

Nomination for inscription on  
The UNESCO World Heritage List

# **Cultural Landscape of Bali Province**

## **Management Plan**



**The Ministry of Culture and Tourism of the Republic of Indonesia  
The Government of Bali Province  
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# CHAPTER ONE INTRODUCTION



# CHAPTER 1

## INTRODUCTION

### 1.1 The Main Aims of the Management Plan

The management plan for the Cultural Landscape of Bali Province provides a framework for the long-term adaptive co-management of the site, as presented in the World Heritage nomination dossier. This document outlines the policies, institutional framework, and principal strategies that guide the conservation of the site's social and ecological outstanding universal value. These policies and strategies pertain to the living traditions of the *subak* institutions, the physical temple sites, and the ecological landscape at the watershed scale including the irrigated rice terraces as well as the forested catchment areas and lake regions that feed the terraced 'water mountains'.

The nominated Cultural Landscape of Bali Province comprises both natural and cultural aspects of the Balinese living tradition. The nominated sites are representative of the Balinese *subak* system, encompassing the rice terraces, the *subak* temple networks, and the tangible and intangible attributes of the *subak* institutions that maintain this unique social-ecological landscape. The Balinese-Hindu philosophy of Tri Hita Karana, which emphasizes harmony among humans, nature, and God, governs the *subak* system in its daily activities and long-term maintenance of Bali's cultural and natural heritage.

The nominated cluster of sites includes:

- A. Supreme water temple Pura Ulun Danu Batur**
- B. Ancient water temples and *subaks* of Tampaksiring**
- C. *Subaks* and water temples of Batukaru**
- D. *Pura Taman Ayun (Royal Water Temple) and subak***

These sites are presently vulnerable to competing development pressures and demands on ecosystem services to support tourism, urban consumption, and industrial agricultural production. Together, these pressures threaten to undermine the long-established maintenance of Bali's unique cultural and ecological landscape. For this reason, the long-term management of the cultural landscape of Bali involves many government agencies, institutions, the local population, and

other interested parties. Accordingly, this management plan will guide stakeholders, so that all programs related to the conservation and enhancement of the outstanding universal values of the Cultural Landscape of Bali Province can be carried out in a coordinated and integrated manner.

The main aims of the management plan are to:

1. Ensure that all the cultural and natural assets included in the Cultural Landscape of Bali Province are preserved for future generations through appropriate social and ecological conservation and support schemes;
2. Enhance public awareness, appreciation, and participation in conservation of the Cultural Landscape of Bali Province through education and improved site presentation;
3. Help bring together interests of diverse stakeholders in the conservation and enhancement of the Cultural Landscape of Bali Province;
4. Establish specific management guidelines that can be used by stakeholders for participation in the conservation and enhancement of the outstanding significance and values of the Cultural Landscape of Bali Province;
5. Identify priorities for the allocation of available resources in order to protect and conserve the Cultural Landscape of Bali Province;
6. Guarantee that the cultural landscapes are continuously monitored and regularly evaluated; and
7. Provide a basis for future plans so that all changes within the nominated heritage can be managed.

## 1.2 Approach

This management plan is based on principles of adaptive co-management by diverse stakeholders of a complex social-ecological landscape (Folke et al 2002a, 2005; Berkes and Folke 1998; Adger 2006). This system of adaptive governance connects individuals, agencies, and institutions at multiple institutional levels and across autonomous regional authorities (Young 2002; Pretty 2003; Galaz 2005; Hahn et al. 2006). It is based on the principles of dynamic learning, collaboration across institutional levels, and flexible management systems—features that characterize the *subaks* of Bali as proposed in the Cultural Landscape of Bali nomination dossier.

The role of Bali's *subak* institutions as ecological and cultural stewards is well-established (Wiguna et al. 2006; Lansing 2006; Sutawan 2005; Lorenzen and Lorenzen 2005). Thus, by strengthening the control of the *subaks* over their local environments, the survival of several important clusters of *subaks* and water temples will be assured. The approach fosters transparent and collaborative decision-making among diverse stakeholders to support effective long-term management of ecosystem services and living cultural heritage. This involves participatory and community-based design and management of initiatives for the dual objectives of conservation and livelihood enhancement. In addition, the programs developed for these World Heritage sites will provide models for emulation in neighboring communities.

### 1.3 Outcomes

The principle outcomes of the management plan for the Cultural Landscape of Bali Province World Heritage Site include:

1. Establishment of legal, institutional, and administrative structures to coordinate the adaptive co-management of the site among inter-sectoral policy makers and diverse stakeholders;
2. Comprehensive and participatory assessment of the social and ecological components of the property;
3. Participatory planning and design of master plans for each of five individual sites within the broader cluster of World Heritage properties;
4. Implementation of activities to support strategic priorities (presented in Chapter 5) for comprehensive and effective social-ecological conservation and livelihood enhancement within the proposed World Heritage site;
5. Establishment of a research and reporting system for coherent and integrated monitoring and evaluation to ensure implementation that is sensitive to social and ecological feedback;
6. Capacity building for adaptive co-management of Bali's complex social-ecological systems among diverse stakeholders; and,
7. Identification of serial sites to extend the conservation and livelihood objectives of the Cultural Landscape of Bali Province to other areas in Bali that exhibit outstanding universal value.

#### 1.4 The Status of the Management Plan

- ✦ The legal framework for the management of the World Heritage property is established by Provincial Decree of 2008 for conservation and spatial planning for the proposed sites named above. The Provincial Decree is based on National Law No. 26/2007, and National Government Decree No. 26/2008, concerning spatial planning and the establishment of National Strategic Areas for conservation of critical cultural landscapes. The legal framework and management plan demonstrate a strong commitment among stakeholders at the national, provincial, and regency levels to ensure the conservation and enhancement of the nominated sites.
- ✦ This management plan establishes an institutional and policy framework to guide all relevant parties in the coherent and adaptive management of the heritage sites. All efforts taken to preserve and enhance the outstanding universal value of the nominated sites will adhere to this framework.
- ✦ The plan provides a foundation document for broad consultation among stakeholders at all levels including government agencies, *subaks* and local communities, local foundations, non-governmental organizations, academics, tourism operators and other private sector actors to develop site-specific master plans for each individual site in the World Heritage cluster and annual work plans.

#### 1.5 The Preparation of the Management Plan

This management plan builds on a long-term consultation and planning process initiated in 2002. At that time, the Cultural Landscape of Bali Province was proposed for inscription into the World Heritage List by the Directorate General of Culture, Department of Education of The Republic of Indonesia. In response to the proposal, UNESCO acknowledged receipt of the dossier, registration number C1194. Following this response, fieldwork to record and document the nominated sites was carried out in January 2003 and August 2004. All properties within the proposed Cultural Landscape of Bali Province were recorded and conservation zones were determined. Consultations with the local population, government authorities at all levels, non-governmental organizations, and academics, were conducted to obtain the necessary data to draft a management plan. A consultative



stakeholder meeting was held in Denpasar, Bali in July 2004 to discuss various aspects of the management of the proposed Cultural Landscape of Bali Province. Participants included representatives of government agencies at all levels (central, regional, and local), local foundations, non-governmental organizations, academics, and prominent figures (informal leaders). The discussion culminated in the approval of a number of policies for the preservation and conservation of the Cultural Landscape of Bali Province, submitted to UNESCO in a nomination proposal and Management Plan in July 2007.

ICOMOS deferred the nomination to allow the state party to reassess the nomination of sites. ICOMOS recommended the selection of sites to display the close relationships between the local *subak* institutions, rice terraces, water temples, and forested water catchment areas. Furthermore, ICOMOS recommended the elaboration of a management system to effectively sustain the integrity of the cultural landscape and deflect inappropriate development (ICOMOS Response, Cultural Landscape of Bali, No 1194, p. 10). The current nomination and management plan respond to these recommendations. Together, they propose a coherent cluster of sites and a comprehensive legal and institutional framework, developed in consultation with government and community stakeholders, to manage the Cultural Landscape of Bali Province as a World Heritage property. This revised management plan was developed in a series of stakeholder meetings culminating in a daylong public meeting with 150 invited representatives of all relevant government agencies, along with water temple priests, *subak* leaders and the press, under the auspices of the Ministry of Culture, on December 3, 2008 at the Puputan Memorial in Denpasar, Bali. On December 22, 2008, the Office of Archeological Heritage Conservation hosted a follow up exhibition and discussion forum in Ubud, attended by over 100 representatives of all relevant government offices and departments, from local to provincial levels and customary village authorities.

