Evaluation (Extension) Mission Report

Taishan UNESCO Global Geopark (UGGp): China

Jari Nenonen and João Carlos Nunes
31.07.2018 - 3.8.2018

A. GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Surface area in km²</th>
<th>418.36 km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>100,000</td>
</tr>
<tr>
<td>Contact person (name, position, e-mail)</td>
<td>Ding Haiyang; Taishan UGGp staff; <a href="mailto:tsdzgy@163.com">tsdzgy@163.com</a></td>
</tr>
<tr>
<td>Website (please provide URL)</td>
<td><a href="http://www.taishangeopark.com">http://www.taishangeopark.com</a></td>
</tr>
<tr>
<td>Social media (please provide list of all channels used)</td>
<td>china-taishan (WeChat)</td>
</tr>
</tbody>
</table>

B. LIST OF DOCUMENTS SUBMITTED BY THE UGGp

- via UNESCO:
  - Application for membership of UNESCO Global Geopark
  - Annex 1: Self Evaluation Document – A
  - Annex 2: An additional and separate copy of section B “Geological Heritage” of the application
  - Annex 3: An explicit endorsement of any relevant local and regional authorities and a letter of support from the NC for UNESCO or the government body in charge of relations with UNESCO
  - Annex 4: 1-page map with the geosites, cultural sites and museums of Taishan Geopark
  - Annex 5: 1-page geological and geographic summary, including a detailed map indicating the location
  - Letter of intent for UNESCO Global Geopark Applications and Boundary Extension of Existing UNESCO Global Geoparks from China

- directly to the evaluator(s) during the mission:
  - Revalidation Guidebook of Taishan UGGp
  - Progress Report of Taishan UNESCO Global Geopark of China from 2014 to 2018
C. MAP OF THE AREA

All documents (including reports, flyers, etc.) do indicate a clear and well-defined boundary. However, the southernmost boundary of the Taishan UGGp (extension) has a different contour/boundary in different documents (see “Area A” on below figures):

Figure from “Annex to Taishan Self Evaluation Document – A: Lists” provided by the Taishan UGGp during the mission.

Guide map provided by the Taishan UGGp during the mission.
In accordance with Taishan UNESCO Global Geopark, the total area of the geopark (extension) is approximately 418.36 km² with a single unified boundary, comprises 3 townships and 76 villages, with a total population of 100,000 inhabitants (including the “Area A” of Tai’an city).

D. SYNTHESIS OF IUGS DESKTOP ASSESSMENT

No review or desktop assessment from IUGS was done and provided to the evaluators. Nevertheless, the “section B - Geological Heritage” of the Application Document was revised in (more) detail by the evaluators and it should be noticed that the geological map (cf. Fig. 2-1) and the regional tectonic map (cf. Fig. 2-2) of the Application Document do not include the new/extension area of the Taishan UGGp.

During the evaluation mission, a printed copy and an image/JPEG file of the geological map of all the ~418 km² Taishan UGGp was provided. No up-dated tectonic map is yet available.
The international importance of the geology of the territory is detailed in the “section B - Geological Heritage” of the Application Document (cf. point 3.4, comparison with worldwide similar geologic frameworks/characteristics) and seems well documented and duly justified.

E. VERIFICATION OF UGGp CRITERIA

E.1 TERRITORY

E.1.1 GEOLOGICAL HERITAGE AND CONSERVATION

Taishan UGGp is situated in the east side of North China Plain, to the west of Yishu Fault Zone, and the south of Qihe-Guangrao Fault Zone. It is located in the Central Shandong Block Uplift area of Luxi plot of North China Platform. Mount Taishan has a long geological history, complicated geological structures and numerous important and typical geoheritage sites. It is one of the classic areas to study the Archean-Proterozoic geology. The geoheritage in Taishan Geopark is dominated by the typical Precambrian geoheritage, famous stratigraphic heritage, magnificent structural traces, various hydrogeological landscapes and abundant geological and geomorphological landforms.

Taishan UGGp is affiliated with the PRC government and is protected in accordance with the Constitution of the People’s Republic of China, Environmental Protection Law of the People’s Republic of China and other relevant laws. The all (extension) area was classified in May, 2018 as a protected area, and the protection for geoheritage and geological landscapes of Taishan UGGp is divided into 4 different-grade protected geoheritage areas according their scientific and tourist significance:
- Highest-grade Protected Area (Core Protected Area)
- First-grade Protected Area (Special Landscape Protected Spots, Important Geoheritage Sites)
- Second-grade Protected Area (Geotourist Area, Geological Investigation Area, Camping Area and Mixed Area)
- Third-grade Protected Area

Taishan Geopark, according to relevant provisions, conducts comprehensive maintenance and cleaning of geoheritage, protection facilities and tour infrastructure on a monthly basis. The management of each geosite is responsible for organizing cleaning squads for the sections under its jurisdiction.

Geosites of scientific importance (21)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hushan Rock Body in Mount Aolaishan phase</td>
<td>Hushan</td>
</tr>
<tr>
<td>2</td>
<td>Puzhaosi Rock Body of Zhongtianmen phase</td>
<td>Puzhaosi</td>
</tr>
<tr>
<td>3</td>
<td>Allgovite of Hongmen phase</td>
<td>Small Mount Taishan</td>
</tr>
<tr>
<td>4</td>
<td>Barrel-shaped structures (Zuixin Stone)</td>
<td>North of Hongmen</td>
</tr>
<tr>
<td>5</td>
<td>Intrusive contact relationship of allgovite and Hushan Rock Body</td>
<td>South of the Ten Thousand Immortals Tower</td>
</tr>
<tr>
<td>6</td>
<td>Taishan Group-Complex Residual Inclusions in Zhongtianmen Rock Body</td>
<td>Xiema Cliff</td>
</tr>
<tr>
<td>7</td>
<td>Dazhongqiao Rock Body</td>
<td>Under the Dazhongqiao</td>
</tr>
<tr>
<td>8</td>
<td>Taiqian Fault</td>
<td>Daidao Temple</td>
</tr>
<tr>
<td>9</td>
<td>Zhongtianmen Fault</td>
<td>North of Butianqiao</td>
</tr>
<tr>
<td>10</td>
<td>Intrusive contact relationship of Zhongtianmen Rock Body and Wangfushan Rock Body</td>
<td>Zhongtianmen Cableway station</td>
</tr>
<tr>
<td>11</td>
<td>Yunbuqiao Fault</td>
<td>Yunbuqiao</td>
</tr>
<tr>
<td>12</td>
<td>Wangfushan Rock Body</td>
<td>Feiyunqiao</td>
</tr>
<tr>
<td>13</td>
<td>Intrusive contact relationship of Wangfushan Rock Body and Yuhuangding Rock Body</td>
<td>The Eighteen Bends</td>
</tr>
<tr>
<td>14</td>
<td>Rock Body Intrusive contact relationship</td>
<td>Baiyunting</td>
</tr>
</tbody>
</table>
15. Miliolite and Mica Fish (Access to the Horizon)  
| Location | East of meteorological observatory |

