Executive Summary for EIA Reports

of Two New Subprojects (Kangxian Subproject and Jingtai Subproject) proposed at the Restructuring of Second Gansu Cultural and Natural Heritage Protection and Development Project

1. Introduction

In the restructuring of Second Gansu Cultural and Natural Heritage Protection and Development Project, two subprojects of Kongtong Mountain Scenic Area and Zhuanglang County Yunya Temple Scenic Area have been dropped due to environmental regulation issues. At the same time, some new activities are added under two subprojects, one is the new Jingtai Yellow River Stone Forest Tourism and Community Development Project (simplified as Jingtai subproject below) and the other is the Kangxian County Tourism and Community Improvement Project (simplified as new Kangxian subproject below, expansion based on original Kangxian subproject). During restructuring, the Environmental Impact Assessment (EIA) was conducted to support the preparation of these two new subprojects following both domestic regulations and the World Bank’s safeguards policies, of which the key findings and recommendations are summarized in this Executive Summary.

2. Summary of the EIA report for Jingtai Subproject

2.1 Project background

Jingtai Yellow River Stone Forest is located in the southeast of Jingtai County in Baiyin City of Gansu Province, which is a national geologic park and a national 4A scenic tourism site as well as a provincial nature reserve for geological relics. Since its official establishment as the scenic site in 2004, the site has been developed as one of the most attractive tourism sites in Gansu as well as in China. By 2016, the annual tourists reached about 860,000.

The Yellow River Stone Forest improvement was one of the subprojects under WB financed Phase I Gansu Cultural and Natural Heritage Protection and Development Project (2008 - 2015), under which a 2.5 km access road, a 3000m2 parking lot and a 2500m2 museum was constructed/upgraded together with other supportive works. Since then, the Yellow River Stone Forest also experienced rapid tourist volume growth with the quadrupling of tourist volume from 2010 to 2016. The fast-growing tourist volume has put tremendous pressure on the current infrastructures and facilities in the scenic site. The existing facilities cannot accommodate the current large amount of the tourists. Meanwhile, the tourists not only visited the stone forest park, but also brought tremendous businesses to the local communities from foods,
sightsees, lodging, riverside activities, etc. The new subproject for Yellow River Stone Forest was therefore proposed to address the needs for both the improvements of scenic site facilities and the community development of Longwan Village. The estimated investment for the subproject is about $40.40 million, in which about $30.00 million will be financed by WB loan. The project activities are mainly small-scale civil works including the followings:

a. Scenic area upgrades: i) Binhe Road and associated facilities; ii) tourist walkways; iii) No. 2 bridge near Yellow River watermill; iv) parking lots; v) tourist rest corridors; vi) landscaping; vii) tourist service center: viii) construction of the park gate; ix) waterfront platforms; x) tourist exchange stations; xi) tourist toilets; xii) MSW management system; xiii) water, wastewater and power supply facilities; and xiv) scenic area smart information system;

b. Community development: i) Goat skin raft museum; ii) cultural heritage exhibition hall; iii) agricultural product display hall; iv) family play yard; v) water channel cleanup; vi) apple cold storage; and vii) village cultural market;

c. Capacity development: i) village and tourism corporation and development study; and ii) community development training.

2.2 Key EIA findings

During project preparation, the EIA was conducted by a qualified consulting team following both domestic regulations and the applicable World Bank’s safeguards policies (OP4.01 and OP4.04). The draft and final EIA was disclosed both online and locally, respective in August and September 2019. The key project stakeholders, including project-affected villagers and relevant authorities, were consulted during the EIA preparation, and the received comments and opinions have been included in the project design and EIA report.

The project will focus on the improvements of tourism infrastructure in the scenic area, including roads, bridge, museum/exhibition hall, parking lots, tourist service center, entrance gate, etc. The project activities have been designed in compliance with existing tourism development plans, nature reserve management regulations and other applicable laws and regulations. Due to the geomorphic constraints, part of the project activities (a tourist service center and the entrance gate) will be situated in the experimental zone of the provincial nature reserve based on the results of alternative analysis. An independent ecological impact assessment has been conducted by qualified consultants to better understand the significance of potential project impacts on local ecosystem and concluded that the project would not involve any critical nature habitat and would not bring any significant and irreversible ecological impacts on the nature reserve. The measures to minimize and mitigate the adverse ecological impacts during project implementation have been recommended and included in the EIA report together with other environmental and social mitigation measures.
In general, the project implementation is anticipated with overall environmental and social benefits through infrastructure and environmental improvements of the scenic area. However, there will also be some negative environmental and social impacts during project implementation, as summarized below.