## 1.6 The Current Management of the Heritage Sites

The nominated sites are representative of the Balinese *subak* system. *Subak* is a unique social and religious institution; a self-governing, democratic organization of farmers who share responsibility for the just and efficient use of irrigation water to grow paddy rice. Most *subaks* possess written legal codes, called *awig-awig*, which

detail the rights and responsibilities of *subak* membership. *Subaks* are entrusted with the management of irrigation water, a gift from the Goddess Dewi Danu. Each *subak* maintains a local network of shrines and water temples, where farmers make offerings to the gods. Traditionally, *subak* are also responsible for the maintenance of irrigation networks. *Subak* social arrangements, religious rites, and management of temples, irrigation works, and rice terraces are guided by the principle of Tri Hita Karana. Tri Hita Karana is the Balinese-Hindu philosophy that emphasizes harmony among God, humans, and nature.

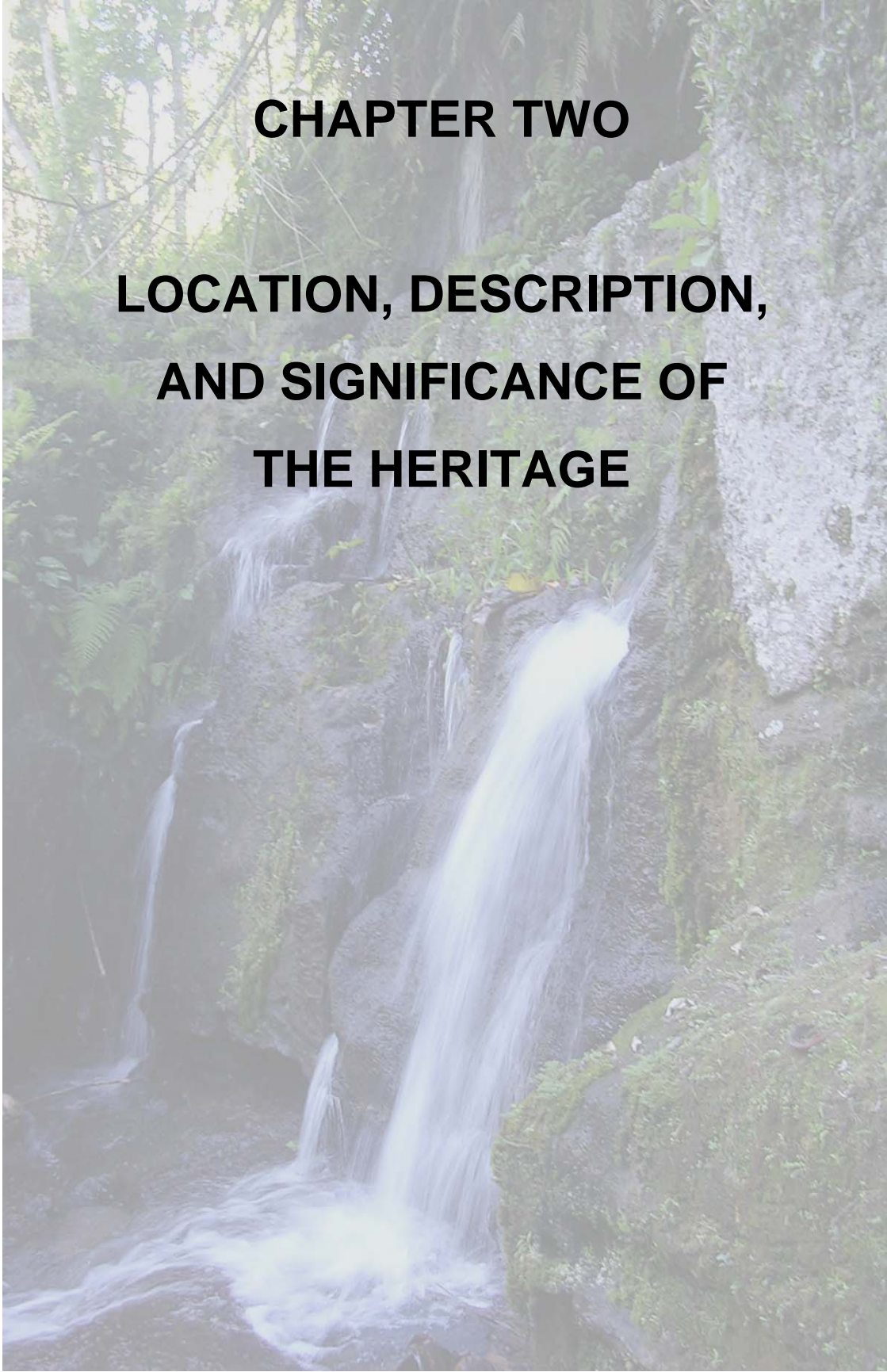
In some cases, the *subak* shares responsibility for the management of temples and irrigation infrastructure with traditional village and sub-village units, or official government entities at the local, regency, or provincial level.

At the provincial level, the heritage property, including *subaks*, temples, and associated forest, lake, and agricultural landscapes, is administered by the Provincial Office of Agriculture, the Crop Service Office, the Provincial Office of Public Works, the Provincial Office of Forestry, and the Provincial Office of Environment. These government agencies operate under direct jurisdiction of the Governor.

The central government, including the Department of Agriculture, Department of Public Works, Department of Forestry, the Ministry of Environment, Directorate General of History and Archaeology in the Department of Culture and Tourism of the Republic of Indonesia, provide necessary funding for the maintenance, support of and conservation of heritage properties through their respective provincial offices. The lead agency for managing cultural heritage properties is Directorate General of History and Archaeology. The Directorate General office also has responsibility to monitor and assess the conservation work in the heritage sites.

The temples and archaeological sites included are protected under the National Law No.5/1992 concerning Items of Cultural Heritage and have been declared Listed Heritage under the authorization of the Ministry of Culture and Tourism through the Office for Archaeological Heritage Conservation in Gianyar, Bali. This office is responsible for protecting, maintaining, and renovating heritage assets. The Office provides expertise and technical assistance in heritage conservation management. In cooperation with the local government, the Office also provides funding and other facilities to carry out renovation of heritage properties.

This management plan builds on the existing *subak* systems and government institutions. Together with recent government decrees at the provincial and central levels (section 1.4), the plan establishes a legal and institutional framework to ensure the sustainability of the *subak* and associated temple network and landscape. The proposed system strengthens control of *subak* over their institutions and resources and establishes a new structure that links together the various management entities across institutional levels for coherent and adaptive planning, management, research, and monitoring of Bali's World Heritage property.



**CHAPTER TWO**

**LOCATION, DESCRIPTION,  
AND SIGNIFICANCE OF  
THE HERITAGE**

## CHAPTER 2

### LOCATION, DESCRIPTION, AND OUTSTANDING UNIVERSAL VALUE

- 2.1 Country** : Indonesia
- 2.2 Region** : Bali Province
- 2.3 Name of Property** : The Cultural Landscape of Bali Province: Manifestation of the Tri Hita Karana Philosophy on Subak System
- 2.4 Location** :
- A. Supreme water temple Pura Ulun Danu Batur**  
District of Kintamani, Bangli Regency
  - B. Ancient water temples and *subaks* of Tampaksiring**  
District of Tampaksiring, Gianyar Regency
    - B.1 Pura Pegulingan
    - B.2 Pura Tirtha Empul
    - B.3 Pura Mengening
    - B.4 Pura Gunung Kawi (Rock Cut Temple)
    - B.5 *Subaks* Basangambu Pulagan, Kumba, and Kulub
  - C. *Subaks* and water temples of Batukaru**  
District of Penebel, Tabanan Regency and District of Sukasada, Buleleng
  - D. *Pura Taman Ayun (Royal water temple) and subak***  
District of Mengwi, Badung Regency

#### 2.5 Description

The sites included in the Cultural Landscape of Bali Province are briefly described as follows.

