ASIA / PACIFIC

XINJIANG TIANSHAN

CHINA

WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

XINJIANG TIANSHAN (CHINA) – ID No. 1414

IUCN RECOMMENDATION TO WORLD HERITAGE COMMITTEE: To inscribe the property under natural criteria.

Key paragraphs of Operational Guidelines:
77 Property meets natural criteria.
78 Property meets conditions of integrity and protection and management requirements.

1. DOCUMENTATION

a) Date nomination received by IUCN: 25 March 2012

b) Additional information officially requested from and provided by the State Party: Following the IUCN evaluation mission the State Party provided additional information, notably to propose the amended boundaries to link two of the components of the property. Following the IUCN World Heritage Panel meeting the State Party was requested to provide supplementary information on 20 December 2012. The information was received on 27 January 2013. IUCN requested advice from the State Party to confirm the proposed boundary changes and the area of the nominated property; provide advice on measures to ensure connectivity and effective coordination between the property's components; confirm commitments to review the overall management plan; and to elaborate on proposals for managing grazing and local communities in association with the nominated property.

c) Additional Literature Consulted: A range of references and relevant IUCN thematic studies were consulted. Selected additional references included: Appleton, M.R. et al. (2012) **Biodiversity**: **Delivering results in Europe and the CIS**. UNDP, Bratislava, Slovakia. BirdLife International (2012a) Important Bird Areas factsheet: **Bayanbulak and Kaidu River Valley**. Downloaded from http://www.birdlife.org on 21/11/2012. BirdLife International (2012b) Important Bird Areas factsheet: **Bogda (Tian Chi)**. Downloaded from http://www.birdlife.org on 21/11/2012. BirdLife International (2012c) Important Bird Areas factsheet: Gongliu spruce forest. Downloaded from http://www.birdlife.org on 21/11/2012. BirdLife International (2012d) Important Bird Areas factsheet**: Mount Tuomuer Nature Reserve**. Downloaded from http://www.birdlife.org on 21/11/2012. Conservation International (2012) **Mountains of Central Asia**. Hotspot description. Online: http://www.conservation.org/where/priority_areas/hotspots/europe_central_asia/Mountains-of-Central-Asia/Pages/default.aspx Farrington, J.D. (2005) **A Report on Protected Areas, Biodiversity, and Conservation in the Kyrgyzstan Tian Shan**. Online: http://www.snowleopardnetwork.org/bibliography/Farrington_2005.pdf Feng, Y. et al. (2003) **The endemic species and distribution in Xinjiang**. Acta Botanica Boreali-Occidentalia Sinica 23(2): 263-273. WWF (2012) Ecoregion descriptions. Online: http://worldwildlife.org/biomes Xu, X. et al. (2012) **Natural Heritage value of Xinjiang Tianshan and global comparative analysis**. Journal of Mountain Science 9(2): 262-273.

d) Consultations: 6 external reviewers. The mission met with numerous individuals representing national and state legislative bodies and government institutions, line agencies, the house of traditional leaders, research institutes, non-governmental organizations, private companies and a broad range of resource users.

e) Field Visit: Pierre Galland and Andrew Scanlon, 20 July – 07 August 2012

f) Date of IUCN approval of this report: April 2013

2. SUMMARY OF NATURAL VALUES

The Tianshan mountain system in Central Asia is one of the seven largest mountain ranges in the world. It is aligned almost east-west, with a total length of 2,500km and an average width of 250-350km, widening to 800kms at its maximum. The Tianshan mountain range extends from the eastern Xingxingxia Gobi in Hami, Xinjiang to the western Kyzylkum Desert in Uzbekistan, encompassing the four countries of China, Kazakhstan, Uzbekistan and Kyrgyzstan. Together with the Altai Mountains in the north, the Kunlun Mountains in the south and the Pamir in the west, the Tianshan makes up the mountainous backbone of Central Asia. It is the largest mountain chain in the world's temperate arid region, and is also the largest isolated east-west stretching mountain range globally. It is surrounded by six deserts, including the Taklimakan Desert, which is notable as one of the world's largest and highest deserts, and is notable for its large arrays of dune forms, its large bounding alluvial fans, its pluvial lakes, and its ability to produce large numbers of dust storms. The Tianshan mountain range is composed of a series of mountains and inter-mountain basins. Trans-meridionally, it can be divided into the eastern Tianshan Mountains in China and the western Tianshan Mountains in the neighbouring countries of Kazakhstan, Uzbekistan and Kyrgyzstan.

The east-west length of the Xinjiang Tianshan Mountains is 1,760km, with Tomur (7,443m a.s.l.) as its highest peak. The Xinjiang Tianshan Mountains in China accounts for two thirds of the whole mountain chain and presents unique physical geographic features. There are three sections, the North, Middle and the South Tianshan Mountains, more than 20 subsidiary mountain ranges and 10 inter-mountain basins or valleys. Xinjiang Tianshan is nominated as a serial site comprising four components: Tomur, Kalajun-Kuerdening, Bayinbuluke and the Bogda Mountain System. The State Party in supplementary information have confirmed the joining of the Kalajun-Kuerdening sections to improve integrity. The property, as revised, includes components which represent the spectrum of landscape diversity within the much larger Tianshan Mountain system. The nominated property comprises a core area totalling 606,833 ha with buffer zones of 491,103 ha which lay outside the nominated core. Table 1 details the components of the property and their buffer zones showing areas.

Table 1: Area of the nominated property components and their buffer zones (hectares)

No	Property Component	Area of the nominated property	Area of the buffer zone
1	Tomur	344,828	280,120
2	Kalajun-Kuerdening	113,818	89,346
3	Bayinbuluke	109,448	80,090
4	Bogda	38,739	41,547
	Total	**606,833**	**491,103**

The nominated property contains a scenically beautiful series of areas, including spectacular snow-capped mountains and glacier-capped peaks, undisturbed forests and meadows, clear rivers and lakes and red bed canyons, reinforced by the combination and contrast between the above-mentioned mountain elements and the vast deserts. Tomur-Khan Tengri area within the nominated property is one of the three largest mountain glacier distribution areas within Central Asia, and boasts the most complete altitudinal natural zones on the south slope of the Tianshan extending down to lower elevations and the edge of the Taklimakan Desert. The Kalajun-Kuerdening component displays concentrations of the endemic Schrenk's Spruce *(Picea schrenkiana)*, along with large areas of wild fruit forest and montane steppe and meadow areas. The Bayinbuluke component is the outstanding representative of a high inter-montane basin in the Tianshan, with typical alpine meadows and alpine wetlands. Finally the Bogda component encompasses the physical features of the eastern part of Tianshan, with the most typical altitudinal natural zones and snow-capped mountains, glaciers, lakes, rivers, forests and meadows coexisting in a relative small area.