16. Tectonic erosional valley (The Eighteen Bends)  
| Location | The Eighteen Bends |

17. Taishan Group-Complex (Amphibolite)  
| Location | Colorful Stone Stream |

18. Intrusive contact relationship of Taishan Group-Complex and Wangfushan Rock Body  
| Location | Colorful Stone Stream |

19. Longjiaoshan Fault  
| Location | Huangshi Cliff |

20. Komatiite  
| Location | Yanlingguan |

21. Taishan Group-Complex Residual Inclusions  
| Location | Yongcuitai |

Recommendation: no

E.1.2 BOUNDARIES
Taishan UGGp has well-defined boundary covering after extension 418.36 km²; it comprises 3 townships and 76 villages, with a total population of 100,000 inhabitants. Nevertheless and as indicated before, the SE boundary (e.g. Tai’an city area) available on maps, leaflets, panels, publications, etc. in the geopark is not consistent with that boundary on the Application for membership, its annexes and other UNESCO documents.

Recommendation: yes
Description: The new boundaries after the extension must be used and renewed in all maps/materials presenting the geopark area on UNESCO “official” documents (e.g. Application for membership and its annexes), including the web pages (e.g. UNESCO).

E.1.3 VISIBILITY
Visibility in Taishan UGGp is in good shape. Along the streets are banners indicating about Geopark, information panels are also informative with site maps and explanations about the site also including Geopark and UNESCO logos. Explanations in the panels are simplified and are understandable to all audience. The use of Global Geopark and World Heritage logos are clearly defined.

Since the last evaluation, the interpretation system in the geopark has been updated, with added and updated 15 comprehensive introduction boards, 8 science popularization corridors, 120 traffic signs and 240 management information panels (including tips for environmental protection and safety, getting help and service facilities). The geopark has upgraded 38 geoheritage interpretation panels, updating texts and adding related images and illustration to make presentation more user-friendly and understandable. Also carried out the geoheritage investigations in the extended area of Taishan Geopark and added new interpretation panels. A new “Intelligent Taishan” audio interpretation system was introduced to give visitors free audio interpretation (in Chinese, English, Korean and Japanese) for 45 geosites along major tour routes from Hongmen to Daoding. To learn about the geoheritage of Taishan Geopark, visitors can simply scan the QR codes on WeChat with their mobile phones and listen to free interpretation. This system helps promote Taishan culture and presents the correlation between the geosites and cultural heritage.

Recommendation: yes
Description: In some panels the explanations/lettering of the pictures/drawings should be translated in English.

E.1.4 FACILITIES AND INFRASTRUTURE
Taishan UGGp general information and service infrastructure is good. General information is easily found in Geopark Museums, visitor centres, paths and trails, information panels and web pages, leaflets etc. The area is easy to access by car or bus transportation also access by walking or bicycle is easy and safe. Jitai expressway was built within the extended area of Taishan Geopark. It is 55.798 km long and is scheduled to open to traffic in 2020. The
construction of Jitai expressway will shorten the distance between Taishan Geopark and the provincial capital Jinan and Jinan airport. Geopark area, roads, routes and the sites are clearly shown by traffic signs. Parking areas for cars and busses are big and have also toilet services. Maintenance and control of the Geopark area, trails and routes are well organized and effective.

The geopark museums are an important venue for geosciences promotional and educational activities. Geopark have actively launched geosciences communication activities targeted at local schools and communities.

Geotourism activities have been carried out by making strategic partnership agreements with Lixinyuan Industry and Trade Company Limited, Jinfeihong Weaving Company Limited and other local companies. Cooperated with local companies, geopark has designed special routes to these sites for self-picking and appreciating the local special products. Geopark has formulated the criteria and regulations for some local green high-quality agricultural products, the qualified ones are authorized to use Geopark logo on their products.

The museums, visitor centers and also partner/Geopark companies have adapted Geopark visibility in the buildings and also in the products.

Recommendation: no

**E.1.5 INFORMATION, EDUCATION AND RESEARCH**

The information and quality of all materials related to Geopark is good. Geopark has made great work in simplifying explanation texts in information panels. The geopark has upgraded 38 geoheritage interpretation panels, updating texts and adding related images and illustration to make presentation more user-friendly and understandable. A new "Intelligent Taishan" audio interpretation system was introduced to give visitors free audio interpretation (in Chinese, English, Korean and Japanese) for 45 geosites along major tour routes from Hongmen to Daiding. Visitors can simply scan the QR codes on WeChat with their mobile phones and listen to free interpretation.

The Geopark developed the publicity and education functions of various museums to improve the level of the exhibitions. It has popularized the historical and natural information of the area. It has publicized the value of Mount Taishan's natural and cultural heritage through regular exhibitions on different themes. And it has advanced the transmission and influence of Mount Taishan culture.

The Geopark carried out various themed education training every year, and further enhanced awareness and management of heritage protection by means of training for Geopark managerial personnel.

