) Regularly and irregularly supervising and inspecting compensation, investigating the local residents' attitudes on compensation and snow leopard conservation.

Action 8: Preventing damage or loss caused by the snow leopard attacks on people and livestock

Popularizing the safety knowledge of snow leopard attacking on human and livestock, researching and promoting initiative preventing measures which coordinate with snow leopard habitat management and restoration.

Activities:

- a) Strengthening public education through the establishment of billboards, signs, printed brochures and community advocacy training activities, improving the snow leopard conservation awareness of local residents, promoting safety prevention knowledge.
- b) Guiding local residents to gradually change the free range grazing and other grazing methods, which are easy to cause snow leopard livestock depredation. Along with combining habitat restoration, scientific management and prevention of snow leopard depredation, studying, formulating and actively promoting improved grazing and set up and strengthening of fencing.
- c) Gradually having centralized resettlement of the household that is scattered in the frequently used snow leopard areas or key ecological corridors, combining habitat restoration and snow leopard depredation prevention, effectively preventing and reducing livestock and human attacks caused by snow leopard.

Action 9: Pilot demonstration of eco-friendly mode of economic development

Investigating, researching and assessing the local eco-friendly life and production modes, gradually having pilot demonstration and essential policy support, guiding the coordination of local

community economy, sustainable development, and the conservation of snow leopard and habitat, getting broader understanding, support and involvement from local communities.

Activities:

- a) Systematically investigating production and lifestyle mode of local communities, evaluating the effects of different production and lifestyle modes of the snow leopard, prey resource and habitat, identifying the economic behavior needed to be adjusted and changed.
- b) Researching alternative ways of life and production modes, which are adverse to conservation, together with local residents and on the basis of scientific assessment, through small grants, technical guidance and other measures, encouraging local residents to allow a voluntary pilot demonstration.
- c) Time sensitive assessment of economic benefits and conservation effects of pilot demonstration, and then gradually encourage the eco-friendly lifestyle, and production modes, and, market prospects through the combination of demonstration and subsidies.
- d) Combining project support, reward and punishment system, and stop the activity modes which are not conducive to the snow leopard conservation, achieving the coordination between snow leopard conservation and sustainable development of local livelihoods.

Strengthening law enforcement propaganda, cracking down on illegal activities

Strengthening law enforcement capacity building by improving interagency law enforcement coordination mechanism, maintaining a high pressure on activities of hunting snow leopard and other wildlife, smuggling and illegal business of snow leopard productions. Carrying out extensive publicity and education by establishing public report hotline, encouraging the public to consciously resist the illegal sources of snow leopard and other wildlife products, and actively help conservation law enforcement, effectively improving law enforcement strengthening

Action 10: Strengthening law enforcement capacity building of institutions, and more effectively carrying out the inspection of law enforcement and special combat operations.

Identifying the key areas for hunting snow leopard and its prey, smuggling, and illegal business using snow leopard products. This includes strengthening law enforcement training, improving law enforcement and checking equipment, improving law enforcement system in the key areas, and finally improving law enforcement ability towards effectively combating the illegal activities.

Activities:

- a) Collecting public report information, actively carrying out market survey and illegal case reports analysis, analyzing illegal activities trends, identifying key areas of poaching and smuggling snow leopard and prey, illegal business of snow leopard products, including: poaching prone areas, key ports, border area, bazaars, flow distribution, transportation line and commercial websites, etc.;
- b) For the law enforcement agencies in key areas and links: enriching and improving law enforcement and checking equipment, strengthening the law enforcement training and discussion, improving law enforcement consciousness and ability.
- c) Improving the interdepartmental enforcement coordination mechanism by developing an anti-poaching patrol system, a market inspection system, a law enforcement information notification system, a joint meeting system, and a responsibility system ensuring law enforcement measures in the different departments to achieve inspections and effective law enforcement.
- d) Strengthening anti-smuggling information management and risk control, increasing efforts on combating snow leopard products smuggling, cracking down on smuggling and snow leopard products criminals through controlled delivery. .
- e) Strengthening the analysis of illegal activity trend by carrying out multi development joint inspection of law enforcement and special combat operations. , Time sensitive discourse

cases results, forming a strong deterrent force, effectively curbing the smuggling, illegal business of snow leopard products, etc.