- **Construction period:** During construction, the anticipated adverse impacts will be temporary, site-specific and manageable; however, it is important to strengthen the construction management to minimize the construction nuisance within the project areas and to avoid any interference beyond the project scope.

  - **Air pollution:** Construction activities, such as site grading, earthwork excavation and piling, and transportation of construction materials and construction waste will generate dust pollution, particularly in windy days. Adequate mitigation measures have been proposed to address the impacts, including site watering, vehicle speed limit, avoiding construction in windy weather, etc.

  - **Wastewater:** Two construction camps are planned for the project, which will be used for the storage of construction equipment and materials but provide no accommodation because about 50 construction workers for the project will all be recruited locally. Therefore, domestic wastewater from construction workers (1.2m³/d) will be treated with existing toilets in the scenic areas and a 5m³ settling tank will be placed in the construction site for the treatment of construction wastewater from vehicle washing (1.5m³/d) before being fully reused on the site without discharge.

  - **Noise:** Construction noise mainly comes from construction machinery and various transportation vehicles. Some effective and commonly used measures will be taken during construction to reduce the noise impacts on local villagers, such as reduced use of high-noise equipment, better scheduling of construction activities, installation of noise barriers.

  - **Solid Waste:** For construction phase, with only 50 construction workers locally recruited and without workers’ accommodation on site, the generation of domestic solid waste will be only 25kg/d, which will be collected and regularly transported by the local sanitation department to Baiyin Municipal Solid Waste Incinerator for disposal. The project construction is expected to have no spoil generation, and the generation of construction wastewater will be about 90.11t, which will be collected, recycled as far as possible and then disposed at the construction waste dumps designated by the construction management department for disposal.

  - **Ecological Impacts:** Due to geomorphic constraints, the proposed tourist service center and entrance gate will be situated in the experimental zone of the nature reserve, to be built/expanded based on the existing Nanshan Square. During project design, alternative analysis has been conducted to minimize potential impacts on the nature reserve. The ecological survey found no critical natural habitat and protected/rare wildlife in the project-affected areas. Following the "Regulations on the Management of Natural Reserves in Gansu Province", the project proposal has been reviewed by the Gansu Forestry and
Grassland Bureau, who has issued the “Opinions on the Impact Assessment of the Project Impacts on geological relics in the Yellow River Stone Forest National Geopark (with the official letter No.: Gansu Forest Baobian (2019) No.97), indicating its official no-objection to proposed project activities within the natural reserve since none of the project activities is located in the core zone and buffer zone where the construction and operation are forbidden and there is no important geological relic in the project-affected areas. Adequate mitigation measures have been proposed in the ecological impact assessment and included in the EIA to manage the temporary and site-specific adverse impacts on local geological conditions and landscapes anticipated during construction, including soil conservation, strict environmental management of construction site and construction workers, vegetation restoration after construction completion and so on. No significant adverse ecological impacts are expected if the proposed mitigation measures are well implemented.

- **Social impacts:** Social assessment was done for the project. According to the results, the project implementation will improve the tourism infrastructure and landscape in the scenic areas and thus facilitate the development of local tourism and economy. There is no IP present in the project areas, and most of the project civil works will be done in public land. But there will be 64 mu (about 4 ha) of land acquisition and 117 sqm of demolition of simple houses all in one village, affecting 45 households with 186 people. The impacts of involuntary resettlement will be minor, and a RAP was prepared for the newly added sub-project in Jingtai County.