<table>
<thead>
<tr>
<th>Time</th>
<th>Theme</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 2015</td>
<td>Taishan winter bird protection volunteers in action</td>
<td>More than 200 volunteers from the Plant Protection College of Shandong Agricultural University and the Taishan Geopark</td>
</tr>
<tr>
<td>2015.03.12</td>
<td>“Afforestation, building beautiful Mount Tai”</td>
<td>Shandong Institute of Fashion</td>
</tr>
<tr>
<td>2015.05.18</td>
<td>Chuangcheng Weed Activity</td>
<td>Tai’an First Experimental Primary School Student</td>
</tr>
<tr>
<td>2016.10.29</td>
<td>Taishan Culture Volunteer Presentation</td>
<td>Volunteers from Shandong University of Science and Technology</td>
</tr>
<tr>
<td>2017.01.16</td>
<td>Paterson’s filial piety</td>
<td>86 students from the small reporter group of Huantai County TV Station</td>
</tr>
<tr>
<td>2017.02.18</td>
<td>Early spring motivational activities</td>
<td>Taishan College Affiliated High School Students</td>
</tr>
</tbody>
</table>
Taishan Geopark focuses on developing geological research projects: (1) Research on the causes and features of barrel-shaped structures; (2) Research on the relationship between the three major fault zones of Mount Taishan and the formation of Mount Taishan; (3) Research on the features of the Taishan Group Complex; (4) Research on the features of the early Precambrian intrusive rocks on Mount Taishan; (5) Research on the relationship between the carved stones and geoheritage on Mount Taishan.

Recommendation: no

**E.2 OTHER HERITAGE**

**E.2.1: NATURAL HERITAGE**

The natural heritage of the Taishan UGGp is concentrating mainly in geology and it’s different phenomena. Main types of geoheritage are strata, rock, tectonic features, geological landforms, cultural heritage and hydrogeological features:

- **Strata:** The Taishan Group Complex is composed of metamorphosed rock from the Neoarchean era. It is one of the oldest strata in north China dating back 2.8 billion years, and a Cambrian rock formation from the lower Palaeozoic (Changshan Formation).
- **Rock:** Multiple-phase intrusive rocks from the Archean ~ Paleoproterozoic, represented by quartz-mica-diorite, adamellite and diorite.
- **Tectonics:** The tectonism of Mount Taishan has played a role in controlling the formation and landform pattern of Mount Taishan. Major tectonic features include the following: Taiqian Fault; Zhongtianmen Fault and Yunbuqiao Fault.
- **Geological landforms:** Geological processes formed the profile of Mount Taishan and same time many fabulous geological sites eg. Immortal Bridge, North-Pointing Stone, Tianzhu Peak.
- **The Combination between Geoheritage and Culture:** Cliff inscriptions on joint surfaces, Caishi Stream.
- **Hydrogeological:** The rivers in the area are short and water flow is rapid. The famous hydrogeological landscapes include Longtan Waterfall, Yunbuqiao Waterfall, Three-fold Waterfall, Queen Mother Spring, Jade Liquor Spring, Huanghua Spring and Moon Spring.
- **Historical and cultural heritage:** In Mount Taishan geoheritage and long cultural history are connected in ancient buildings, temples, stoney step ways, paintings and carvings.

The geoheritage and cultural heritage in Mount Taishan has international value. Mount Taishan area is a World Heritage Site and overlapping today, after extension, partly with Taishan UGGp.
The natural heritage and the sites are very well interpreted and promoted in informative information panels, maps, leaflets and with modern techniques by audio guiding and QR codes also guided tours to the sites are organized.

In common and according what we have noticed the maintaining of the Geopark area is taken care and organized very well. Area is clean and the sites are in good shape. Maintaining is taken care by regular staff and patrols for that purpose.

Taishan Geopark, according to relevant provisions, conducts comprehensive maintenance and cleaning of geoheritage protection facilities and tour infrastructure on a monthly basis. The management of each geosite is responsible for organizing cleaning squads for the sections under its jurisdiction.

Taishan Geopark has in place certain protection measures to prevent any destruction or damage to the geoheritage or infrastructure:
1. According to Administrative Measures for the Protection of the Geoheritage of Taishan Global Geopark and the Plan for Taishan Global Geopark, the geopark is divided into protection areas of four grades for the purpose of protecting and managing the geopark.
2. Each geosite has set up ad hoc teams to patrol and protect the geoheritage and infrastructure.
3. HD dynamic monitoring technology, combined with GPS-based positioning and scheduling technology, and digital talk back technology puts the whole jurisdictional area under complete 24-hour dynamic monitoring and management.

Recommendation: no

E.2.2 CULTURAL HERITAGE

Cultural heritage is mainly concentrated on the top and slopes of Mount Taishan. The cultural landscapes in the Geopark include the ancient architectures, cliff inscriptions, rocky step ways, painted sculptures and mural paintings. The cultural history of Mount Taishan is an epitome of Chinese culture, this is the unique character compared with other famous mountains in China, even in the world. The cultural heritage of Mount Taishan has international value and is famous nationally and internationally. It is strictly protected and also World Heritage area. Also the cultural heritage and structures and the sites are very well interpreted and promoted in informative information panels, maps, leaflets and with modern techniques by audio guiding and QR codes also guided tours to the sites are organized. The World Heritage logo is used together with all other needed logos e.g. UNESCO Global Geopark logo and Geopark logo.

As mentioned before also cultural heritage area and sites are taken care and maintained very well.

Recommendation: no

E.2.3 INTANGIBLE HERITAGE

Intangible heritage of the Taishan UGGp area is built on form the historical spirit of the area and both natural and cultural landscape.

The natural landscape in Mount Taishan is characterized by its loftiness and magnificence, which shows a sharp contrast with the surrounding lower hills and plain. Due to its height, the vertical change of climate is very distinct, so the natural sceneries are varied along the seasonal alternation and climatic change. Mount Taishan is very popular place among visitors and local people to admire the scenery of sunrise and sunset and full moon. Besides its natural scenery, Mount Taishan also owns a great number of cultural landscapes, which are harmoniously co-existent with the pure natural landscapes. Mount Taishan area with its fabulous natural and cultural landscapes and as a very famous mountain in China is valued internationally. Intangible heritage is together with natural and cultural heritage one reason for the World Heritage label. It is interpreted and promoted many ways e.g. in information panels, leaflets, museums, web-pages.
As mentioned before also intangible heritage structures and sites are taken care and maintained very well.