The nominated property extends across a large area and shows great differences in elevation, resulting in complicated and varied local climates. Located amidst deserts, the huge mountain range is an obvious natural boundary that modifies the regional airflow, resulting in large differences in physical geography between the north and south slopes. Temperature differences between different areas are high and so is the annual temperature range.

Lakes in the Tianshan Mountains in Xinjiang are mainly distributed in the inter-mountain basins, depressions and river-ends. With the different elevations of the inter-mountain basins, lakes are distributed on different terraces. Youerdusi Basin, in the nominated property, is a high inter-montane basin, with an elevation of 2,400-2,600 m. The Kaidu River meanders through the basins forming graceful landscapes. In the center of the basins, there are wetlands and lakes with an area of about 1,370km², providing excellent habitat (including for breeding) for swans and other birds.

The formation and development of the geology and landforms of the Tianshan Mountains in Xinjiang are the outcome of the interaction of internal and external processes. Three stages of development were experienced, including a folding and upheaval stage, followed by an erosion stage and a block uplifting. Landforms of the modern Tianshan Mountains are based on fault blocks. Under the effects of various exogenous forces since the Quaternary period, such as glaciation and fluviation, as well as drying and erosion, many kinds of landforms have developed in the nominated property, including fault blocks and basins, the grand mountainous plains and terrace landforms, as well as typical modern glacial landforms, ancient glacial landforms and red bed canyons.

During the erosion and planation of the ancient Tianshan Mountains, extremely thick red lake-river sediments of the Paleogene period and Neogene period were deposited in the depression basins in the piedmont on the south slope of Tomur Peak. These have been subject to weathering processes to create various spectacular landforms within the nominated property.

There are 15,953 glaciers in the whole Tianshan mountain range with a total area of 15,416km^2 and an ice volume of 1,048km^3. On a global scale, the Tianshan Mountains have relatively abundant mountain glaciers. The nominated property samples a significant proportion of this glacial field with 9,081 glaciers (9,236km^2), accounting for 57%, 59.9% and about 90% respectively of that of the area, volume and number of glaciers in the entire Tianshan mountain system.

The nominated property sits within Udvardy's Palaearctic Biogeographic Realm and belongs to the Pamir-Tianshan Highlands Province. The component parts of the nominated property include all the typical mountain altitudinal natural zones of a temperate arid zone. In Tomur, there is a complete range of altitudinal zones on the south slope of Tianshan, from the ice-snow zone to warm temperate desert zone across an elevation drop from 7,443m to 1,450m. In Bogda, there is a range of altitudinal zones on the north slope of Tianshan, from the ice-snow zone to mountain steppe

zone across an elevation drop from 5,445m to 1,380m. Important ecological types of the Tianshan Mountains represented in the property include mountain evergreen coniferous forest ecosystem, mountain deciduous coniferous forest ecosystem, mountain deciduous broad-leaved forest ecosystem, prairie ecosystem (including meadow-steppe ecosystem, dry steppe ecosystem, desert steppe ecosystem, and alpine steppe ecosystem), meadow ecosystem (including alpine meadow ecosystem, sub-alpine meadow ecosystem and montane meadow ecosystem), evergreen coniferous fruticose ecosystem, deciduous broad-leaved fruticose ecosystem, desert ecosystem and wetland ecosystem.

The nominated property contains a series of important habitats for relict species, numerous rare and endangered species as well as endemic species. The property is reported as containing 2,622 species of vascular plants and 550 species of vertebrate animals. There are 94 relic plant species from before the Quaternary Glaciation, 110 species of rare and endangered plants and 367 species of rare and endangered animals. There are 118 species of endemic plants and 22 species of endemic animals in the nominated property.

Xinjiang Tianshan provides an outstanding representation of biological and ecological evolution on the Pamir-Tianshan Highlands. Xinjiang Tianshan extends across the Eurasian forest floristic sub-region and Asian desert floristic sub-region. Its features of altitudinal vegetation distribution, significant differences between north and south slopes, and diversity of flora, all illustrate the biological and ecological evolution of the Pamir-Tianshan Highlands. Due to its special location and climate, the Kalajun-Kuerdening component became a refuge for relic species in the Paleogene period. There are large areas of wild fruit forest with 52 species of wild fruit trees.

The geographical distribution of fauna in Xinjiang Tianshan belongs to the Palearctic Realm, the Central-Asia Subrealm, the Mongolia-Xinjiang Region and Tianshan Mountain Sub-region. The nomination dossier reports 102 mammal, 370 bird, 32 reptile, 6 amphibian and 40 fish species, although UNEP's World Conservation Monitoring Centre (WCMC) notes that these figures appear inflated and may include sub-species. The Tianshan Mountains in Xinjiang act as a barrier for some species exchange between the Altai Mountains in the north and Kunlun-Altun Mountains in the south, while serving as a bridge for other species. Birds and mammals belonging to the Palaearctic region dominate the fauna of Xinjiang Tianshan, and mammals recorded in the nominated property include Elk *(Cervus elaphus),* Roe Deer *(Capreolus capreolus),* and Grizzly Bear *(Ursus arctos).*

3. COMPARISONS WITH OTHER AREAS

Xinjiang Tianshan has been nominated under criteria (vii) and (ix) and the nomination dossier includes a detailed comparative analysis of the property relative to 13 other mountainous World Heritage sites analysing the relative values of these areas against these two criteria. The comparative analysis also reviews the site against several IUCN thematic studies and global prioritizing mechanisms. The comparative analysis provided in the nomination was published as a paper in a peer reviewed journal thus lending further support to the nomination.