- **Operation period:** For the operational period, potential negative impacts will be related to the tourism activities in the scenic areas, as detailed below.
  - **Air pollution:** During operation, the main sources of air pollution will be the odor from garbage collection station and public toilets and the cooking fume exhaust from the restaurants. For odor control, plantation of green isolation belts, timely cleaning and frequent deodorant spray will be sufficient to control the odor impacts; and the cooking fume will be treated with air purifiers to meet the applicable emission standard.
  - **Wastewater:** During operation, kitchen wastewater will be treated with a grease trap and then, together with other domestic wastewater from the tourist service center, by a new set of on-site integrated sewage treatment station before being reused for site greening. The wastewater from the main scenic area will be collected and sent to the existing Longwan WWTP for treatment before compliant treatment. The EIA also proposed corrective measures to improve the operational status of Longwan WWTP, which should be implemented before the operation of current project.
  - **Noise:** Noise during operation is mainly from road traffic and tourism activities, which will be minor with effective management of the scenic area.
  - **Solid Waste:** During operation, the generated domestic solid waste (159.04t/a) will collected and transported by the local sanitation department to Baiyin Municipal Solid Waste Incinerator for disposal.
**Ecological impacts:** The project implementation will improve the vegetation and landscapes in the project area; meanwhile, the tourism management of the scenic area should be strengthened to avoid the tourists’ potential impacts on the geopark during project operation.

To sum up, the project activities proposed in Jingtai County is anticipated with significant environmental and social benefits through the improvements of infrastructure conditions and landscaping and thus sustainable tourism development in the project areas, which is in full compliance with existing development plans of the county. The anticipated adverse environmental impacts are mostly temporary, site-specific and can be readily mitigated with the measures proposed in the EIA report. Strict implementation of environmental management following the recommended mitigation measures will help to ensure the project’s environmental sustainability during implementation. In addition, the Environmental Management Plan, including institution arrangements and monitoring plan, has been included in the EIA report to ensure the implementation and effects of proposed mitigation measures.

2. Environmental Concerns and Impacts

The main construction contents of this project include sheepskin raft intangible cultural heritage protection and display area; folk culture heritage and display base (rural stage), Binhe riverside tourist road and its auxiliary projects, walking trails, wooden plank roads, Yellow River Waterwheel Bridge No.2, ecological parking lot, open gallery pavilion, agricultural exhibition hall, family parks, ecology drains, ecological greening, apple warehouse storage, rural cultural fairs, visitor center, scenic gate, transfer node, water park, garbage collection, etc., among them, the tourist service center and scenic gate are located in the experimental area of Jingtai Yellow River Forest Stone Nature Reserve.

In October 2018, the adjustment of Gansu Jingtai Yellow River Stone Forest Provincial Nature Reserve was approved by the Provincial Nature Reserve Review Committee, and Jingtai County People's Government publicized the adjustment of Gansu Jingtai Yellow River Stone Forest Provincial Nature Reserve. However, it has not yet obtained the approval of the Nature Reserve (after adjustment, the construction of the project will not involve Gansu Jingtai Yellow River Stone Forest Provincial Nature Reserve).

Because the approval of Gansu Jingtai Yellow River Stone Forest Provincial Nature Reserve’s adjustment has not been issued, this EIA is carried out according to the Nature Reserve before adjustment. According to the Reply of Jingtai Yellow River Stone Forest Geological Relics Nature Reserve Management Station on Whether the Gansu Cultural and Natural Heritage Protection and Development Phase II Project Jingtai Yellow River Stone Forest Project Takes Place in the Yellow River Stone Forest Provincial Nature Reserve (Jingtai Yellow River Stone Forest Geological Relics Nature Reserve Management Station, 11th October, 2019), the tourist service center and the gate of the Scenic Area are located in the experimental area of Jingtai Yellow River Stone Forest Nature Reserve through the verification of Jingtai Yellow

According to the Regulations of the Nature Reserve of Gansu Province, the core area of the Nature Reserve is forbidden for entry by any unit or individual; Tourism, production and operation activities are prohibited in the buffer zone; where a visit or tourist activity is carried out in the experimental area, a plan of activities shall be worked out by the management organization of the Nature Reserve, and the plan shall conform to the objectives of the management of the Nature Reserve. The tourist service center and the gate of the Scenic Area are located in the experimental area of Jingtai Yellow River Stone Forest Nature Reserve. As long as the environmental protection measures and vegetation restoration measures are strictly adopted, all kinds of adverse effects can be minimized. Therefore, the construction of the Project in the experimental area of the Yellow River Stone Forest Provincial Nature Reserve in Gansu Province is feasible. According to the opinions of the Forestry and Grassland Bureau of Gansu Province on the review of the geological relic impact assessment of the proposed project in the Yellow River Stone Forest National Geopark (Forestry and Grassland Bureau of Gansu Province (2019) No. 97), the construction site of the Project belongs to the area of permitted development and construction, and there are no important geological relics resources and landscape in the area, which has a slight impact on the geological and geomorphological landscape.