Recommendation: no

E.2.4 INVOLVEMENT IN TOPICS RELATED TO CLIMATE CHANGE AND NATURAL HAZARDS

Taishan UGGp do not have big threats from climate change or natural hazards. The biggest threats are forest fires because of the high forest coverage and rock falls because of the steep rocky slopes of Mount Taishan. Geopark have Intelligent Surveillance and Alarm System Geohazards Automatic Monitoring System and it has formulated protection emergency plans for fire control, quake resistance, flood control and geological disaster control, and set up professional teams, which conduct onsite drills. Taishan Geopark got strong financial support from the central and provincial governments to invest in three protection and conservation projects that covered treatment of dangerous rock, heritage preservation, greening, environmental management and fire prevention and firefighting facilities upgrade.

The Geopark do also strong co-operation with research institutes, colleges and universities to survey the geoheritage and landforms in the geopark, evaluate the geoheritage protection in the geopark and analyze the changing trends to prevent geological disasters.

Recommendation: no

E.3 MANAGEMENT

Taishan UGGp has a very strong management organisation with legal existence under national legislation. Geopark have also formulated a master plan for the next 12 years, the Plan for Taishan Global Geopark, Shandong (2013 – 2025). The financial situation of the Taishan UGGp is good and stable. It has been in same level since 2014, mainly because of the financing background which are national, provincial and municipal financial departments. Also income from visitor tickets is high.

Taishan Geopark has a specific and unified management authority named the “Administration Commission for Taishan Global Geopark”.

By the end of 2017, there had been 2093 employees in Taishan UGGp geopark. Their majors cover geology, GIS, information technology, tourism planning, English, history, management and other subjects. 96 scientific staff, 761 technical staff, 702 administrative staff, 57 guides and 534 rangers are included.

Taishan UGGp has four geoscientist in the permanent staff. In the staff there are both men and women:
• Wan Qinghai, who graduated from the Department of Geography of Shandong Normal University, serves as the Deputy Director of the Administration Commission for Taishan Global Geopark and has long been in charge of the management of the geopark.
• Miao Qing, who graduated from the Department of Geology and Geography of Ocean University of China, is in charge of market development of the geopark.
• Li Zhijun, who graduated with a major in Geological Survey and Mineral Prospecting from Shandong Geological School, is in charge of the management of the geopark.
• Ding Haiyang, who graduated from China University of Geosciences, Beijing, is in charge of the daily management of the geopark.

The Administration Commission for Taishan Global Geopark retains professors from the China University of Geosciences and domestic geologists as consultants, their specialties are Structural, Precambrian, Quaternary and coal geology and also paleontology and geological survey.

The operating funds of the Geopark are sourced mainly from visitor revenue, ticket revenue and profits from state-owned assets. Furthermore, the Geopark receives special grants from national, provincial and municipal financial departments every year for the protection and management of the Geopark.

The Administration Commission for Taishan Global Geopark has a special financial department, which works out independent budgets.

<table>
<thead>
<tr>
<th>BUDGET</th>
<th>INCOME (Million RMB)</th>
<th>EXPENDITURE (Million RMB)</th>
<th>BALANCE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>65.324</td>
<td>64.979</td>
<td>99.47%</td>
<td>Surplus</td>
</tr>
<tr>
<td>2015</td>
<td>70.971</td>
<td>70.568</td>
<td>99.43%</td>
<td>Surplus</td>
</tr>
<tr>
<td>2016</td>
<td>70.776</td>
<td>70.458</td>
<td>99.55%</td>
<td>Surplus</td>
</tr>
<tr>
<td>2017</td>
<td>95.375</td>
<td>84.584</td>
<td>88.69%</td>
<td>Surplus</td>
</tr>
</tbody>
</table>

Since 2014, there is no significant change of the financial status of our geopark. The income and expenses stay balanced. Funds of the geopark mainly come from municipal and local governmental fiscal budgets, ticket and other business income. Expenses are mainly in geoheritage protection and conservation, science popularization, logistics, staff salary, etc..

Recommendation: no

E.4 OVERLAPPING

Taishan Geopark after extension is 418.36 km². The total area of the World Heritage is about 200 km². The overlap area between Taishan Geopark and Taishan World Heritage is 158 km². Two specialized management organizations are set up to protect and strengthen the individual brand recognition.

Taishan Geopark strengthened the existing collaboration with the World Heritage Site, making clear the different institutional missions and enhances common activities. As a UNESCO Global Geopark member, Taishan Geopark continues to insist on its development pattern, strive to protect the natural environment and landscape, achieve the goal of harmony between nature and mankind.

Taihan Geopark has prepared the “Revised Comprehensive Plan for Taishan UNESCO Global Geopark (2016-2035)” and the “Preservation and Management Plan for Taishan World Heritage (2016-2035)”. Protection targets, scopes and measures for geosites, cultural heritages and natural heritages have been confirmed, and a sustainable development plan has been drawn up.

The situation and co-operation between Taishan UGGp and the World Heritage area is good and clear and targets are agreed from both sides.

Recommendation: no
E.5 EDUCATIONAL ACTIVITIES

Taishan Geopark provides a lot of different kind of educational activities and courses for schools classes of different ages and levels, for students and also for the staff in different subjects needed in the Geopark. Educational activities are held in Geopark Museums, in field and also in local schools. Education and courses provided by Geopark has been popular among school pupils and teachers and also among staff.

Some examples:
- Educational programs for primary and secondary schools: The geopark makes full use of media such as radio and television to publice Taishan Geopark, carries out educational campaigns to attract adolescents, and has established science-popularization education bases for adolescents.
- Educational programs for junior and senior high schools: By organizing a series of activities, such as field observation and geographic photography, the geopark provides students with an opportunity to learn about scientific knowledge and receive related training to cultivate their scientific literacy.
- Investigation practices for college students: The geopark has established teaching practice bases for China University of Geosciences, Shandong University of Science and Technology, Shandong Agricultural University and others, and equipped them with professionals to guide the college students and help them complete their practice tasks and graduation projects at the bases.