Currently the only property inscribed on the World Heritage List within the Central Asia Mountains is the Golden Mountains of Altai (Russian Federation) located in another Udvardy biogeographical province. Two properties, Nanda Devi and Valley of Flowers National Parks and Sagarmatha National Park in the Himalayan province, are also relevant regarding comparisons; however, they belong to another biogeographical province and to another Biodiversity Hotspot (Himalaya), and therefore cannot be directly compared with respect to criteria (ix). There are currently no listed properties from Udvardy's Pamir-Tianshan Highlands biogeographical province. However, the Tajik National Park (TNP) which occurs in the same Province is on the Tentative List of Tajikistan and nominated in 2012/13. TNP is located in the Pamir Mountains, which are located at a crossroad between Hindu Kush, Himalaya-Karakoram, Kunlun and Tianshan. Both this nomination and the TNP are representative of the Global 200 Ecoregion: Middle Asian Montane Steppe and Woodlands. Both properties are part of the Mountains of Central Asia, one of the 34 Global biodiversity hotspots as defined by Conservation International, with 27% of plant endemism and 57% of amphibian endemism. Endemism in mammals and birds is very low (< 2%). The nominated property provides contrasting but equally spectacular mountain features as TNP, with a greater range of landscapes, but a smaller and more dispersed set of component parts. Xinjiang Tianshan provides a greater and more diverse representation of ecosystems than TNP.

Great Himalayan National Park is also nominated for consideration in 2013. It lies in the Himalayan region and is more closely related to the existing Nanda Devi – Valley of Flowers World Heritage property (India). Whilst this property is in the same regional proximity to Xinjiang Tianshan and shares some landscape features similar to those mentioned for the Central Asian Mountains, it is in a different Udvardy Province within the Western Himalaya.

Comparisons may also be made between the nominated property and other regional mountain systems:

- The Altai Mountains belong to another biogeographical province with flora dominated by Siberian Old World and Holarctic elements, while the forest ecosystems are Euro-Siberian Taiga. Altitudinal range (1,000 – 3,000m, with one peak reaching 4,500m) is less than Xinjiang Tianshan. In the Altai, xeric deserts and steppes are better developed while forests and meadows less so. However the forests in Altai are more diverse with more tree species. The topography of the Altai is

gentler with fewer glaciers and the landscape less spectacular than in the nominated property.

- The Karakorum Mountains (eastern part of the Himalayan range) are very different from Tianshan in terms of biodiversity, altitudinal zones, natural landscapes, and belong to another biogeographical province. The Chinese part of Karakorum (northern slope) belongs to the Tibetan province of Udvardy. Because of the dryer climate, the plant diversity is much lower. The flora is dominated by Central Asian elements, but also includes elements from the Qinghai-Tibet Plateau. Dominant tree species are different (*Juniperus* in Karakorum – *Picea* in Tianshan). The fauna is also quite different; the Karakorum includes wild Yak, Tibetan antelope, blue sheep and Tibetan wild-ass, while Tianshan has red deer, argali and ibex.

- The Kunlun Mountains separate the Tarim Basin and the Taklimakan Desert in the north from the Tibetan plateau in the south. They lie far away from monsoon influence and are not influenced by oceanic currents. They have drier climate with only ca. 100 higher plant species, mostly dwarf shrubs. The flora is dominated by Central Asian elements and lack relic species. The fauna belong to the Qinghai- Tibet Plateau province (similar species as in Karakorum). Altitudinal vegetation zones however are different from Tianshan (more xeric with many shrubs). The landscape is characterized by desert steppe element very different from the altitudinal zones of Tianshan.

- The Northern and Western Tianshan in Kazakhstan and Kyrgyzstan appear to be very similar to Xinjiang Tianshan regarding vegetation, fauna and scenery, but offer a less sharp contrast between temperate mountain zones and surrounding deserts. Xinjiang Tianshan appears to offer more representative elements of the whole range. It is important to note that the nominated property encompasses the highest mountain and most extensive glacier fields in the Tianshan range, and as a serial site it captures a range of ecosystems and communities representative of the Tianshan Mountains and Taklimakan Desert.

In conclusion the nominated property within the Tianshan Mountains of Xinjiang is located at the intersection of Central Asia, Mongolia, Siberia, and China–Himalaya. The transition in natural and geologic environments has provided the opportunity for the various flora types to interact and specialize. Thus, the nominated property is characterised by transition species and many species of plants are spatially concentrated. In comparison with the Altai Mountains, Kunlun Mountains and Altunshan Mountains within Xinjiang Uygur Autonomous Region, Xinjiang Tianshan has a more abundant flora, totalling 2,622 species of wild vascular plants. Based on available information, the property supports a high percentage of the species within the Mountains of Central Asia biodiversity hotspot. This hotspot encompasses the Pamir and the Tianshan mountain ranges and is not yet represented on the World Heritage List. The corresponding Udvardy biogeographical province, Global 200 priority ecoregion and Centre of Plant Diversity have all been identified as gaps on the World Heritage List as well.

IUCN notes that the 2005 thematic study for Central Asia, whilst still quite relevant, did not consider China, Russian Federation, India, Pakistan and Afghanistan. Given the fact that three properties have been nominated in 2012/13 within the mountainous systems of Inner Asia, and a number of other properties exist on Tentative Lists, it would be timely to revisit and broaden this comparative study to achieve greater clarity on comparative values and the potential for serial site configurations.

4. INTEGRITY, PROTECTION AND MANAGEMENT

4.1. Protection

All components as presented in the nomination file are protected via a range of national laws and regulations governing protected areas, wildlife, grassland management and use of water resources, and benefit from a high level of protection, including strict protection zones. In addition to national laws, the property is subject to a number of local laws and regulations at the level of the Xinjiang Uygur Autonomous Region and/or Aksu and Changji Hui Autonomous Prefectures.

For the most part, the nominated property comprises existing protected areas. In relation to proposal of the State Party to revise the nomination and merge the Kalajun and Kuerdening components, the State Party in supplementary information has confirmed that the People's Government of Xinjiang Uygur Autonomous Region approved the decision to include the area in Kalajun Provincial Park in January 2013 and that the Ministry of Housing and Urban-Rural Development (MoHURD) has started the declaration of the Kalajun Provincial Park as a national nature reserve.

IUCN considers the legal protection status of the nominated property meets the requirements set out in the Operational Guidelines.

4.2 Boundaries

The boundaries of the components are mostly based on existing protected areas, with the exception of the merging of the Kalajun-Kuerdening component, as noted above, and which improves the overall integrity of the nomination. The boundaries follow a clear rationale in terms of capturing key features to ensure representativeness as well as aligning to landscape features such as ecological zones and ridge lines. The development of this nomination has reviewed boundaries to ensure that the property encompasses a wider variety of landforms and greater altitudinal range to include inter-montane basins, natural features and greater scenic diversity. Buffer zones are present around all the components, with sufficient size and

design to bolster the property's resilience against external impacts.