- A. Supreme water temple Pura Ulun Danu Batur**

Perched dramatically on the rim of Mount Batur overlooking the crater lake, the supreme water temple Pura Ulun Danau Batur is a collection of nested stone courtyards enclosing an array of towering shrines and pavilions dedicated to the worship of a pantheon of 45 deities, foremost among them the Goddess of the Lake, who is said to make the rivers flow and bring prosperity to the land. The temple's supremacy reflects the structural logic of



water temples. In general, the congregation of a water temple consists of all the farmers who share water from a particular source, such as a weir or spring. Because the crater lake is regarded as the ultimate origin of every spring and river, its congregation appropriately includes all *subaks*. As a water temple, the Pura Ulun Danu Batur temple is endowed with a unique collection of attributes: it is at once the most universal *subak* temple, the sacred summit of the cosmic mountain, the sole source of the most potent holy water and the only temple where the priesthood is selected by the gods themselves.

## B. Ancient water temples and *subaks* of Tampaksiring

This site will take in the lands and watercourses of three *subaks*, as well as four important Classical sites (presently managed as distinct entities by the Directorate General of History and Archaeology) that lie in close association with these *subaks*. The proposed World Heritage site, which administratively falls within District Tampaksiring in the Regency of Gianyar, will encompass the following features:

- B.1. The spring and associated water temple Pura Tirtha Empul that is the preeminent symbolic source of the Pakerisan river, as well as an important hydrological source. One of the earliest royal



inscriptions that refers to irrigation, dated 962 AD, mentions a dam at this site, arguably among the first canal irrigation structures in Bali. Pura Tirtha Empul remains important today both as a *subak* temple and as a regional pilgrimage destination.

- B.2. The impressive rock-cut royal memorial *candi* monuments and monasteries located along the Pakerisan at Pura Gunung Kawi, dating to the 11<sup>th</sup> century AD. These royal tombs and monastic retreats testify to the prosperity attained by early Balinese wet-rice kingdoms.



- B.3. Pura Mengening, where a restored free-standing *candi* temple of the 11<sup>th</sup> or 12<sup>th</sup> century AD stands above another holy spring that is the water source for the irrigation channels of *subak* Kulub.



- B.4. The *subaks* that utilize the flow which originates at the springs of Pura Tirtha Empul (*Subaks* Pulagan and Kumba) and Pura Mengening (*Subak* Kulub).

Collectively, the sites of Tampaksiring constitute an ancient and still functioning water temple network that played a formative role as one of the cradles of Balinese kingship and religious traditions. As a cultural landscape that bears witness to past as well as present practices, Tampaksiring is an exemplary manifestation of the Balinese reverence for water in both sacred and practical contexts.

### C. *Subaks* and water temples of Batukaru



Situated primarily in north Tabanan Regency, this site extends from a mountainous water catchment zone to highland rice terraces at the upper edge of Tabanan's irrigated rice paddies.

The area encompasses the forests of Bali's second highest volcano, Mount Batukaru (2276 m) as well as Lake Tamblingan in Buleleng Regency, which is considered to be the source of water for the many upland springs that feed Tabanan's "water



mountains", or irrigated terraces. Tabanan is widely regarded as the "rice-barn" or *lumbung* of Bali, where fertile volcanic soils have long supported the cultivation of highly-valued local varieties of red, white, and black rice. Collectively, the *subaks* of this region (Catur Lokapala Batukaru maintain the traditional farming and irrigation systems over a cultivated area of 300 hectares.

The *subaks* in the area maintain a strong connection with Pura Ulun Danu Tamblingan, whose goddess Ida Batara Danu Tamblingan is believed to supply water for fields throughout the Tabanan region. The 11<sup>th</sup> century *Pura Luhur* Batukaru, nestled in the forest above the rice terraces, sits at the apex of Batukaru's temple microcosm. The Batukaru area also is spiritually protected by the *Pura Luhur* Pucak Petali, situated at the edge of the forest above the villages and *subak* of Batukaru and Gunung Sari.

The Batukaru site has particular significance as a pilot area for implementation of the livelihood and ecosystem conservation initiatives proposed in this management plan. In 2005, a small group of farmers from area and a research team from the Bureau of Agricultural Research and



Technology Assessment (BPTP) in Bali's Department of Agriculture initiated a new project of organic rice production, by creating a nongovernmental organization they named *Somya Pertiwi*, which means "Fruits of the Earth Goddess". Today, farmers from *subaks* throughout the Batukaru area have transitioned to organic rice production, recognizing both the environmental and economic benefits. *Somya Pertiwi* has established a field training



center, where farmers and agricultural extension agents from Bali and throughout Indonesia are coming in growing numbers to acquire traditional rice varieties, and learn organic farming practices. *Somya Pertiwi* and its training centre provide a model to support the transition to organic rice production proposed throughout World Heritage Cultural Landscape sites in Bali.

## 2.6 Statement of Outstanding Universal Value

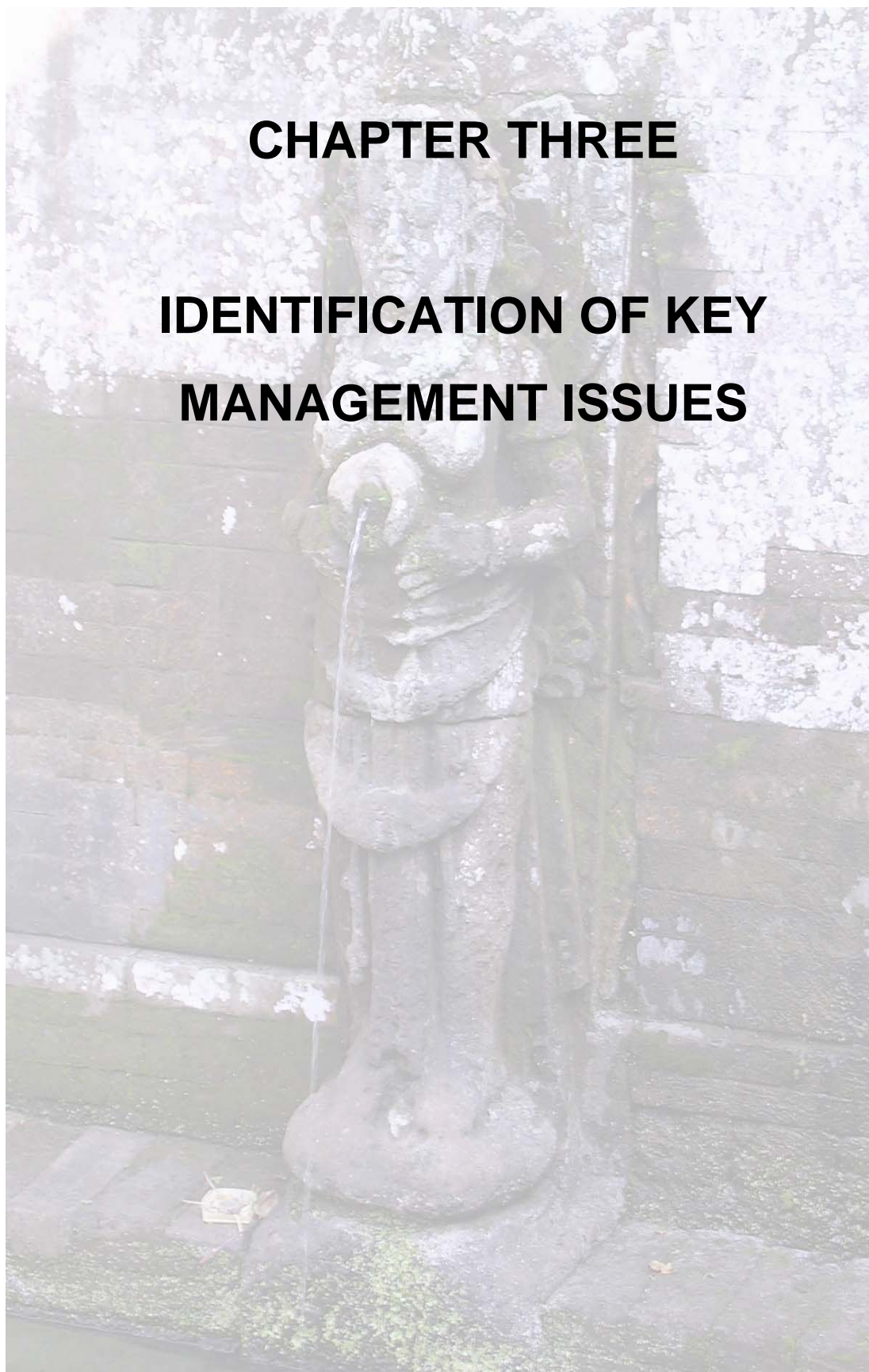
The Statement of Outstanding Universal Value (SOUV) of the proposed World Heritage Site provides a guideline for the preservation and enhancement of the property.