In summary, the main environmental concerns of this project are the impact of ambient air, solid waste and acoustic environment on the surrounding environment during the project construction and operation, and the ecological impact on the Jingtai Yellow River Forest Stone Nature Reserve.

3. Conclusions of Environmental Impact Assessment (EIA)

This project conforms to the national industrial policy and related planning and the site selection is reasonable. The public has no objection for this project. The project surrounding environment does not have obvious constraints to the construction; the construction of the project will improve the infrastructure of the Yellow River Stone Forest Scenic Spot in Jingtai County and promote the development of the scenic spot. This project can meet the discharge standard of "three wastes" (which means waste gas, waste water and solid waste) based on the implementation of various environmental protection measures. The impact of the project on the protected area is mainly reflected in the water and soil loss caused by the project operation and the damage to the animals and plants in the surrounding living environment. As the project adopts greening measures during the operation, the impact of the project on the surrounding environment is acceptable. The construction of this project is feasible.

3. Summary of the EIA report for Kangxian Subproject

3.1 Project background

As a new subproject of World Bank-financed Second Gansu Cultural and Natural Heritage Protection and Development Project, Kangxian County Tourism and Community Improvements project will be implemented by the Culture, Sports, Radio, Television and Tourism Bureau of Kangxian County. The project is located in the
Yangba Tea Culture Scenic Area (about 100,000 mu), with a total investment of about 73.15 million yuan. The project activities are located in the area from Yinba to Tianba covering a total area of 42.4 hectares, which is designated as the green living and tea culture tourism areas close to the Yangba Scenic Area. According to the planning, the proposed project will focus on the construction and upgrading of the infrastructure and municipal services in Taiping and Tianba villages, with the following contents:

- **Taiping Village:** Construction of an entrance gate, a 320m² tourist service center, 2km timber walkway, 2km stone walkway and a small bridge, widening of 0.8km existing roads, upgrading of village show platform (1200m²), and façade renovation of village houses;

- **Tianba Village:** Upgrading of existing tea cultural display hall (360m²) and reconstruction of existing Giant Salamander Museum to a 1384m² health management center, construction of a 70mu tea cultural experience garden, 1200m² farming and relaxing experience areas and infrastructure to support the development of a new 20mu vegetable farming and relaxing experience areas, widening of 0.8km existing roads, construction, construction of a 257m² local cultural heritage display center and a 2970m² tourist service station, construction of two scenic view platforms, 3km timber walkways and 1km stone walkways.

- **Meiyuangou Valley Scenic Area:** Construction of an 89m² Meiyuangou tourist service center and an entrance gate, and façade renovation for buildings in the scenic area.

- **Supportive facilities and works,** including 3 parking lots at Meiyuangou, Taiping and Tianba, river channel and scenic area cleaning, lighting, water supply and drainage pipelines, power supply poles and cables, garbage collection station and 5 public toilets.

3.2 Key EIA findings

The project involves only small-scale civil works, such as tourist service centers and village showrooms, entrance gates, tourist footpaths and infrastructure facilities for village life experience areas. The project is designed in full compliance with the applicable industry policies and the latest development plans of Kang County. The EIA report was prepared following both the applicable domestic regulations and the World Bank’s safeguards policies triggered by the project (OP4.01 and OP4.04). Following the Bank’s policy requirement, two rounds of public consultation and information disclosure was conducted during the EIA preparation, respectively in September 2019 and December 2019 and found no objection and complaint from the investigated public.

Based on the EIA findings, the project site is not located in or involved any natural reserve, prime cropland or other protected area. Also, the EIA identified no protected or rare wildlife in the project-affected areas. The project implementation is anticipated with overall environmental and social benefits through infrastructure and
environmental improvements and thus the promotion of ecotourism development. The adverse environmental impacts are mainly anticipated during project construction, which are temporary, site-specific and reversible with the implementation of readily implemented mitigation measures, as presented below.