Action 11: Develop extensive publicity and education on snow leopard conservation.

Actively carry out various forms of publicity and education on snow leopard conservation; create greater awareness among the public on snow leopard conservation; popularize knowledge of laws and regulations on snow leopard conservation; advocate the public to boycott smuggling and illegal operation and utilization of snow leopard products on their own initiative; actively inform against illegal activity; effectively support the law enforcement on conservation.

Activities:

- a) Firstly, carry out various forms of thematic campaigns via media such as newspapers and magazines, radio and television; set up outdoor advertising, billboard and distributing brochures to improve the public's understanding and cognition of the legal requirement and significance on the snow leopard protection; warn the public of harmfulness of smuggling and illegal operation, using snow leopard products to improve their awareness on conservation.
- b) Secondly, set up billboard, warning signs and organizing thematic campaigns in key ports, border areas, bazaars and flow distribution areas; carry out pointed publicity and education on snow leopard; encourage the public to consciously stop illegally purchasing of snow leopard product, etc.;
- c) Thirdly, set up telephone hotlines and network platform for prosecution; establish incentive system to encourage the public to prosecute illegal activity;
- d) Fourthly, choose a typical case to carry out extensive publicity; promote public understanding of the consequences of illegal activities; improve the effect of publicity and education.
- e) Fifth, establish a conservation platform for volunteers; arise volunteers assist in investigating information on illegal activities involving snow leopards and other wildlife; strengthen the protective power; strike poaching, smuggling and illegal business, etc. more effectively.

Expanding International Cooperation and Exchanges on Global Snow Leopard Conservation

Under the framework of cooperation for global snow leopard conservation, promote the establishment of bilateral coordination and cooperation mechanisms between the protection management organizations and law-enforcing departments in border areas; carry out the investigation, monitoring and conservation projects in border regions; accelerate the exchange of information and strengthen law enforcement coordination; promote the exchanges of advanced technology and management experience on snow leopard conservation; facilitate improvement of conservation and management ability.

Action 12: Improve international cooperation mechanisms on snow leopard conservation

Under the framework of cooperation for global snow leopard conservation, promote the establishment of more effective multilevel international cooperation mechanism; achieve a more effective exchange of technology and experience, information sharing and coordinate actions, etc.

Activities:

- a) Firstly, in the Pamirs, Altai mountains the Himalayas and other border areas of snow leopard range, discuss future snow leopard trans-boundary conservation cooperative actions, projects and programs with neighboring countries, and conduct cooperative nature reserve activities to promote the overall conservation of trans-boundary snow leopard distribution areas, improving the effectiveness of the snow leopard and habitat conservation.

- b) Secondly, promote communication between management agencies, research institutions and primary conservation organizations and explore the development of cooperative nature reserve activities in the border areas where snow leopard distributed in.
- c) Thirdly, promote and establish cooperation mechanisms on information exchanges and law enforcement among basic law enforcement agencies in the border trade zone and ports to achieve rapid response and strike on cross-border smuggling.
- d) Fourthly, strengthen the information exchange with the World Customs Organization(WCO), Convention on International Trade in Endangered Species of Wild Fauna and Flora(CITES) and International Criminal Police Organization(Interpol), etc.; guide basic law enforcement to act and introduce into advanced techniques and experience to improve law enforcement capabilities.
- e) Fifthly, regularly assess the trans-boundary conservation activities for snow leopard and habitat, continuously improving cooperation mechanisms and methods, and optimizing the effectiveness of joint conservation.