The *subaks* and water temple networks of Bali reflect the Balinese philosophical principle *Tri Hita Karana* (“three causes of goodness”), which promotes an harmonious relationship between the individual and the realms of the spirit (*parhyangan*), the human world (*pawongan*) and nature (*palemahan*). This abstract idea is given concrete realization in the lives of the Balinese through the institutions of *subaks* (ancient, democratic self-governing farmer’s associations) and water temples, which give spiritual meaning to the governance of the rice terrace ecology. Each year, the congregations of the water temples perform an intricate series of rituals, offerings and artistic performances that are intended to sustain an harmonious relationship with their natural and spiritual existence. Over the centuries, the physical landscape of Bali has been reshaped in conformity with these philosophical ideas. Water temple networks have expanded to manage the ecology of rice terraces at the scale of whole watersheds, transforming the volcanic landscape into faceted terraces whose jewel-like perfection creates general prosperity.

Balinese water temples are unique institutions, which for more than a thousand years have drawn inspiration from several ancient religious traditions including *Saivasiddhanta* and *Samkya Hinduism*, *Vajrayana Buddhism* and Austronesian cosmology. The focus of water temple rites is the maintenance of harmonious relationships between humans and the natural world. This is achieved through active engagement with spiritual concepts, emphasizing the dependence of the human community on the life-sustaining forces of the natural world. These ideas are expressed through the musical traditions of various types of orchestra;

dramatic performances such as *topeng*, *gambuh*, *wayang*, *rejang* and *baris*; the reading of poetry in four languages (Sanskrit, Balinese, Old and Middle Javanese); the creation and dedication of offerings made of flowers, fruits and rice; and the performance of rituals by priests and the congregation. The temples themselves are continually repaired and embellished by stone masons, sculptors, woodcarvers and painters.

The temple networks represent a unique response to the challenge of supporting a dense population on a rugged volcanic island in a monsoonal area. The mountainous nature of the island with deep ravines and seasonal rains has created an ecosystem that is prone to water scarcity and threats of disease and pests. Water temple networks traditionally cope with these problems by enabling clusters of *subaks* to adjust irrigation schedules at the watershed scale, controlling pests by inducing synchronized fallow cycles. Although each *subak* focuses on the management of its own rice terraces, a global solution to water allocation emerges from the temple networks, optimizing irrigation flows for all. This thousand-year-old system is now threatened with collapse, due to development pressure, fragmentation of the landscape, and pollution from agricultural chemicals.



## CHAPTER 3

### IDENTIFICATION OF KEY MANAGEMENT ISSUES

This chapter elaborates key issues and challenges that will be addressed in Chapters 4 and 5 of the management plan.

#### 3.1 Institutional Coordination

Many parties have interests and are involved in the management of the sites included in the Cultural Landscape of Bali Province. These parties come from various sectors and backgrounds, each with different visions, missions, and lines of accountability, which may or may not conform to the conservation policy of World Heritage properties. Hence, a well-structured coordinating body is one of the key issues addressed in the management plan.

#### 3.2 Boundaries and Setting of the Heritage Sites

The nominated World Heritage Cultural Landscape of Bali Province consists of five sites, which are situated in three geographic zones. The sites extend across over 1,000 km<sup>2</sup> of land in five different administrative regencies. The diversity of sites and institutional arrangements presents a challenge for coherent and integrated management of these serial sites. Thus, the management plan proposes a coordinating institution and implementation approach to accommodate this diversity. An adaptive co-management framework will guide the management and monitoring of the cluster of sites, while individual Master Plans will address site-specific management issues and plans.

Most of the sites included in the Cultural Landscape of Bali Province nomination are living heritage sites, which are owned by traditional villages (*desa adat* or *banjar*) and private farmers, and managed by *subaks*. However, local landowners face significant pressure to sell and subsequently develop property that is currently designated for rice farming. Although the Governor's Provincial Decree of 2008 establishes the legal basis for conservation of the World Heritage property, it will be necessary to establish appropriate zoning regulations within the sites to maintain the authenticity and integrity of the water temples and surrounding

landscape. Development restrictions within the sites must maintain the outstanding universal value of the area, while allowing farmers and community members to sustain their livelihoods. Achieving consensus on the classification of core and buffer zones and development restrictions within the sites is an immediate challenge the management plan and Coordinating Board will undertake.

### 3.3 Social Learning and Research

The Cultural Landscape of Bali Province is a unique and complex social-ecological landscape. Effectively managing the site to promote the goals of sustainable livelihoods and sustainable ecosystems will require ongoing research into the dynamics of the interconnected systems, as well as the emerging institutional processes of adaptive governance. Establishing systems to manage knowledge and information and facilitate a social learning environment will be a key challenge.

Improving public knowledge and appreciation of this dynamic cultural landscape is also a main aim of the management plan. This requires adequate interpretation of the *subak*, the water temple hierarchies, and the landscape, as well as the relationships between these aspects. The quality of interpretation at some sites is presently inadequate due to a lack of thorough research. What is more, it is always necessary to review and assess the interpretations currently available. Better interpretations can only be obtained through continuous research on the many aspects of the Cultural Landscape of Bali Province. The results of the research will certainly improve the understanding and presentation of the heritage assets to a wider public.

### 3.4 Livelihood Protection and Enhancement

As a living heritage site, the Cultural Landscape of Bali Province has been maintained for centuries by *subaks* and local communities, guided by the Balinese philosophy of Tri Hita Karana. Any effort to preserve the sites will not be effective without local community participation. They should be involved in



all programs to manage and develop the heritage site. It is also apparent that the heritage will be better preserved if the local communities benefit directly from their heritage. The desire for a better life or major household expenses such as health care and education can lead local land owners to sell their rice terraces and migrate from their village to seek alternative sources of income. This phenomenon has both direct and indirect negative impacts on the conservation of the cultural landscape. In light of this trend, livelihood enhancement should be one of the priorities in the management of the heritage site. Furthermore, the encroachment of tourism development and urbanization into Bali's Green Zones in recent years endangers the unique and harmonious landscape. Incentives and subsidies to support prosperous rural livelihoods and strong *subak* institutions must be coupled with statutory authority and enforcement of land use regulations to prohibit inappropriate development within the proposed World Heritage sites.

### **3.5 Conservation and Promotion of Ecosystem Services**

The United Nations Millennium Ecosystem Assessment defines ecosystem services as the benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious and other nonmaterial benefits. In Bali, as elsewhere, the loss and degradation of the natural environment undermine the capacity of the ecosystem to provide these services. Land conversion due to urban expansion and pollution from intensive use of agricultural chemicals and animal waste threaten Bali's ecological resources. To manage the Cultural Landscape of Bali Province, the framework developed for Millennium Assessment provides a useful basis for making decisions about how to enhance the conservation and sustainable use of ecosystems and their contributions to human livelihoods. The management of the proposed World Heritage Property will need to focus on the natural resources that sustain Bali's unique agricultural landscape, including forests and water resources, plant and animal biodiversity, and soil composition.