Since 2014, a total of 20495 geopark staff have participated in 134 different training activities, and the geopark has organized periodic training events for the staff.

<table>
<thead>
<tr>
<th>Date</th>
<th>Theme</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>January, 2015</td>
<td>Taishan winter bird protection volunteers in action</td>
<td>More than 200 volunteers from the Plant Protection College of Shandong</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Agricultural University and the Taishan Geopark</td>
</tr>
<tr>
<td>2015.03.12</td>
<td>&quot;Afforestation, building beautiful Mount Tai&quot;</td>
<td>Shandong Institute of Fashion</td>
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<tr>
<td>2017.02.18</td>
<td>Early spring motivational activities</td>
<td>Taishan College Affiliated High School Students</td>
</tr>
<tr>
<td>2017.04.22</td>
<td>Conserving intensive use of resources, advocating green and simple life - telling our story of the earth</td>
<td>Taian Yingsheng Primary School Student</td>
</tr>
<tr>
<td>2017.09.18</td>
<td>Public welfare psychological aid activities</td>
<td>More than 120 students from the Sanxing Wisdom Academy and Tai'an Special</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Education School</td>
</tr>
<tr>
<td>2017.04.20</td>
<td>Taishan geopark enters the campus</td>
<td>All students and teachers of Panpo Primary School</td>
</tr>
<tr>
<td>2018.01.04</td>
<td>Forest fire safety knowledge section</td>
<td>Yuefeng Primary School Primary School</td>
</tr>
<tr>
<td>2018.01.14</td>
<td>Taishan geoculture enters the campus</td>
<td>Huangqian Primary School Pupils</td>
</tr>
<tr>
<td>Date</td>
<td>Event Description</td>
<td>Organizers/Participants</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>2018.03.11</td>
<td>“Looking for Lei Feng Footprint, Yang Zhiyuan Spirit” Environmental Volunteer Activities</td>
<td>Tai'an Experimental School Primary School</td>
</tr>
<tr>
<td>2014-2017</td>
<td>The Yanlin fish proliferation and release activities are held every year on June 19th of the lunar calendar</td>
<td>Geopark Management Committee staff, community residents, students, tourists</td>
</tr>
</tbody>
</table>

A very important subject in education has been the training courses to communicate the different concept and development of the “UNESCO Global Geoparks” and “World Heritage”. Training topics include understanding world heritage conservation policies, nature conservation areas, geology of Taishan and preserving Taishan’s cultural heritage.

**E.6 SUSTAINABLE TOURISM**

In the Taishan UGGp is going on many successful actions and projects to improve sustainable tourism. Since 2014 the progress of these activities has been successful and they are going on today.

To further the development of sustainable tourism in the geopark, Taishan Geopark have edited tour guides and introduced more specific protection measures, including greater sightseeing safety, clear and reasonable ticket price, comprehensive travel information, and tour interpretations by professionally trained guides.

Taishan UGGp have special protection and geoconservation strategy which includes:

- Geoheritage Investigation, since 2014 two investigation has carried out to upgrade and improve the geoheritage database.
- Promulgation of the Taishan Geopark Ecological protection ordinance. It aims to strengthen ecological and environmental protection of Taishan Geopark, make scientific use of Mount Taishan resources, promote ecological civilization construction and realize social sustainable development.
- Intelligent Taishan, with big data, cloud services as well as intelligent measures and goals, this project focuses on delivering a smart tourism experience.
- Strengthening the Geopark patrol system.
- Projection and conservation measures;Taishan Geopark has invested in 3 protection and conservation projects that covered treatment of dangerous rock, heritage preservation, greening, environmental management and fire prevention and firefighting facilities upgrade.

To improve safety of visitors and staff in the territory, Taishan Geopark has improved high technique camera monitoring system, intelligent surveillance and alarm system and automated monitoring and alert system for geohazards.

**E.7 SUSTAINABLE DEVELOPMENT & PARTNERSHIPS**

**E.7.1 SUSTAINABLE DEVELOPMENT POLICY**

In the last years, the development of Taishan UGGp has contributed to the increase of the local tourism industry and promoted healthy and sustainable development of local economy, with special emphasis on natural producing areas of non-pollution agricultural products, such as chestnuts, organic tea, gingers, Chinese herbal medicine and flower seedlings. There are presently 15 provincial and municipal agricultural/aquaculture (e.g. chilin fish) leading enterprises and 200 farmers' cooperative in the geopark area.

The development of agricultural leading industry in the geopark is considered by the Administration one of main methods to increase the local people’s income and bring them out of poverty: 2,781 residents from 1,291 households have successfully eliminated poverty in Huangqian Town, and 1,086 residents from 362 households have successfully eliminated poverty in Xiagang Town.

The development of the tourism industry is another key issue in Taishan UGGp, and especially on Mt. Taishan area – either in terms of its benefits, either in terms of potential negative
impacts – with an average of about 5.6 million visitors per year. Along with the growth of geopark visitors, the farmers’ restaurants, hostels, travel agencies, local products enterprises, shops, etc. in the geopark also increased rapidly. Since 2014, the geopark has created more than 1,500 new employments for local people, being the main target to accentuate such growth and development to the extension/new areas population, improving local residents’ income and living conditions.

Recommendation: no

E.7.2 PARTNERSHIPS

Several activities have been carried out by making strategic partnership agreements with local companies, like the Lixinyuan Industry and Trade Company Ltd. (chestnuts) and the Jinfeihong Weaving Company Ltd. (textile). Through those partnerships, based on quality criteria (e.g. local green high-quality agricultural products) and regulations formulated by the geopark, special routes to these sites were designed by the geopark, for self-picking and appreciating the local special products, and the stakeholders are authorized to use the Taishan Geopark logo on their products.

Partnerships are also done in the geotourism sector, and for example the Taishan UGGp ensures that some ingredients of the home-made cuisine of farm-lodgings are from the geopark territory. Also, some local businesses helped in the design and development of handicraft geopark souvenirs based on specific geosites features and the natural and cultural settings of Taishan Geopark.