4. Policy Guarantee

Existing Policy Guarantee

- a) China has established a relatively comprehensive systematic law and regulations framework on wildlife conservation and management and has ranked snow leopard as the national I level protected wild animal, making the conservation of snow leopard and its habitat as an explicit demand of the law and its regulations. According to existing laws and regulations, the behaviors of unauthorized hunting snow leopard and selling, purchasing, transporting, smuggling snow leopard product, etc. are classified as serious criminal acts. Severe punishment including fines and imprisonment will be given; in serious cases will even resulted in life imprisonment.
- b) China has initially established the conservation management system which combined with forestry authorities at various levels, nature reserves, ground conservation and management unit in the snow leopard range, carrying out returning grazing land to grassland, wildlife protection, and the nature reserve construction and other projects. By restoring the prey population, livestock damage compensation, strengthening habitat patrol monitoring and conservation capacity building, we have achieved initial results in the optimization of snow leopard habitat and snow leopard population growth.
- c) China has established the multi-leveled, multi-linked wild animal conservation law enforcement system and mechanism of law enforcement coordination among departments of forestry, public security, industry and commerce, customs department. And also strengthened capacity building continuously through perfecting equipment, information exchange, personnel training, and improving the system. Carrying out joint law enforcement inspections and special operations regularly or irregularly, effectively curb the momentum of illegal crime of the smuggling and snow leopard products trading.
- d) For the construction projects that would have the adverse effect on the habitat of wildlife under special state or local conservation, Chinese law stipulates clearly the environmental impact assessment shall solicit opinions from the departments of wildlife. This rule provides the system guarantee to prevent the improper construction projects in the range of snow leopard. And according to this rule, China's related large construction activities are all in accordance with the requirements of scientific evaluation taking corresponding measures of conservation management, which reduce the adverse effect to the greatest extent as possible, maintaining the snow leopard species' normal survival and reproduction.
- e) For the damage or loss of human and stock caused by snow leopard, Chinese law stipulates clearly the government compensation requirements, and arranges the corresponding funds

from central to local governments at various levels, ensuring that the losses of the most relevant areas can be compensated necessarily. All of these safeguard the legitimate rights and interests of the local public and make them support the conservation of snow leopard.

Improve policy for snow leopard conservation

To strengthen the conservation of Chinese snow leopard population and its habitat, we need to further improve and enrich the relevant policies including:

- a) Formulating and publishing a “snow leopard and its habitat conservation plan” in accordance with the procedures for review and approval, which can have the appropriate legal effect.
- b) At the basic level, we still need to further improve the field patrol system, monitoring and evaluation system, responsibility system and department coordination system, etc. for management of snow leopard and its habitat conservation;
- c) In some places, the compensation methods and standards for damage or loss of human and livestock caused by the snow leopard have not been formulated yet, which should be in accordance with the procedures and strive for an early release. For the place which has issued compensation methods and standards, they still need to adjust compensation standard reasonably in accordance with the formal procedures.
- d) Against smuggling and illegal snow leopard products, we also need to further refine and clear market patrol system, responsibility system, the public report reward system.

5. Evaluation indicators

To assess the effectiveness of the snow leopard conservation action, we will use the assessment indicators as follows:

Snow leopard population change, snow leopard distribution and activity area expansion, habitat environment changes, prey density change, snow leopard illegal case happening, local residents' livelihood improvement, conservation management monitoring station and staff set up, staff training, the threat factors etc.

We will adopt different evaluation index respectively for the effectiveness of each priority area of action, the specific points mentioned as below:

Investigating and monitoring the snow leopard population and habitats dynamically, strengthening basic research and conservation planning

Evaluation indicators include: snow leopard habitat geographic information system data, population change, the snow leopard activity area extension, climate change impact assessment results, snow leopard populations in different regions and habitat quality, overall habitat changes, prey density changes, snow leopard activity in ecological corridor regions, etc.

Improve the conservation management system, and strengthen habitat conservation

Evaluation indicators include: conservation monitoring stations amount and scope of responsibility, staff numbers, improvement of facilities equipment, developing and updating the patrol monitoring technology guide and management manual, the related system, etc., the field patrol and amount of monitoring data and effectiveness, situation of the snow leopard illegal cases happening, number of the illegal hunting traps and snares confiscated, etc.

Coordinate the snow leopard conservation and local community's social and economic development

Evaluation indicators include: snow leopard and livestock losses, amount of compensation and funds, quantity and rationality of warning signs and billboard settings, prevention of snow leopard damaging livestock facilities construction, the improvement on grazing modes, the quantity of model

pilot demonstration of economic development which is good to the snow leopard conservation, annual income growth of model household, demonstration promotion, amount of supporting investment, the reduction of economic behavior which is unfavorable for snow leopard's conservation.