### 3.6 Conservation of Material Culture

The nominated Cultural Landscape of Bali Province comprises different components of material culture, including traditional brick and wooden structures, rock cut temples, wet rice terraces, and bathing pools. Traditionally, most of the construction materials were obtained directly from the surrounding area. However, the introduction of new materials and environmental pressures have induced the Balinese to replace the traditional materials with fabricated materials. This tendency does not conform to the conservation principle to retain the authenticity of the heritage site. Organic materials are a substantial and authentic component of the architectural structures within the nominated sites. However, these materials deteriorate rapidly in the humid tropical climate. The management plan has to address this problem as well.

In addition, several rock-cut temples have been damaged due to environmental pressure as well as natural disaster and restoration will be necessary for some sites in Tampaksiring.



### 3.7 Appropriate Tourism Development

Since the 1970s, Bali has become one of the most popular tourist destinations in the world. Millions of domestic and international tourists have visited Bali. The Balinese tourist industry grew very rapidly until 2002, when the first terrorist bomb struck Kuta. In subsequent years, the number of visitors coming to Bali decreased significantly. However, tourism levels are now returning to pre-2002 levels and the Bali Provincial Government continues to view tourism as a major source of income. Accordingly, the government has promoted new tourist attractions to entice tourists to come to Bali.

Construction of tourist facilities and infrastructure within cultural heritage areas is one of the negative impacts of tourism on Bali. Parking areas, toilet facilities, restaurants, souvenir kiosks, hotels and information offices are often constructed close to or even inside the sites. As a result, the accessibility of the site becomes more difficult, the spatial arrangement based on cosmological doctrine is disturbed, and the beauty of the cultural landscape is contaminated and becomes less enjoyable. With inscription of the Cultural Landscape of Bali Province to the World Heritage List, it is anticipated that tourism to these areas will increase. Together with widespread globalization, this is bound to bring significant changes to the traditional lifestyle of the Balinese. These issues must be addressed, in consultation with local communities and relevant government authorities, to mitigate and ameliorate negative impacts of tourism.

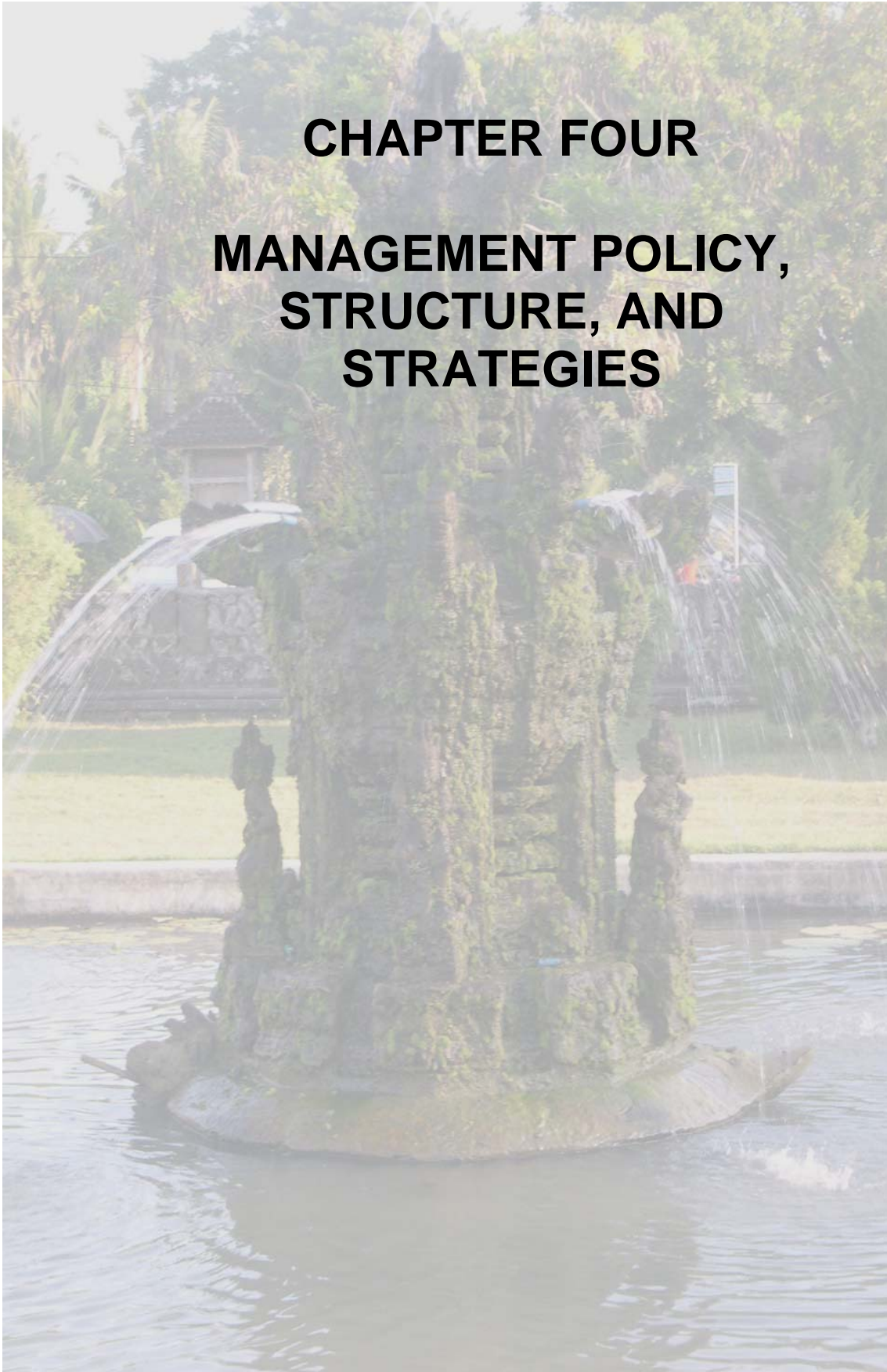
### **3.8 Infrastructure and Facility Development**

One of the main aims of the management plan is to improve public awareness and appreciation of the Cultural Landscape of Bali Province and its settings through improved presentation and enjoyment. It is therefore essential for these sites to be easily accessible. As noted above, facilities such as souvenir and snack kiosks are built inside the compound of some sites. This development has spoiled the authenticity of the traditional arrangement. In such cases, the original arrangement should be restored. At other sites, accessibility is limited and/ or facilities are not available. This makes it difficult for the visitor to gain knowledge about the heritage site. It will be important to develop a coherent infrastructure development strategy for the cluster of sites, to effectively balance tourism development, livelihood support, and conservation objectives, and to enhance the interpretation of sites for the public.



# **CHAPTER FOUR**

## **MANAGEMENT POLICY, STRUCTURE, AND STRATEGIES**



## CHAPTER 4

### MANAGEMENT POLICY, STRUCTURE, AND STRATEGIES

#### 4.1 Legal, Institutional, and Administrative Policies and Structures

The legal framework for the management and coordination of the World Heritage Cultural Landscape of Bali is established by Provincial Decree in the Agreement between the Government of Bali Province and Regencies of Bali for the Establishment of the Strategic Area of Bali Province. This Agreement legally codifies conservation and spatial planning for the proposed World Heritage sites named above, including tangible and intangible heritage and agricultural and forest ecosystems within the site boundaries. The Provincial Decree is based on National Law No. 26/2007, and National Government Decree No. 26/2008, concerning spatial planning and the establishment of National Strategic Areas for conservation of critical cultural landscapes.

The management of the property will be coordinated by a newly established Coordinating Board, which links together government and non-government entities at the national, provincial, and local levels (Figure 4.1). Board members represent each of the relevant Government departments: Culture and Tourism, Agriculture, Forestry, Environment, and Public Works. The Coordinating Board will be housed within the leading sector, the Department of Culture and Tourism at the provincial level. The Department has allocated office space and administrative support to manage the day-to-day coordination of the property. The Department of History and Archaeology, Bali Province, will have a lead advisory role. The Governor appoints the head of the Board and all members.