IUCN notes the concerns from some reviewers that the nominated property is still small relative to the very large size of the Tianshan Mountains as one of the 7 largest mountain systems in the world, and thus further extensions of the property could be considered. In addition IUCN is aware that there have been some active discussions regarding nominations by States Parties elsewhere in the Tian Shan, although IUCN was not able to determine the possible timescales for such nominations to be submitted for consideration by the World Heritage Committee. There would therefore also be merit for further discussion between the States Parties in the Tianshan regarding the scope to build on the present nomination through transnational approaches.

IUCN considers that the boundaries of the nominated property meet the requirements set out in the Operational Guidelines, but could be further improved through future extensions to the property, including possible transboundary extensions and relevant cooperation.

4.3 Management

All component parts of the property have highly qualified management staff and adequate funding. A Management Plan was drafted for the property in 2012 and presented with the nomination file. However, it is largely a repetition of the nomination and not prescriptive enough to guide the integrated management of this serial property with several geographically distant components. Whilst all components have management plans, there is a need for a specific overall management plan. The State Party in supplementary advice have confirmed their commitment to developing a comprehensive management plan governing all four components of the property in an integrated manner by 2014.

The staffing levels which have been applied to the nominated property are impressive. 652 staff are noted across the 4 components with a majority (377) deployed in the more heavily visited Bogda component. A very significant investment of resources has been made in the property (equivalent to USD 185 million in 2012). The State Party has advised that an average of USD 106 million will be allocated for the property over the next 5 years.

The State Party in supplementary information has advised that a hierarchical national-to-local level management system will be established for the property, with oversight provided at the highest level by the National Commission of UNESCO within MoHURD, then by regional and prefecture level authorities and finally by site level administrators. A structure will be established within MoHURD to ensure unified management of all four components.

IUCN considers the management of the nominated property meets the requirements set out in the Operational Guidelines.

4.4 Community

The mission noted that whilst local authorities are closely involved in the nomination process and management of the property, this is as part of the general national and provincial governance systems in China. IUCN requested further information on the processes of community engagement undertaken during the nomination process, and this was provided by the State Party.

Supplementary information notes that consultations were held with herdsmen communities regarding relocation and that the majority of community members supported relocation as it involved "improvements in housing, healthcare, education, transport, information and other public services" as well as allocations of farmland, alternative pasturelands etc. However, the State Party also notes that this view was not universally shared: some herdsmen did not want to change their traditional nomadic lifestyles and were worried about their capacity to earn income if they did so. The State Party concludes by affirming a desire to achieve sustainable traditional utilization in natural World Heritage sites and a willingness to work with others to achieve this balance. IUCN welcomes this advice, and the willingness of the State Party to engage further in considering approaches that could better reflect and recognize the links between people and nature within the property, and recommends further dialogue is pursued on this issue.

The IUCN evaluation mission also noted plans to hire local herdsmen as staff engaged in basic management, patrolling and interpretation at the property.

4.5 Threats

In general the property is not subject to significant existing threats. There is no hunting, no forest exploitation and very limited grazing and medicinal plants collection impacting upon the property. The boundaries of components have been designed in order to avoid mining areas and potential transportation corridors which are planned.

The Xinjiang Uygur Autonomous Region has a very low population density and little development pressure. There is some influx from other provinces, but with little or no impact on the mountain areas. The State Party in supplementary information has confirmed that tourism across the property is currently averaging 1,566,000 visitors p.a. with most visits to the more developed Bogda component. However, annual growth is forecast at between 6.4 to 11% and overall capacity capped at 9,500,000 visitors p.a. Whilst tourism growth is inevitable and will become very likely should the site be inscribed, it will be critical to manage this growth in an environmentally sensitive manner and with a view to benefits returning to local communities. A well-thought out tourism strategy will be necessary and the impacts of tourism carefully monitored and managed. For example, demand for 4WD vehicle access into the sensitive high mountain meadows could lead to far

greater erosion than that from traditional herdsmen and grazing.

There is an on-going debate regarding the policy on grazing within the property. Some scientists have raised concerns that blanket ban on grazing within the property may result in ecological changes and a net loss of biodiversity. Grazing as a livelihood issue also relates to the relationship with local communities and traditional nomadic herdsmen. Supplementary information from the State Party indicates that the policy for grazing throughout the region (i.e. beyond the nominated property) is to progressively exclude grazing from environmentally sensitive areas. Furthermore, in terms of the nominated property, the policy is that grazing will be excluded from core areas by 2015, but allowed to a limited extent in buffer zones. However, the report notes that there are mixed views by stakeholders on the exclusion of grazing, including concerns from some relocated nomadic herdsmen. The report also notes that based on studies by the Bayinbuluke Grassland Biology Research Station of the Chinese Academy of Sciences a total exclusion of grazing would reduce biodiversity. The report goes on to state that grazing options will be reviewed with a view to including sustainable grazing in the 2014 management plan. IUCN would encourage an open view on grazing pending further assessment of its impacts on biodiversity and consideration to accommodating sustainable resource use within the property.

In summary, IUCN considers the nominated property meets the conditions of integrity as outlined in the Operational Guidelines.

5. ADDITIONAL COMMENTS

5.1 Justification for Serial Approach

a) What is the justification for a serial approach?

The nomination notes that, given the vastness of the Tianshan Mountains in Xinjiang and the significant differences in physical geography and biological features in different parts, no single component can completely represent its Outstanding Universal Value. The development of this nomination and selection of component parts was carried out over a three year period with much attention to the representativeness of natural features such as geological features, ecological features and natural landscapes, as well as the integrity of the natural environment, the level of negative impact from human activities, and the current protection and management status. IUCN considers that the selection of components represents a spectrum of diverse landform types and biological values which together make the case for Outstanding Universal Value under criteria (vii) and (ix).

b) Are the separate component parts of the nominated property functionally linked in relation to the requirements of the Operational Guidelines?