The Taishan UGGp promotes these partnerships, namely on its communication and marketing tools, and in situ, these partnerships are visible by a “Geopark Partner” plate, usually at the main entrance of hotels/lodgings, restaurants and industry companies.

Recommendation: yes
Description: strength and increase the partnerships with the local stakeholders of the extension/new areas of the Geopark.

E.7.3 FULL AND EFFECTIVE PARTICIPATION OF LOCAL COMMUNITIES AND INDIGENOUS PEOPLES

Efforts were done in last four years in promoting the involvement of local communities in the Geopark activities, as it was the case of the competition “Taishan Geopark Travel Culture Promotion Wording” that took place in 2017 in the Taishan Dongyue Temple Fair, and the Geopark regularly organize activities (e.g. photography exhibitions) in rural areas and local communities, namely on the World Earth Day, World Environment Day and International Museum Day.

That effort is also target for students and local schools, with geosciences popularization activities, as lectures (e.g. “A Story of the Earth History”, “My Hometown – Taishan UNESCO Global Geopark”) and contests (e.g. drawing the typical geosites of Taishan Geopark). Taishan Geopark also recruited volunteers in the local schools and residents, providing social practice opportunities for students in summer time: so far, about 30 high school students acquired basic knowledge about wild birds in Taishan Geopark under the framework of the “Protecting Taishan Winter Birds - Volunteers in Action” activity.

Recommendation: yes
Description: reinforce the full and effective role and participation of the local communities in choosing, planning and implementing activities and projects in the territory.

E.8 NETWORKING

Since 2014, Taishan UGGp has actively taken part in the global and regional geoparks network meetings (with posters, communications and exhibitions), including at the 6th and 7th International Conferences on Global Geoparks (Stonehammer, Canada, 2014 and English
Riviera, UK, 2016), and the 4th and 5th APGN Conferences (e.g. San'in Kaigan, Japan, 2015 and Zhijindong Cave, China, 2017). In addition, the geopark participates in the Annual Meeting of the Chinese Geoparks Network, with activities that includes the exchange of experiences on conservation, management and promotion of the GGN members. The Taishan UGGp staff has also participate in relevant training courses and similar (like the workshop for Geopark Management Staff, of the APGN) and the 2016 and 2017 editions of the "International Training Course on Geoparks Management and Development", in Beijing. In the last 4-years period, the Taishan UGGp members have also visited several UGGp abroad (e.g. Itoigawa, San'in Kaigan and Oki Island, Japan) or in China (e.g. Hong Kong, Zhijindong Cave, Ningde, Zigong, Fangshan, Yandangshan, etc.), and the geopark has signed, twinning geopark agreements with Dunhuang, Shennongjia, Zhijindong Cave and Zigong UNESCO Global Geoparks and Bayan Nur National Geopark of Inner Mongolia from China, aimed for mutual visits, joint promotion and projects and organization of seminars.

Besides those networking activities among UGGp and the GGN and APGN networks, the Taishan UGGp is also actively working on building strategic partnership, namely with universities and science institutions (e.g. Shandong Agricultural University, China University of Geosciences (Beijing), China University of Petroleum (Beijing), Shandong University of Science & Technology, Chinese Academy of Geological Sciences and the Tianjin Center of China Geological Survey), with cultural stakeholders (like the Dali Museum, Yunnan Province and Baotou Museum, Inner Mongolia of China) and with local corporations (e.g. the Lixinyuan Industry and Trade Company Ld. and the Jinfefhong Weaving Company Ld.)

Recommendation: no

E.9 SELLING OF GEOLOGICAL MATERIAL

On sites and infrastructures managed by the Taishan UGGp administration and visited during the evaluation mission (e.g. Geopark Museum, Chilin Fish Museum, Dai Temple) no trading of geological material was found.

Recommendation: no

F. DISCUSSION

Based on the observations made during the field work and meetings of the evaluation mission, and also the documents available from UNESCO and those provided by the geopark under the umbrella of this report, the following synopsis can be presented, as a brief SWOT analysis on the Taishan UGGp:

- **Strengths**: 1) strong and effective management structure, enthusiastic professional team and financial environment; 2) good links and balance of the geological heritage with other natural, cultural and immaterial heritages in the area of Mt. Taishan; 3) strong tourism brand (e.g. Mt. Taishan) that attracts high number of visitors.
- **Weaknesses**: 1) “hard geology”, with complex rocks, features and processes, often not easy to present to the general public; 2) high tourism pressure on Mt. Taishan area, that tends to concentrate visitors into a restrict area of the geopark; 3) lacking or to recent engagement from local populations and stakeholders in extension/new areas of the geopark.
- **Opportunities**: 1) extension/new areas allows to diverse the tourism offer from the highly overcrowded area of Mt. Taishan, either by new (geo)sites, either by new products and services; 2) a new tourism paradigm based on sustainable geotourism (rather than massive tourism), can easily be applicable in extension/new areas, presently (much) less developed; 3) this new paradigm can also became a powerful tool on creating jobs, develop local economy and create the sense of “geopark ownership” on the inhabitants.
- **Threats**: 1) lack of benefit or a “left behind” policy in extension/new areas may result on a less engagement of local population; 2) the same way, investments or policies with no direct turn-over for locals may discourage them and potentiate its resistance to geoparks ideas
and actions; 3) the visitor's high pressure and crowded areas may undergo a non-
sustainable development and risk of damage of the existing geological/natural heritage,
due to the visitors increasing needs instead of a limited/controlled access policy.