Increase the intensity of law enforcement and propaganda, crack down on illegal activities

Evaluation indicators include: the number of law enforcement agencies and personnel in the enforcement area, the situation of equipment improvement, developing and updating different rules, the number of business personnel training, market patrol record and cases investigated, the situation of hotline set up and report information quantity, reporting investigation processing, joint inspection and special operation frequency, uncovered illegal case amounts and handling results, etc.

Expand international cooperation and communication for global snow leopard conservation

Evaluation indicators include: Update the number of international cooperation agreements or memorandums, different administrative level meetings, trainings, the number of exchange visits and the number of participants, communication channels for information, international advanced technology and management experience in application, and effectively, the number of multinational snow leopard and their habitat conservation projects in the border area, evaluating species and habitat quality change in the project area, the project effectiveness and influence on snow leopard cross-border conservation, etc.

Capital budget and source

In order to ensure the implementation of the action, we need to have the huge sums of funding; the specific amount shall be according to the geographical distribution conservation planning of the snow leopard for accounting.

According to the need of the snow leopard conservation action, we will raise funds through the following channels:

- a) Firstly, we will combine with China's "twelfth five-year" ecological construction, the project of returning grazing land to grassland, wildlife protection and nature reserve construction should be priority supported in the snow leopard distribution area
- b) Secondly, Chinese rare and endangered species rescue breeding, investigation and supervision and the second national terrestrial wildlife resources survey projects etc., we will gradually increase capital investment to the snow leopard conservation ;
- c) Third is launching civil body or other non-governmental organizations to give the necessary funding for snow leopard conservation project;
- d) Last, strive for international assistance, mainly used for cross-border conservation action or other international cooperation projects.

Appendix: Snow leopard nature reserve list of China.

Province	ID	Nature Reserve Name	Region ID*	Administration Division (County)	Area (ha)	Level
Xinjiang	1	Tomur	1	Wensu	237600	National
	2	Altun	2	Ruoqiang	4500000	National
	3	Kanas	3	Buerjin, Habahe	220162	National
	4	West Tianshan	1	Gongliu	31217	National
	5	Taxkorgan	4	Taxkorgan Tajic	1500000	Provincial
	6	Middle Kunlun	4	Qiemo	3200000	Provincial
Tibet	7	Mount Qomolangma	5	Dingri, Nlalamu, Dingjie, Jilong	3381000	National
	8	Qiangtang	6	Anduo, Nima, Gaize, Shuanghu, Geji, Ritu, Geer	29800000	National
Qinghai	9	Sanjiangyuan	6	Yushu Tibet Guoluo, Hainan, Haixi, Huangnan	15230000	National
	10	Hoh Xil	6	Yushu Tibet	4500000	National
	11	Haibei Qilian Mountain	7	Haibei Tibet	834700	Provincial
Gansu	12	Gansu Qilian Mountain	7	Wuwei City, Zhangye City, Jiuquan City	230000	National
	13	Yanchiwan	7	Subei Mongolia	1360000	National
Sichuan	14	Wolong	8	Wenchuan	200000	National
	15	Gonggashan	8	Luding, Kangding, Jiulong	400000	National
	16	Chaqingsongduo White-lipped Deer	8	Baiyu	143683	National
	17	Changsha Gongma	8	Shiqu	669800	National
	18	Xinluhai	8	Dege	16875	Provincial
	19	Luoxu	8	Shiqu	155350	Provincial
	20	Riba Xueshan	8	Xinlong	21064	County
	21	Gajin Xueshan	8	Derong	30000	Municipal
	22	Zhaga Shenshan	8	Litang	84581	County
	23	Xionglongxi	8	Xinlong	171065	Provincial
Inner Mongolia	24	UradHaloxylon forest-Mongolian Wild Ass	8	Wulate Houqi	68000	National
Yunnan	25	Baima Xueshan	8	Deqin, Weixi Lisu	276400	National
	26	Daxueshan	8	Weixin	2153	Municipal

* Region ID: (1). Tianshan Mountain, (2). Altun-Qilian Mountain, (3). Altai, (4). the Pamirs Kunlun Mountains - Karakoram (5). Himalayas, (6). Qinghai-Tibet Plateau -Tanggula - Hoh Xil - Gangdis - Bayan Kala Area, (7)Altun-Qilian Mountains region, (8). Hengduan Mountains.