Xinjiang Tianshan shares functional linkages by virtue of the fact that:

- The four nominated component parts are located in the same mountain chain of Tianshan, with similar tectonic background and geological evolution processes;
- The four nominated component parts belong to the same biogeographic province, that is, the Pamir-Tianshan Highlands biogeographic province, and they have significant similarities in natural geographical features;
- The natural heritage values show commonality, that is, the same arid temperate montane climate condition in Eurasian hinterland;
- They sample an altitudinal difference averaging 4,000m for each component, and similar vertical natural zones. They all belong to desert-oasis-mountain ecosystems of the arid temperate zone. The nominated components together provide a good diverse representation of the ecosystems of Tianshan Mountains in Xinjiang.

c) Is there an effective overall management framework for all the component parts of the nominated property?

The document presented as "Management Plan" does provide a few elements regarding the overall management frameworks but is not sufficient. An organogram presented in the plan shows the structure which was set up for the nomination preparation but this needs to be replaced with a suitable operational coordination body. As noted above, the State Party in supplementary information has advised on plans to establish a hierarchical management system with an associated structure aimed at unified management of all four components.

5.2 Nomination process

IUCN notes that the State Party has taken a strongly consultative process in considering this nomination. A constructive and open dialogue was maintained with IUCN on “upstream” support prior to the nomination being submitted. Through this process several World Commission on Protected Area experts were engaged from 2010 to help to refine the nomination resulting in an improved site configuration. Nevertheless a number of recommendations raised during this process remain to be considered, notably the need to progressively expand the areas of the Tianshan under protection, including in neighbouring countries; and the potential to accommodate sustainable use of the nominated area by local communities.

6. APPLICATION OF CRITERIA

The Xinjiang Tianshan has been nominated under natural criterion (vii) and (ix).

Criterion (vii): Superlative natural phenomena or natural beauty and aesthetic importance

The Tianshan is a large mountain range in Central Asia stretching over more than 2,500 kilometers. It is

the largest mountain chain in the world's temperate arid region, and the largest isolated east-west mountain range globally. The Xinjiang portion of the Tianshan runs east-west for 1,760km and is a mountain range of outstanding natural beauty. The Xinjiang Tianshan is anchored in the west by the highest peak in the Tianshan, Tomur Peak at 7,443 meters, and in the east by Bogda Peak at 5,445 meters. The range is surrounded by six deserts, and the nominated property extends into one of these: the Taklimakan Desert, which is notable as one of the world's largest and highest deserts, known for its large arrays of dune forms, its large bounding alluvial fans, its pluvial lakes, and its ability to produce large numbers of dust storms. The beauty of the Xinjiang Tianshan lies not only in its spectacular snow-capped mountains and glacier-capped peaks, beautiful forests and meadows, clear rivers and lakes and red bed canyons, but also in the combination and contrast between the mountain elements and the vast deserts. The stark difference of bare rocks on its south slope and luxuriant forest and meadow on the north creates a striking visual contrast of environments which are hot and cold, dry and wet, desolate and luxuriant – and of exceptional beauty.

IUCN considers that the nominated property meets this criterion.

Criterion (ix): Ecosystems / communities and ecological / biological processes

Xinjiang Tianshan is an outstanding example of ongoing biological and ecological evolutionary process in a temperate arid zone. The landforms and ecosystems have been preserved since the Pliocene epoch because of the Tianshan's position between two deserts and its Central Asian arid continental climate, which is unique among the world's mountain ecosystems. Xinjiang Tianshan has all the typical mountain altitudinal zones of a temperate arid zone, reflecting the moisture and heat variations at different altitudes, gradients and slopes. The property is an outstanding example for the study of biological community succession in mountain ecosystems in an arid zone undergoing global climate change. Xinjiang Tianshan is also an outstanding representative of biological and ecological evolution in the Pamir-Tianshan Highlands. Altitudinal vegetation distributions, significant differences between north and south slopes, and diversity of flora, all illustrate the biological and ecological evolution of the Pamir-Tianshan Highlands. The property is also an important habitat for relic species, and numerous rare and endangered species, as well as endemic species. It is representative of the process whereby the original warm and wet flora has gradually been replaced by modern xeric Mediterranean flora.

IUCN considers that the nominated property meets this criterion.

7. RECOMMENDATIONS

IUCN recommends that the World Heritage Committee adopt the following draft decision:

The World Heritage Committee,

1. Having examined Documents WHC-13/37.COM/8B and WHC-13/37.COM/INF.8B2;

2. Inscribes the **Xinjiang Tianshan, China,** on the World Heritage List under natural criteria (vii) and (ix);

3. Adopts the following Statement of Outstanding Universal Value:

Brief synthesis

Xinjiang Tianshan is a serial property consisting of four components totaling 606,833 hectares, with buffer zones totaling 491,103 hectares located in the People's Republic of China in the Xinjiang Tianshan, the eastern portion of the Tianshan mountain range. The four components are located along the 1,760 kilometers of the Xinjiang Tianshan, a temperate arid zone surrounded by Central Asian deserts. The property was nominated under criterion (vii) for its outstanding beauty and superlative natural features and criterion (ix) for capturing a range of biological and ecological processes.

The property has outstanding scenic values and many superlative natural features – from red bed canyons to high peaks and glaciers to beautiful wetlands, meadows and steppe. The visual impact of these features is magnified by the stark contrasts between the mountain areas and vast Central Asian deserts, and between the dry south slopes and the much wetter north slope. Xinjiang Tianshan is also an outstanding example of ongoing biological and ecological evolutionary process in a temperate arid zone. Altitudinal vegetation distributions, significant differences between north and south slopes, and diversity of flora, all illustrate the biological and ecological evolution of the Pamir-Tian Shan Highlands. Xinjiang Tianshan has outstanding biodiversity and is important habitat for relic species, and numerous rare and endangered species, as well as endemic species. It provides an excellent example of the gradual replacement of the original warm and wet flora by modern xeric Mediterranean flora.

Criteria

Criterion (vii)

The Tianshan is a large mountain range in Central Asia stretching over more than 2,500 kilometers. It is the largest mountain chain in the world's temperate arid region, and the largest isolated east-west mountain range globally. The Xinjiang portion of the Tianshan runs east-west for 1,760km and is a mountain range of outstanding natural beauty. The Xinjiang Tianshan is anchored in the west by the highest peak in the Tianshan, Tomur Peak at 7,443 meters, and in the east by Bogda Peak at 5,445 meters. The range is surrounded by six deserts, and the property extends into one of these: the Taklimakan Desert, which is notable as one of the world's largest and highest deserts, known for its large arrays of dune forms, its large bounding alluvial fans, its pluvial lakes, and its ability to produce large numbers of dust storms. The beauty of the Xinjiang Tianshan lies not only in its spectacular snow-capped mountains and glacier-

capped peaks, beautiful forests and meadows, clear rivers and lakes and red bed canyons, but also in the combination and contrast between the mountain elements and the vast deserts. The stark difference of bare rocks on its south slope and luxuriant forest and meadow on the north creates a striking visual contrast of environments which are hot and cold, dry and wet, desolate and luxuriant – and of exceptional beauty.

