The Bamiyan Valley in Afghanistan is located within the Hindu Kush mountain range at a height of around 2500 m above sea level. The previous Buddhist monastic sanctuaries, caves and several fortified settlements from the Islamic Ghaznavid and Ghurid period extend for several kilometres on the north side of the valley facing south and leaving the fertile plane open for agriculture. The valley follows the Bamiyan river which is a tributary to the Kunduz river and part of the large Amudarya Water Basin System. During many centuries these valleys served as passageway for the intercontinental trade along the Silk Road.

From the first written records by the travelling monk Xuanzang who visited Bamiyan in about 630 AD the ensemble of the Giant Buddha figures of Bamiyan has been known as the world largest depiction of a standing Buddha figure; the Big Buddha (Western Buddha) measured 55 m and the so-called Small Buddha (Eastern Buddha) 38 m. Situated within the Silk Road on the crossroads of the civilizations of the East and the West Bamiyan is regarded as an exceptional testimony and outstanding representation of Buddhist art in the Central Asia region. International intervention and protest could not prevent the complete destruction of the Giant Buddha Figures executed by the Taliban leadership in March 2001. Very early after the fall of the Taliban regime in 2002 a joint UNESCO/ICOMOS expert fact finding mission took place to Bamiyan and examined the situation. In 2003 The Cultural Landscape and Archaeological Remains of the Bamiyan Valley were inscribed in the UNESCO World Heritage List as a nomination of eight different areas representing historic and religious developments from the 1st to the 13th centuries AD.

Environmental Factors

The cliff of the Bamiyan Valley has been formed at the confluence of two large River beds approximately 20 million years ago. Typical for such a comparatively young basin the valley is characterized by a mountain desert relief with huge peneplains, alluvial fans and vast debris deposits. Glacial activity has washed the landscape smooth and the vast hills composed out of debris of conglomerate stone are easily affected by weathering processes and highly susceptible to water. The Bamiyan Valley exhibits a continental climate which is prone to episodically heavy rain events alternating with extremely long drought periods. Braided river and torrential rivers rise rapidly after rainfalls; they mobilize and...
transport big amounts of physically weathered debris. Most of this material in motion is deposited on alluvial fans in the main valley or transported to the main drain of the Bamiyan valley in the direction of the Kunduz river basin. Therefore alternating fluvial erosion and fluvial accumulation takes place leading to constant change of the landform due to the meandering river sections.

Extreme weather condition could be observed during the years of field survey (2005–2007) leading to extraordinary flood events. These events are a major threat for settlements and infrastructure (especially bridges) as well as for the people and their livestock. The irrigated and cultivated land is mainly found at the bottom of the valley while the area outside of cultivated fields is almost completely used for animal grazing and harvesting plants for fodder and fuel. The field survey (Reinecke 2005) has revealed disturbances and degradation of the vegetation cover of the soil due to intensive harvesting. Irrigated areas entirely depend on the availability of surface water for irrigation coming from the nearby mountains as snowmelt water. A sophisticated network of water distribution forms the precondition of the irrigation agriculture. Occasionally sources of spring water exist which is used for drinking water.

The re-study of the existing zoning plan for the World Heritage Programme which was submitted on an emergency basis upon the nomination of the site also had to include the documentation of other not yet registered cultural components like further archaeological areas, monuments and traditional architecture of national importance, components of historic landscape.

In addition, the identification of future expansion areas for modern building construction activities had to be made. The Bamiyan Valley with its monuments and landscape inscribed in the World Heritage List represents a fragile equilibrium of uses and demands. The master plan to be developed has to reflect these coactions and the stresses and demands put on the valley. Thus, we encountered five main premises for the planning and controlling of the future development of the valley:

1. Prevent any further damage of historic buildings and monuments;
2. Prevent any destruction or damage of historic architecture;
3. Avoid stresses produced by road traffic in immediate vicinity of the World Heritage Site;
4. Avoid stresses produced by presumably increasing air traffic in the valley;
5. Respecting the boundaries of the World Heritage Site and its setting.

These premises lead to five predominant actions:
1. Relocation of the main road through the Bamiyan Valley away from the archaeological sites;
2. Relocation of the air field outside the valley;
3. Registration and monitoring of traditional architecture possible subsidizing of repair measures through the authorities;
4. Proposals for a new urban development zone outside the cultural landscape;
5. Avoidance and/or relocation of disturbing uses and structures.

Preserving Bamiyan – Integrated Development Cultural Masterplan

As a result RWTH Aachen University elaborated a set of plans using detailed high-resolution satellite imagery analyzing the development of the Bamiyan Valley and presenting a zoning proposal for future planning purposes in Bamiyan (Bamiyan Cultural Master Plan) to be implemented by the Afghan authorities involved. For that purpose a series of public presentations in the capital Kabul and the provincial centre of Bamiyan were realized leading to the adoption of the plan by the Ministry of Urban Development in March 2006.

It was noted that the actual definition of the boundaries of the World Heritage Site as stated in the inscription dossier are imprecise and to some extent incomplete. The overall extension of the World Heritage Site is described in vague terms when referring to the Cultural Landscape whereas eight archaeological areas are named and described precisely as World Heritage properties.

A general aim of the authors of the RWTH Aachen report is to stress the fact that the extension of the World Heritage sites Bamiyan reaches far beyond those areas described by name and location in the annex of the inscription dossier. As one result of the field campaign in summer 2005 more information could be collected concerning the overall extension of the World Heritage Site. This information was summed up in a zoning model as indicated below. It is to stress that this model intends to emphasise the unity of the different entities intended to be protected, namely the Cultural Landscape and the Archaeological Remains of the Bamiyan Valley.

References

NRICP 2004, Protecting the World Heritage Site of Bamiyan, Key issues for the Establishment of a comprehensive Management Plan, National Research Institute for Cultural Properties (NRICP), Tokyo