Presently, the government of the Republic of Indonesia restricts the activities of each Ministry or government department to its respective mandate. Coherent management of Bali's complex social and ecological landscape requires expertise and effective collaboration from multiple government offices and departments, as well as traditional *subak* and community management institutions. Thus, the new structure establishes a cross-sectoral coordinating body, with clear budgetary and reporting lines.

Figure 4.1. Coordinating Structure for Cultural Landscape of Bali Province

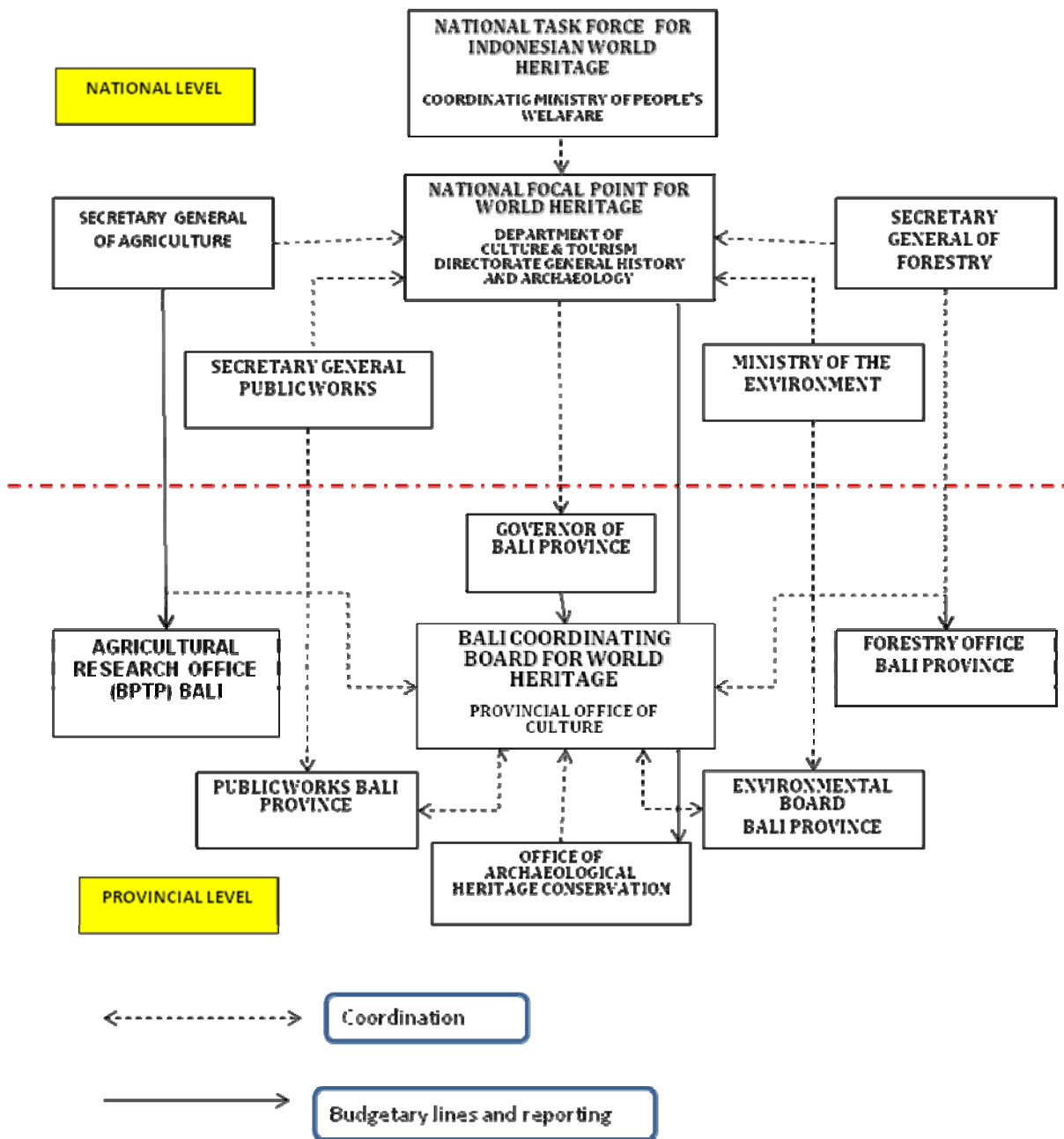


Figure 4.1 presents the organizational structure for coordinating the Cultural Landscape Program. The National Coordinating Board for World Heritage, Housed as an independent institution within the Department of Culture and Tourism, will liaise directly with the Coordinating Board at the provincial level. There is a parallel structure among the relevant ministries and departments at the national and provincial levels. This ensures that each government agency involved in implementing the project can dedicate the staff and resources necessary for the multi-sectoral management of the Cultural Landscape program.

The Coordinating Board will facilitate coordination among relevant departments so that the goals of adaptive ecosystem governance can be realized. The structure of the Board clearly situates responsibility for the management of the World Heritage program in a well-defined organization, which is entrusted with implementation and monitoring and evaluation. Finally, the internal structure of the Coordinating Board explicitly integrates participation from a broad forum of stakeholders, representing government institutions, *subak* and community organizations, and academic and research institutes (*Figure 4.2*). A principle external collaborator will be the Stockholm Resilience Center. The Center, a premier institution for environmental research and adaptive governance of social-ecological systems at Stockholm University, will support research, capacity building, and policy development (per MOU Stockholm Resilience Center-Ministry of Culture and Tourism, Republic of Indonesia). *Subaks* and local communities will retain responsibility for the day-to-day site maintenance and conservation, based on existing institutional and legal structures of *subak awig-awig* and customary *adat* law. The Board will ensure effective communication among the local communities and *subaks*, government agencies and other stakeholders. It will also be responsible for implementing the principal project components outlined in this plan.