Criterion (ix)
Xinjiang Tianshan is an outstanding example of ongoing biological and ecological evolutionary process in a temperate arid zone. The landforms and ecosystems have been preserved since the Pliocene epoch because of the Tianshan's position between two deserts and its Central Asian arid continental climate, which is unique among the world's mountain ecosystems. Xinjiang Tianshan has all the typical mountain altitudinal zones of a temperate arid zone, reflecting the moisture and heat variations at different altitudes, gradients and slopes. The property is an outstanding example for the study of biological community succession in mountain ecosystems in an arid zone undergoing global climate change. Xinjiang Tianshan is also an outstanding representative of biological and ecological evolution in the Pamir-Tianshan Highlands. Altitudinal vegetation distributions, significant differences between north and south slopes, and diversity of flora, all illustrate the biological and ecological evolution of the Pamir-Tianshan Highlands. The property is also an important habitat for relic species, and numerous rare and endangered species, as well as endemic species. It is representative of the process whereby the original warm and wet flora has gradually been replaced by modern xeric Mediterranean flora.

Integrity
The property is a serial property consisting of four components totaling 606,833 hectares, with buffer zones totaling 491,103 hectares. The four components include: Tomur, Kalajun-Kuerdening, Bayinbuluke and Bogda. The four components follow the boundaries of existing protected areas, except in the case of the Kalajun-Kuerdening component, where two parks have been merged. The boundaries of the various components follow prominent natural features including ridgelines, rivers, vegetation zones, etc.

The property is representative of the many superlative features and ecological processes in the Xinjiang Tianshan. The property includes spectacular landscapes from red bed canyons to the highest peaks and largest glaciers in the entire range, to highly scenic and ecologically rich alpine meadows, to areas of rivers, lakes and wetlands. The property captures the full range of altitudinal zones of a temperate arid zone and the evolutionary processes of the Pamir-Tian Shan highlands.

The area benefits from a very low degree of threat. There are no permanent inhabitants in the property. Extractive industries and infrastructure development is limited in the region and does not exist within the property. There is no record of invasive species. The entire property is legally protected and all of the components have buffer zones.

Protection and management requirements
The components of the property range from IUCN Categories I-IV, though several of the units, including the largest component (Tomur) are managed as Category Ia. The property has been under conservation management for some time. The Tomur Peak National Nature Reserve in particular has been under conservation management since 1985. A broad range of environmental and natural resource use laws governs and the property therefore benefits from a high level of legal protection.

Each of the components has a management plan, and a management plan also exists for the property as a whole. A new management plan for the whole property will come into effect in 2014. The property has an adequate staff and is well funded. Extensive research has been conducted in the property giving park staff a strong knowledge base to work from.

Special attention needs to be given to ensuring effective management planning and coordination across the components of the property which are geographically well separated from each other. Future efforts should focus upon opportunities to extend or add to the property to increase its size and integrity given the overall very large scale of the Tianshan Mountain Range system. This should also consider initiatives with neighbouring countries to consider transnational opportunities to extend protection of the Tianshan system.

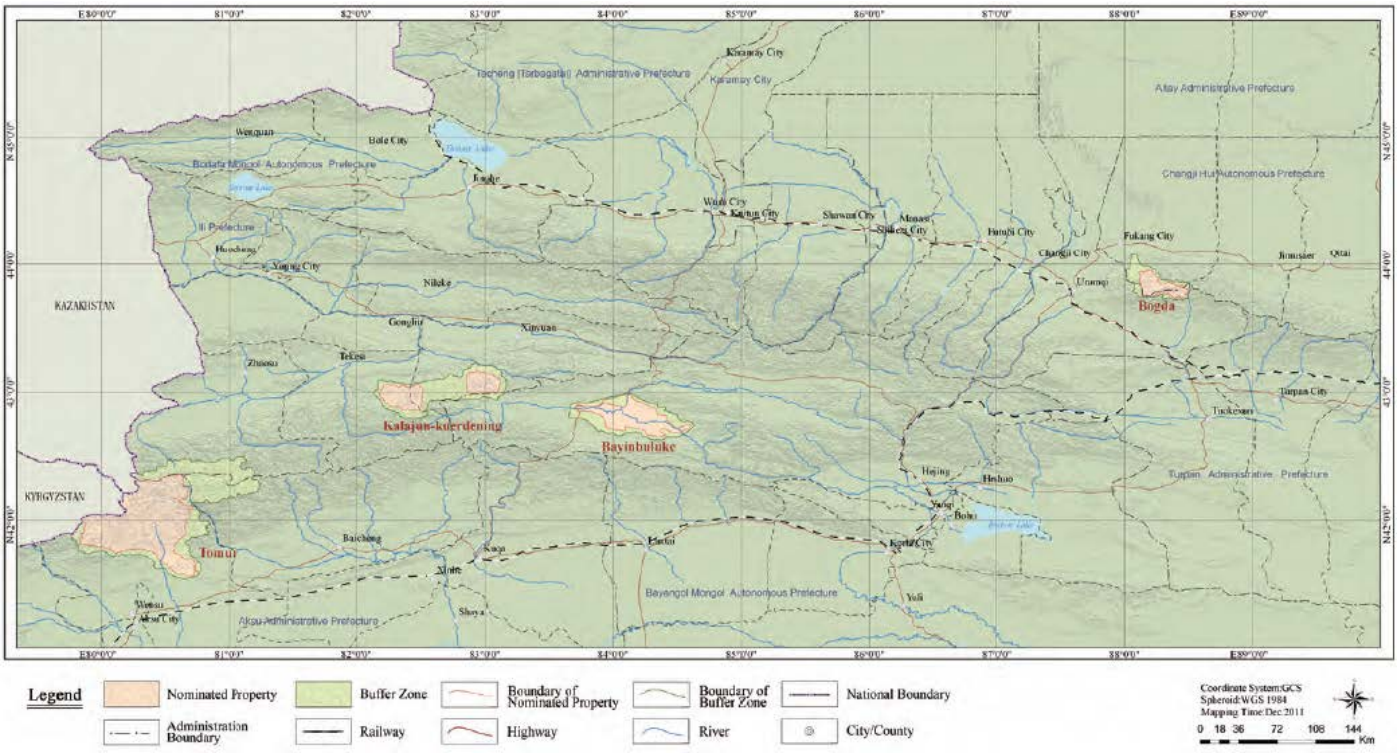
Attention should also be given to working with IUCN and other partners to better understand the implications of grazing on the natural ecosystems of Tianshan and to explore the potential of integrating local communities and in particular traditional herdsmen into the management of the property.