G. **RECOMMENDATIONS**
- We propose acceptance (green card)
- Main recommendations:
  1. The new boundaries of extended Taishan Geopark should be up-dated to all information,
     exhibitions and maps regarding the Geopark, including at UNESCO’s office/secretariat
     and webpage.
  2. Information and exhibition about the geopark in the Geopark Museum (at Dai Temple
     area) should be up-dated and expanded to covering the whole area.
  3. Continue and reinforce the implementation of the “Intelligent Taishan” approach, using
     less intrusive informative instruments (like web supported applications, QRCodes, etc.)
     instead of high number of physical devices (e.g. panels) and making it easier to up-date
     and adapt (e.g. translations that sometimes are missing in places).
  4. Continue and increase the regional/local economy in the new areas of the Geopark, using
     the positive impact of UNESCO Global Geoparks status and improving engagement with
     the local population.
  5. Increase sustainable tourism development in the new areas of the Geopark, using the
     high national and international credits of Mt. Taishan tourism brand, by challenging Mt.
     Taishan visitors to new products, services and experiences in those less developed area
     (e.g. bike roads, eco-routes, geo walking trails, etc.).
  6. Find more/new sites of interest for visitors and “stories to tell” along existing and new
     geological routes in the new area of the Geopark (e.g. the 5 km eco-route at Chestnuts
     Forest): sometimes the best “infrastructure in-place” is a special guide with a special story!

H. **ITINERARY**

<table>
<thead>
<tr>
<th>General Topics</th>
<th>Activity/Locality</th>
<th>People met</th>
<th>Findings/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Day 1 (31.July.2018)</strong></td>
<td>Arrival from Finland/Portugal in Beijing; fast train (HSR) to Taishan</td>
<td>Wan Qinghai, Deputy Director of Taishan UGGp. Welcome dinner by Tai'an</td>
<td>Evaluation mission was prepared and evaluators were accompanied in all times by Mr. Wan Qinghai, and Xing Zhe and Ding Haiyang from Taishan UGGp staff.</td>
</tr>
<tr>
<td>UGGp and welcome dinner at hotel in Tai’an City</td>
<td>UGGp and welcome dinner at hotel in Tai’an City</td>
<td>Welcome dinner by Tai’an Municipal People’s Government, chaired by Mr. Li Xixin (Mayor).</td>
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<table>
<thead>
<tr>
<th><strong>Day 2 (01.Aug.2018)</strong></th>
<th>MORNING</th>
<th>Taishan UGGp staff and local, provincial and national authorities;</th>
<th>Meeting included:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop 1: Meeting I – Progress Report, at Taishan Administration building and monitoring room</td>
<td>Meeting included:</td>
<td>- Speeches by the meeting Chairs.</td>
<td></td>
</tr>
</tbody>
</table>
**Chairs:** Mrs. Yuan Xiaohong (Dep. Forest & Land Development, PRC’s Gov.) and Mr. Li Xixin (Tai’an City Mayor).

**Stop 2: Dragon Bay and Chilin Fish Museum**
Museum Head and staff: Mr Liu Yupei, Mr Zhang Jianjun, Mr Fang Xin and Mr Yu Haibo.

Museum is a good education place for ecological and environmental protection; very nice connections between geology (e.g. fish fossils), ecology (e.g. Chilin fish) and culture.

Near the museum, stop at the Longjiaoshan Fault site: panel and site of difficult interpretation and visualization by the general public.

**Stop 3: Caishi (Colorful Stone) Stream Geotrail**
Geotrail Head and staff: Mr An Hongqiang, Mr Chen Rongwei, Mr Qi Liguo and Mr. Zhao Shuangcheng. Evaluators meet students from Beijing Univ. field trip.

The geotrail is about 5 km long and includes the oldest rocks of Taishan UGGp. Small section of geotrail done includes several panels (in CN & EN) used (e.g. geopark information) mostly to support schools field trips; for the general public it seems too much information/panels.

### AFTERNOON

**Stop 4: Zuixin Garden Geotrail**
Geoscientists Prof. Tian Mingzhong, Prof. Zhang Jianping and Prof. Li Huaikun (Beijing Univ. and Tianjin Center, China Geological Survey) were present the all Day 1 mission.

The geotrail is about 1 km long, and besides geological (important) sites – as the so-called allgovite “vein” and the barrel-shaped structures – includes several natural and cultural sites, as the Afforestation Monument, “Confucius archway”, and the Hongmen Palace and Steles Forest. A tourism info point provides flyers, touch-screens devices and self-audio equipment in four languages (CN, EN, KR, JP).

**Stop 5: Dai Temple**
Guides names: Mrs Tian Nan and Ms Zhou Ying.

Dai Temple loft covers about 90,000 m² area and is the largest and best-preserved ancient architectural complex on Mount Taishan, classified as a WHS. With more than 150 old buildings and structures, classified old trees and relaxing gardens, Dai Temple complex also offers several traditional, cultural and educational activities & spaces, often linking the
**Stop 6: Geopark Museum**

Geopark Museum

**Head and staff:**
- Mr Liu Jianxin
- Mr Li Deqiang
- Mrs Li Meng
- Mrs Tao Li
- Mrs Ni Yan
- Mrs Liu Xiaoyu.

Inaugurated in 2005, the Geopark Museum includes 8 halls covering issues from geopark and geosciences, to buildings, plants and animals and people/culture of Mount Taishan. Some contents are updated (e.g. UGGp/GGN members). However, geological contents and exhibitions are related only with Mount Taishan area, not the all (expansion) area of the geopark.

**NIGHT**

**Stop 7: Performance of “Worship Ceremony”**

**Head of place:** Mr Wang Duanzeng.

A “time voyage” from the legendary pre-historical period to Emperor in Song Dynasty, the “Feng Shan” (Worship Ceremony) is more than a show of light, music and scenic: it is a remarkable cultural performance linking socio-cultural and historical events with nature/Mount Tai. Note: screens on-site with CN and EN lettering, introducing performances and actors main speeches.

**Day 3 (02.Aug.2018)**

**MORNING**

**Stop 1: Shaling Chilin Fish Nature Reserve**

Responsible:
- Mr Song Hongbing
- Mr Zhang Jiliang
- Mr Wu Chuanyin.

This is an ecological site, very active on conservation and science awareness initiatives, that more recently is working on geotourism, namely with local lodging facilities. Site panels exhibit the UNESCO WHS logo: it was not possible to confirm its classification as a World Heritage Site.

**Stop 2: Lihang geosite**

Mr. Wan Qinghai and Prof Li Huaikun.