**Figure 4.2. Cultural Landscape of Bali Province Coordinating Board Structure**

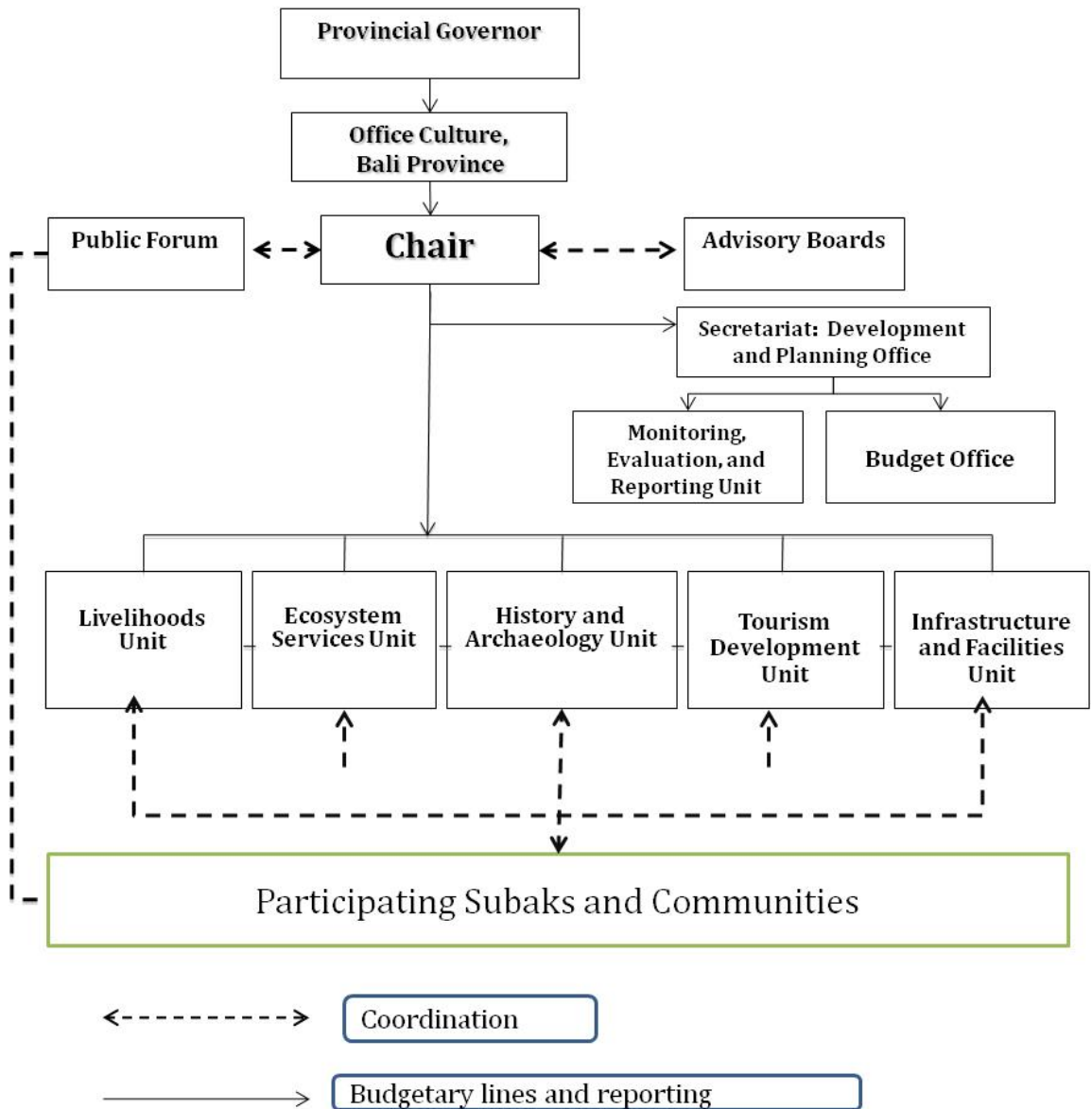


Figure 4.2 presents the internal structure of the Coordinating Board for Bali Province. The Board will be appointed by the Governor and housed in the Ministry of Culture. The Chair of the Board will organize five working units that will be responsible for implementing the activities presented in Chapter 5: livelihoods, ecosystem services, history and archaeology, tourism, and infrastructure and facilities. These units will draw on the expertise of their home department or ministry (see Figure 4.1). The structure of the Board will facilitate close communication and collaboration among the units in light of the interrelated nature of the Cultural Landscape initiative. To enhance the communication and decision-making role of participating *subaks* and communities, the Chair will establish a Public Forum with representatives from each site. Advisory Boards from Bali’s Udayana University and the Stockholm Resilience Center will provide expert advice on community-based research and development, social-ecological resilience, and adaptive governance.

#### 4.1.1 Detailed participatory site mapping

Bali's Departments of Agriculture (BPTP) and Culture, the Regional Planning Board (*Bappeda*), and the Office of Archaeological Heritage Conservation at the provincial and national levels, have initiated compilation of detailed site maps, in consultation with *subaks* and local community leaders. This process of mapping will be extended in two principle ways. First, the Coordinating Board will consult with *subaks*, community leaders, and government authorities to establish appropriate zoning laws for each site, delineating core and buffer zones. A core zone is a minimum protection area needed to guarantee the protection of the site. A buffer zone is a reserved area around each site, which gives an additional layer of protection to the property. The buffer zone is established to anticipate possible changes due to future development so that the original setting of each site is maintained and that potential changes do not intrude upon the enjoyment of the cultural landscape. The designation of core and buffer zones will be defined to the greatest extent possible on existing conservation and development regulations at each site, to ensure the maximum level of protection in core zones and, in buffer zones, allow for sustainable livelihood development that respects traditional land use practices and architectural design. The Provincial Decree of 2008 establishes the legal basis for conservation zoning of Bali's proposed World Heritage landscape, including rice terraces, forests, and lake regions. For temple monuments, the designation of core and buffer zones will be based on National Law No.5/1992 concerning The Conservation of Cultural Property. The process of delineating and mapping core and buffer zones will draw on the experience of similar processes at other World Heritage properties in Indonesia (e.g., Borobudur and Prambanan).

Second, an appropriate legal statutory framework will be developed for the core and buffer zones for better management and enforcement of the property. Such legal status and regulations implemented within the zones will be determined through consultative discussions involving property owners, *subak* representatives, community leaders, local foundations, government agencies, and the Coordinating Board of the Cultural Landscape Bali Province.

## 4.2 Comprehensive and Participatory Assessment

Sustainable resource management depends on a process of learning and adaptation. A core component of successful adaptive management is integrated social-ecological assessment. Such assessment involves participation from the broad spectrum of stakeholders and resource users and considers the full range of essential ecosystem services. Management of the Bali World Heritage property will be built upon a foundation of comprehensive and participatory assessment. Preparation of the nomination dossier and this plan has involved numerous consultative meetings with government and non-government stakeholders, including *subak* and community representatives.

**Figure 4.3. Cultural Landscape of Bali Adaptive Management Framework**

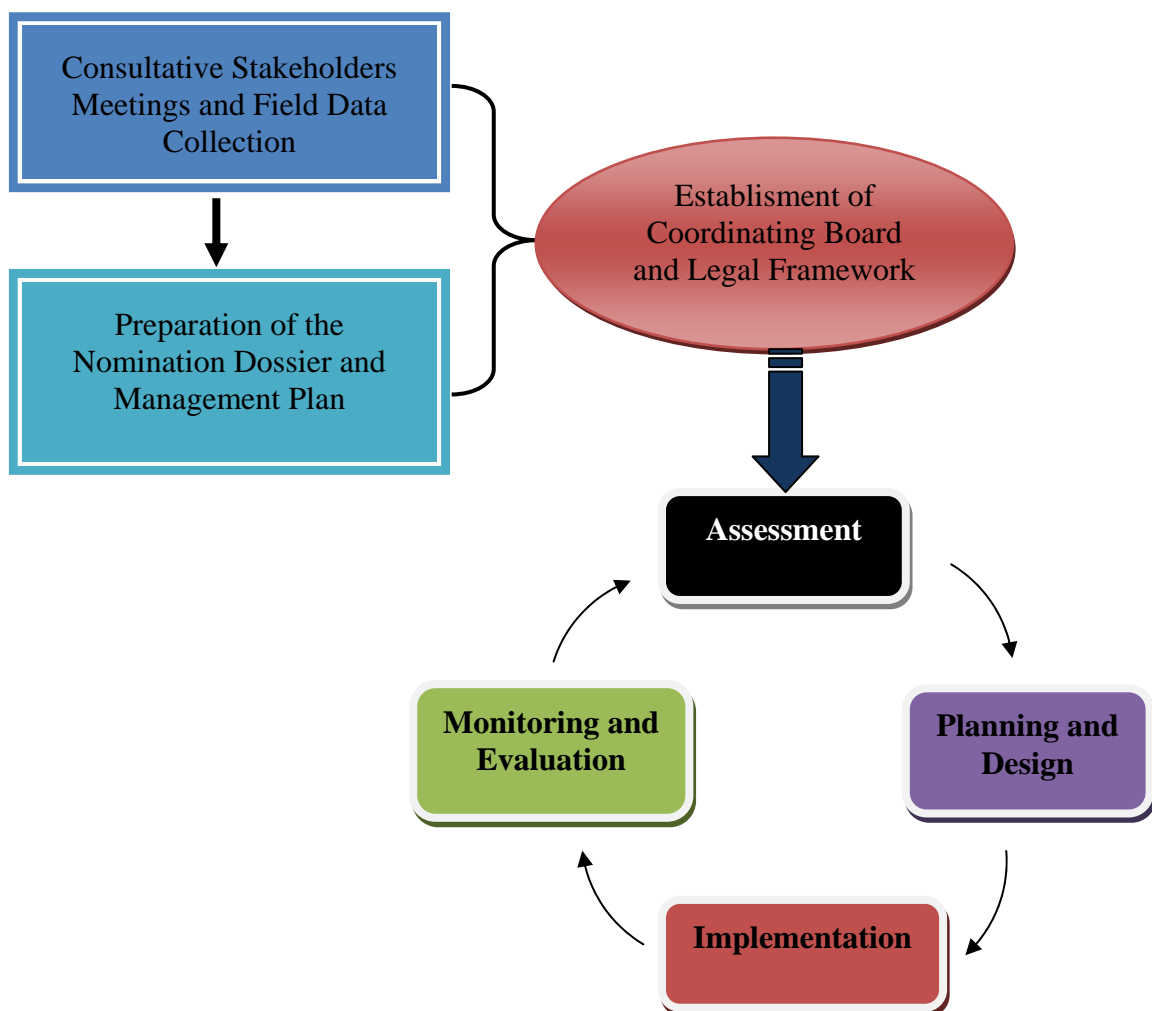


Figure 4.3 displays the iterative phases of program implementation presented in Chapter Four. Establishing the Coordinating Board as an adaptive institution and the necessary legal framework for social and ecological protection and enhancement are central to the success of the initiative. The Coordinating Board will draw on

the nomination document and management plan to guide an ongoing process of comprehensive and participatory assessment (4.2); participatory planning and design of activities (4.3); implementation of those activities (4.4); and establish a monitoring and evaluation system to assess and utilize social and ecological feedbacks (4.5).