4. Requests the State Party to:

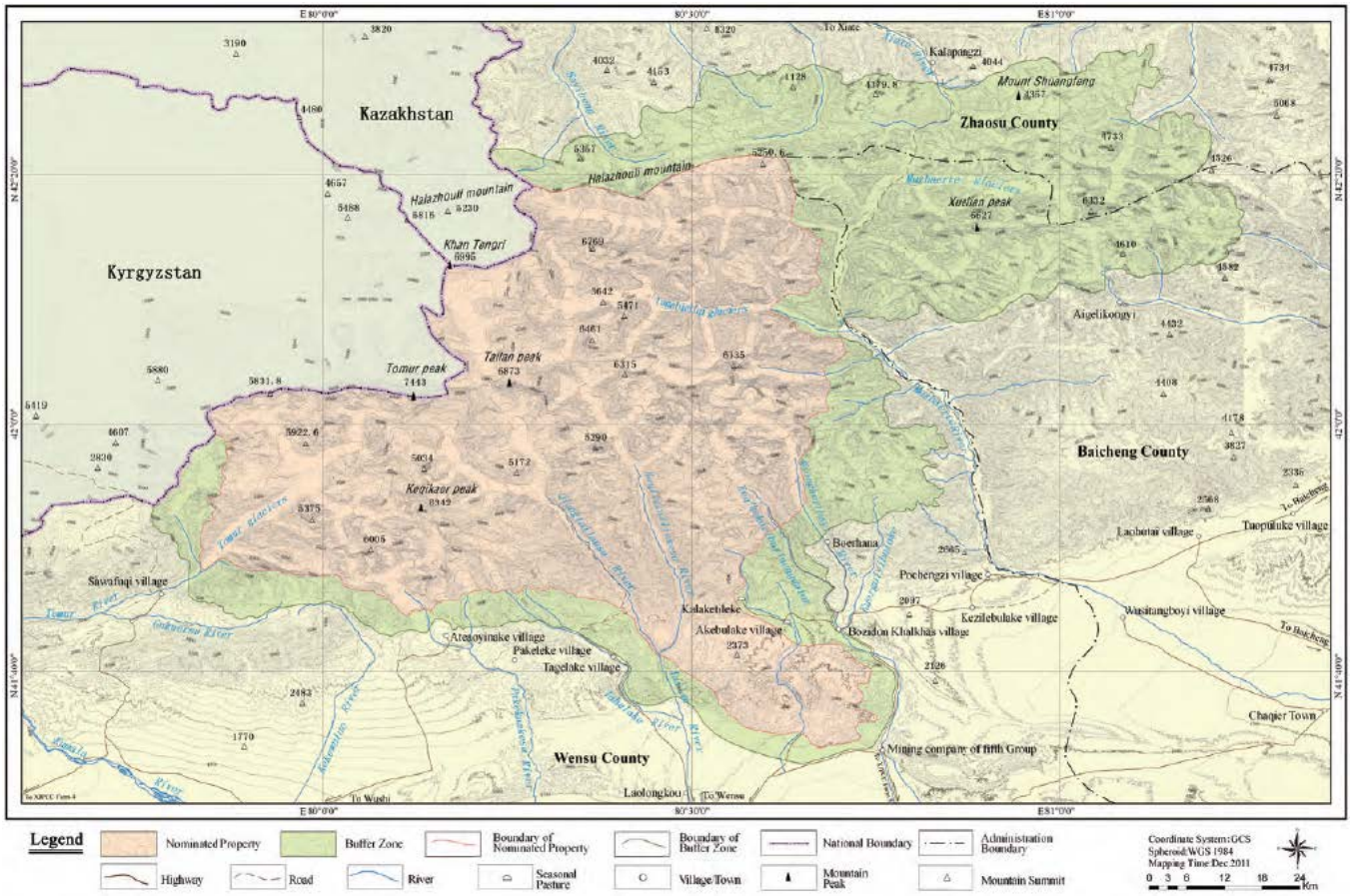
a) complete a revised management plan for the entire property by 2014;
b) complete gazettal and legal protection of the areas merging Kalajun and Kuerdening;
c) consider progressive extensions and additions to the property noting the relative small size given the very large size of the Tianshan range;
d) initiate collaboration with neighbouring countries to explore the potential for a transnational serial nomination;
e) work with IUCN and other partners to explore the potential of integrating local communities and in particular traditional herdsmen into management of the property; and
f) cooperate with neighbouring State Parties, the World Heritage Centre and the Advisory Bodies to undertake a regional comparative biodiversity and geodiversity study of Inner Asian high mountains and deserts and to conduct a regional expert workshop with a view to developing opportunities for future transnational potentially serial nominations.