- **Air pollution:** Air pollution resulting from the project will be mainly related to the construction period. Construction activities, such as site grading, earthwork excavation and piling, and transportation of construction materials and construction waste will generate dust pollution, which will have some negative impacts on the ambient air, but could be effectively controlled with the commonly used measures such as site watering, vehicle speed limit, avoiding construction in windy weather, etc. During operation, the main sources of air pollution will be the odor from garbage collection station and public toilets and the cooking fume exhaust from the canteen. For odor control, plantation of green isolation belts, timely cleaning and frequent deodorant spray will be sufficient to control the impacts; and the cooking fume and exhaust will be treated with air purifiers and then released through a special flue pipe at a height of 2.5m above the top of the building in compliance with relevant standard requirements. With the above measures, the anticipated adverse impacts on ambient air quality during construction and operation will be mitigated to an acceptable level.

- **Wastewater:** The construction workers required by the project (around 20 workers) will be recruited locally without any workers’ camp on site. Thus, wastewater to be generated during project construction will mainly include wastewater from latrine, concrete curing and vehicle washing. The latrine wastewater will be emptied and used as fertilizer by nearby farmers; while the construction wastewater from concrete curing and vehicle washing (about 450m$^3$ during the whole construction period with the SS concentration of 2000mg/L) will be treated with an on-site 3m$^3$ sedimentation tank and then applied to the construction site for dust control. Therefore, no wastewater from the project will be directly discharged into local rivers and the project construction will have no significant impact on local water environment. During operation, kitchen wastewater is pre-treated with grease trap, which will then be sent to a 60m$^3$ septic tank together with other domestic wastewater from staff and public toilets (totally about 23.5m$^3$/d during the 180 operational days per year) to meet the standard requirements before being regularly transported by tankers to Yangba WWTP for final treatment. The project’s adverse impacts on water environment during operation is also minor.

- **Noise:** Construction noise mainly comes from construction machinery and various transportation vehicles, and the scope of impacts is about 60m during daytime and 200m at night. Considering the sensitive residential areas nearby, some effective and commonly used measures will be taken to reduce construction noise, such as reduced use of high-noise equipment, better scheduling of construction activities, installation of noise barriers, with which
no significant noise impact is anticipated during construction. Noise during operation is mainly from fans, air-conditioners, kitchen operation and tourist activities, at the level of 60-85dB(A). The project noise will have little impact on the surroundings as the noise sources are relatively far away from sensitive targets. Moreover, sound insulation and noise reduction measures will be taken for noise equipment (e.g., installation of sound insulation devices and regular maintenance of equipment).

- **Solid Waste:** For construction phase, with only 20 construction workers locally recruited and without workers’ camp on site, the generation of domestic solid waste will be only 10kg/d (1.80t/a), which will be collected and regularly transported to local solid waste transfer station for further treatment. Construction waste from the project will be about 243t, which are collected, recycled as far as possible and then disposed at the construction waste dumps designated by the construction management department in Yangba Town for disposal. During operation, the generation of solid waste consists of 32.4t/a domestic solid waste and 7.02t/a kitchen waste, which will be collected with standard containers and then regularly transported separately by local sanitation department and the qualified kitchen waste disposal service suppliers for disposal.

- **Ecological Impact:** Ecological analysis conducted during EIA process concluded the project implementation will not affect local biodiversity. Without involving any natural reserve and other protected areas, the project’s ecological impacts are mainly temporary and site-specific soil erosion and vegetation damage during construction and can be easily mitigated through the enhancement of construction management, timely backfilling, and site rehabilitation upon construction completion.

- **Social impacts:** The project implementation will improve the tourism infrastructure and landscape in the scenic areas and thus facilitate the development of local tourism and economy. The project is thus anticipated with significant economic benefits, meanwhile, the project will improve the living conditions of residents in the project areas and provide them with more job opportunities. The public consultation showed that the project proposal was supported by local people. The overall social risks associated with project implementation are low.

To sum up, the project activities proposed in Kangxian County is anticipated with significant environmental and social benefits through the improvements of infrastructure conditions and landscaping and thus further development of eco-tourism in the project areas, which is in full compliance with existing development plans of the county. The anticipated adverse environmental impacts are mostly related to small-scale construction activities (e.g., flying dust, wastewater, noise, soil erosion, solid waste, etc.), which are temporary, site-specific and can be readily mitigated with the measures proposed in the EIA report. Strict implementation of environmental management following the recommended mitigation measures will
help to ensure the project’s environmental sustainability during implementation.