Geosite with major geological contact between Archean aged rocks (~2.5-2.7 Ga), located in the extension area of Taishan UGGp, where new roads and visiting infrastructures (e.g. panels) were implemented, with just the geopark logo.

**Stop 3: Jinfeihong Weaving Company Ld.**

Company owner: Mr Li jungang.

This textile industry is a “Geopark Partner” – identified by a plate in entrance – with several geopark-related products, namely inspired on Mt. Taishan landscapes and features.
In some sectors of the factory, noise was intense and not all workers were using ear protection; a new building (including an exhibition area) is envisaged.

**Stop 4: Huangqian reservoir**

Head of place: Mr Liu Canjun.

Located in the extension area of Taishan UGGp, this artificial reservoir is an important water supply to Tai’an city and most of the geopark area. To protect/ensure the water quality (e.g. several human settlements on its surroundings) it is envisaged a massive urban and landscape intervention downstream of the reservoir and dislocation of inhabitants from upstream areas.

**AFTERNOON**

**Stop 5: Zhaoyu Village Geo-square**

Local residents & Dragon Dance mans: Mr Zhao Deming, Mr Ni Xiaoguang, Mr Zhao Yuhui, Mr Liu Ning, among others.

Zhaoyu Village belongs to Xiagan Town, a 42,000 inhabitants area that in 2017 was accepted as a part of Taishan UGGp. Eco-tourism and agriculture – mostly related with local chestnuts production companies – are key development sectors. In the village “Geo-square” (with several panels) it was preformed a “Dragon Dance” by locals.

**Stop 6: Lixinyuan Industry and Trade Company Ltd.**

Company owner: Mr Kong Fanyu, his son and daughter in-law.

This local chestnuts production company is a “Geopark Partner” – identified by a plate in entrance – located in Zhaoyu Village, in the extension area of Taishan UGGp. Working under very strict rules regarding safety and cleaning (e.g. HACCP standards), this successful exporting industry employs more than 200 locals, developing the local economy.

**Stop 7: Eco-route “Chestnuts Forest”**

Mr. Wan Qinghai, Deputy Director of Taishan UGGp.

Eco-route located in the extension area of Taishan UGGp, almost all emplaced in a chestnuts forest. Even with good potential as, namely a walking trail, mountain bike or other out-door activity, the place lacks a clear definition under the Taishan UGGp development strategy. A tentative to establish correlations between the geology/soils and chestnuts (e.g. panels) seems inadequate/incomplete, due to the “hard geology” of the area.
### Stop 8: Tai’an N.º 16 Middle School

**Geopark school director:** Mr Fu Yumin.

Geopark school, one of the three of the Taishan UGGp. A geo-square (with a monument) and a geo-corridor (with rock samples and very educative panels, on several issues, from geoparks pillars, to life on Earth) were implemented in close cooperation with the geopark administration.

### Day 4 (03.Aug.2018)

**MORNING**

<table>
<thead>
<tr>
<th>Stop 1: Zhongtianmen Tourist Service Center</th>
<th>Mr. Wan Qinghai, Deputy Director of Taishan UGGp.</th>
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</thead>
<tbody>
<tr>
<td>This new Tourist Service Center was completed in June 2018 and is managed by the Taishan UGGp. It includes new services (e.g. disable persons areas, medical office, souvenir shop, etc.) Pedestrian and vehicles have clear and different routes. Note: at the geopark shop were not seen/identified any selling of geological materials.</td>
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<tr>
<th>Stop 2: Nantianmen and Tianjie</th>
<th>Responsible: Mr Chen Heyi, Mr Wang Min, Mr Wei Tao, Mr Geng Tao, Mr Du Xiaopan and Mr Hao Zhiyong.</th>
</tr>
</thead>
<tbody>
<tr>
<td>After taking the cableway, and its panoramic views over Mt. Taishan, those sites – at about 1,460 m high – offer several site-seeing views and cultural/popular sites, as the Nantianmen Gate, the Tianjie and the Sky Street, where a permanent stream of tourists come and go: several shops, lodging, local food, etc. facilities support such a (massive) stream!</td>
<td></td>
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<thead>
<tr>
<th>Stop 3: Bixiaci Temple</th>
<th>Responsible/Priest: Mr Zhang Chengda.</th>
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<tbody>
<tr>
<td>Located east of the Sky Street, Bixia Temple was built about 1,000 years ago in the Song Dynasty. It is the largest architectural complex high up on Mt. Taishan, with a front and a back yard and five main halls in the front yard.</td>
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<tr>
<th>Stop 4: Yuhuanding Peak</th>
<th>Final photo with most of the accompanying members of the Evaluation Mission</th>
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</thead>
<tbody>
<tr>
<td>Several stops in the summit part of Mt. Taishan, including the Immortal Bridge, the “Biotite Fish Textures”, the North-point Stone, the Summit Stone and the Cliff Inscription of Tang Dynasty. All spots display info panels of different types, many with simple and clear wording for the general public, enhancing the scenic, or curious, features of sites (as is the case of the North-point Stone or the</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
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<tr>
<td><strong>AFTERNOON</strong></td>
<td></td>
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<tr>
<td>Stop 5: Meeting II – Analysis of “Self Evaluation Document – A” and “Self Evaluation Document – B”, at hotel, in Tai’an city</td>
<td>Working meeting, chaired by Mr. Wan Qinghai, Deputy Director of Taishan UGGp. Joint analysis and discussion of specific points/sections of Self Evaluation Documents A &amp; B, including request of additional information by the evaluators. The Taishan UGGp staff was prepared and very effective and professional on providing most of the requested information/clarification.</td>
</tr>
<tr>
<td>Stop 6: Meeting III – Closure, at hotel, in Tai’an city</td>
<td>Closing session, chaired by Mr Li Xixin (Tai’an City Mayor). Closure of the Evaluation Mission and farewell speeches from Taishan UGGp Board and evaluators.</td>
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</table>

*FINAL NOTE: departure to Beijing about 7 P.M. by fast train (HSR); night in Beijing and departure to Finland/Portugal on Aug. 4th morning*