Map 1: Nominated property location in China

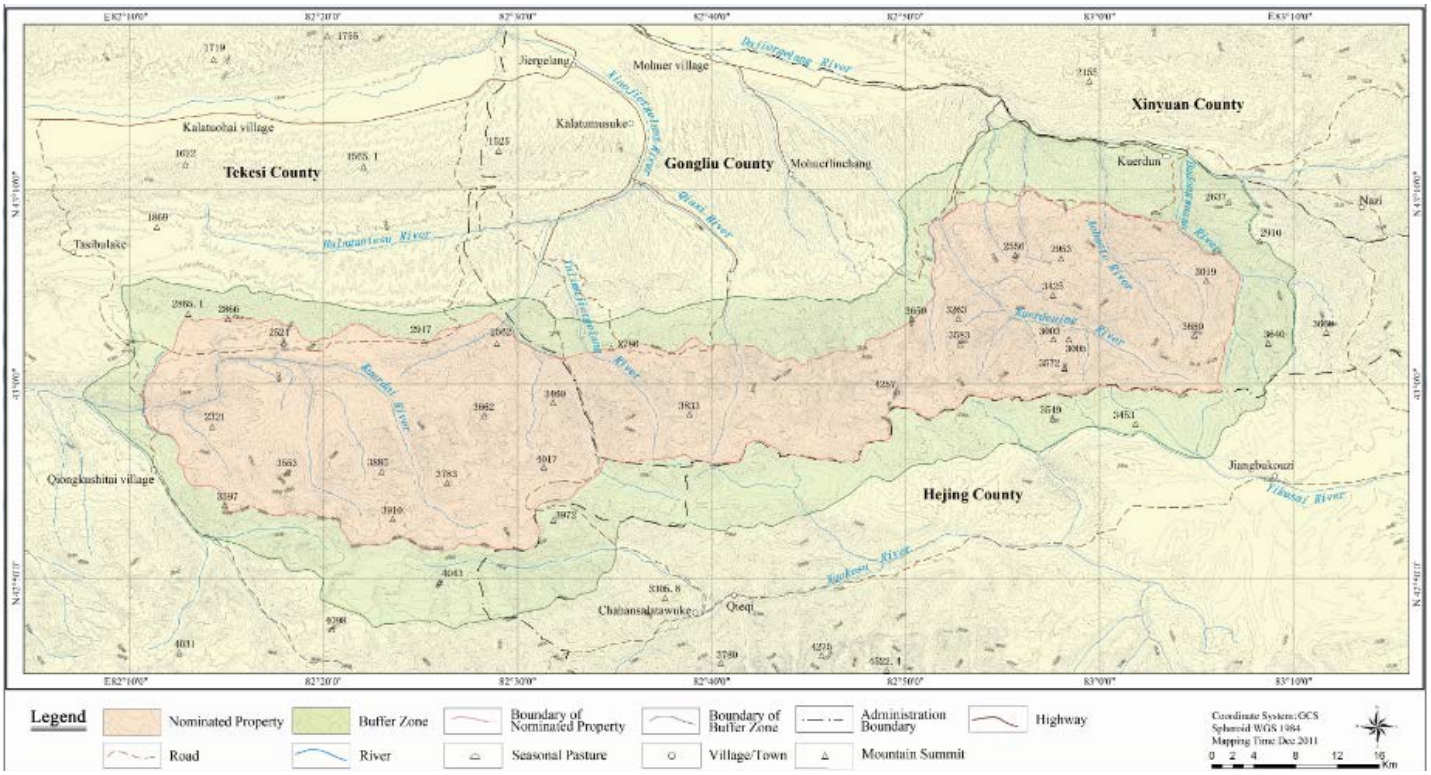
Map 2: Nominated property and buffer zone



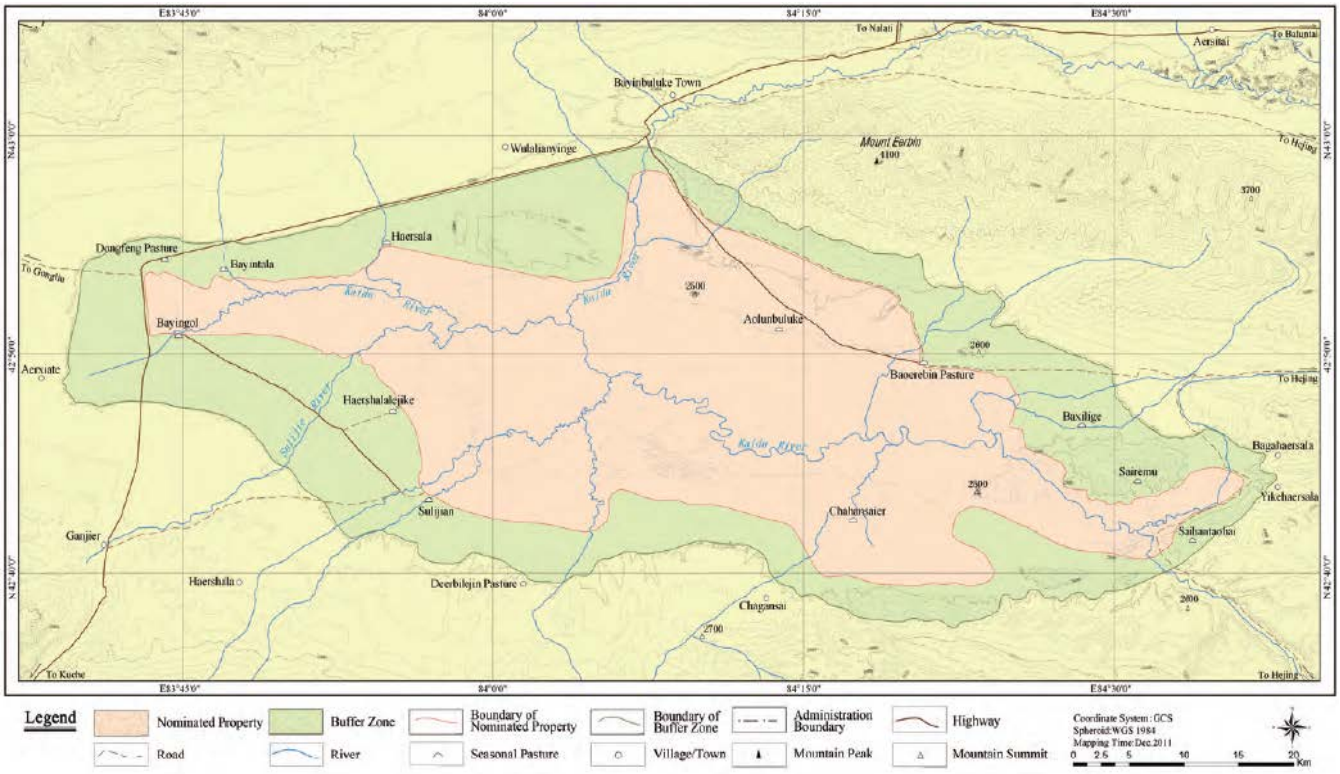
Map 3: Tomur component



Map 4: Kalajun-Kuerdering component



Map 5: Bayinbuluke component



Map 6: Bogda component