The Coordinating Board for the Bali World Heritage sites will extend this consultative approach to comprehensive and systematic assessments of livelihood status, vulnerability to social and environmental threats, coping and management capacities, and the state of the environment across target areas. These assessments will be linked to a participatory planning process at each site, as well as the design, implementation and ongoing monitoring and evaluation of specific activities at each site (Figure 4.3). In designing and implementing the assessments, the Board will draw on best practices in adaptive governance assessment methodologies, in consultation with relevant experts from the Stockholm Resilience Center.

### **4.3 Participatory Planning and Design**

Chapter 5 of this management plan describes the strategic priorities for management of the World Heritage site. A participatory planning approach will be implemented to support these priorities and achieve an integrated approach to managing the five proposed sites as a cluster. Findings from integrated assessments (4.2) will provide a foundation for this on-going process. Planning and design will involve the broad range of stakeholders as well as experience and ideas from other adaptive governance processes. Importantly, it will respect and strengthen existing *subak* and community planning processes. It will also ensure coherent harmonization of conservation and livelihood enhancement initiatives at various levels of government authority. The principal outputs from this process will be (1) individual site management plans (Master Plans) that feed into and reflect the cluster-wide policies and strategies and (2) annual work plans to guide day-to-day site management. Plans will reflect the strategic priorities and capacities at each site, to promote social-ecological resilience. To navigate the complexities of the social and ecological systems and facilitate an adaptive management approach, the planning process must be flexible and responsive to institutional learning and contextual changes. In this way, the planning and



design process will be closely linked with policy priorities and feedbacks from the monitoring and evaluation system.<sup>1</sup>

#### 4.4 Strategic Priorities for Implementation

Managing the World Heritage site will require implementation at two principle levels. First, the Coordinating Board will be responsible for implementing the policy and institutional components discussed in this chapter. These components establish a solid legal framework, organizational structure, and programmatic elements for effective and integrated World Heritage site management. Second, the Board will oversee implementation of activities within each strategic priority area presented in Chapter 5 of this management plan. These activities are proposed to strengthen the capacity of *subaks* as the primary institution involved in the management of the rice terraces and guardians of ecosystem services and the temple hierarchy. While the specific activities and means of implementation will vary at each of the five individual sites (per participatory planning processes discussed above), key strategic priorities for the cluster of sites are:

1. Livelihood protection and enhancement
2. Conservation and promotion of ecosystem services
3. Conservation of material culture
4. Appropriate tourism development
5. Infrastructure and facility development

The composition of the Coordinating Board reflects the collective expertise necessary to implement activities in each of these programmatic areas. However, these areas are inextricably linked and successful implementation will require multi-sectoral partnership, guided by the Board in collaboration with respective government agencies and local communities. Selection and implementation of specific activities at each site will strengthen *subaks* and existing management schemes to promote resilient social and ecological systems.

#### 4.5 Adaptive Monitoring and Evaluation System

Effective co-management of Bali's proposed World Heritage property requires a consistent and comprehensive flow of information that can be readily synthesized

<sup>1</sup> Thomas Elmqvist et al. (2003). Response diversity, ecosystem change, and resilience. *Front Ecol Environ* 1(9): 488–494; Carl Folke et al. (2005). Adaptive governance of socio-ecological systems. *Annual Review of Environmental Resources* 30:441–73.

and utilized—for both the short-term implementation of the program and for longer term planning. The Monitoring, Evaluation, and Reporting Unit housed within Bali's proposed World Heritage secretariat will work with the Governor appointed Chair of the Coordinating Board to design a dynamic and adaptive monitoring system to collect and manage data on social and ecological variables, as well as contextual changes that potentially affect the conservation and enhancement of the World Heritage site. The system will include baseline data on key social and ecological indicators, and the state of conservation of the World Heritage properties. Baseline data on livelihoods, *subak* institutional capacity, and environmental factors such as soil and water quality and environmental change have been collected to varying degrees in Batukaru, Sebatu, and Tampaksiring areas (2006-2008). This baseline data will be reviewed to identify core indicators of sustainability and identify current knowledge gaps. Data will be collected to fill these gaps and the baseline study extended to the Mengwi site and any future serial sites.

The system will also include a participatory monitoring component involving *subaks* and other stakeholders. It will also be important to monitor and report on regular program outputs (i.e., the provision of goods and services such as distribution of organic fertilizer and training in organic farming). Periodic evaluations will be conducted to assess the overall social and ecological impacts of the program, against baseline data.

Since the property includes a diverse cluster of sites, each with different attributes, it will be necessary to establish a small set of core social-ecological variables for overall program monitoring. Output level indicators will be tailored to each individual site, to monitor the site-specific activities. The system will be closely linked to the participatory planning process and implementation of specific activities at each of the five sites in the proposed cluster. To develop a system that effectively integrates and responds to social and ecological feedback, the Coordinating Board and the Monitoring, Evaluation, and Reporting Unit will seek guidance from the Stockholm Resilience Center. In addition, the Indonesian Ministry of Culture and Tourism, as the official State Party, may request expert advice from the World Heritage Advisory Bodies and the Secretariat. Periodic reports will be submitted to the UNESCO World Heritage Centre.

#### 4.6 Capacity Building for Adaptive Co-Management of Complex Social-Ecological Systems

Effective and adaptive management of the proposed World Heritage Cultural Landscape of Bali will require the ability to observe and interpret social and ecosystem dynamics and develop the social capacity to respond to feedback and change.<sup>2</sup> The Coordinating Board endeavors to function as a learning institution, with the capacity to mobilize, synthesize, and make decisions based on different knowledge and operational systems, ranging from the traditional management systems of the *subak* to recent and successful work by Bali's Department of Agriculture to promote organic rice farming and monitor the social and ecological outcomes of these efforts. This requires fostering a dynamic learning environment that recognizes policy decisions and implementation of World Heritage programs are "ongoing learning experiments" that will be monitored, evaluated, and adapted over time.<sup>3</sup>

Developing the knowledge, skills, and expertise to adaptively co-manage Bali's World Heritage property as a complex and dynamic social-ecological landscape is a critical priority of the Coordinating Board. Already, the Department of History and Archaeology, through the Ministry of Culture and Tourism, has submitted a proposal to the International Assistance Program under the World Heritage Fund for training in adaptive social-ecological management of Indonesia's World Heritage sites. This proposal has been developed in collaboration with institutional partners in Bali and the Stockholm Resilience Center as a first step in an ongoing initiative to develop expertise in adaptive, sustainable management of the unique social and ecological systems in Bali and elsewhere in Indonesia. It is proposed that the Stockholm Resilience Center, the premier research institute in ecosystem management and adaptive governance, will join regional World Heritage program staff for training in conceptual approaches and management practices at field sites in Bali. The Coordinating Board will also seek training and capacity building in management of World Heritage properties, including risk management, climate change, and site conservation from relevant agencies, such as International Centre for the Study of the Preservation and Restoration of

<sup>2</sup> See Folke, C. et al. (2005) Adaptive Governance of Social-Ecological Systems. *Annual Review of Environmental Resources* 30:441-73.

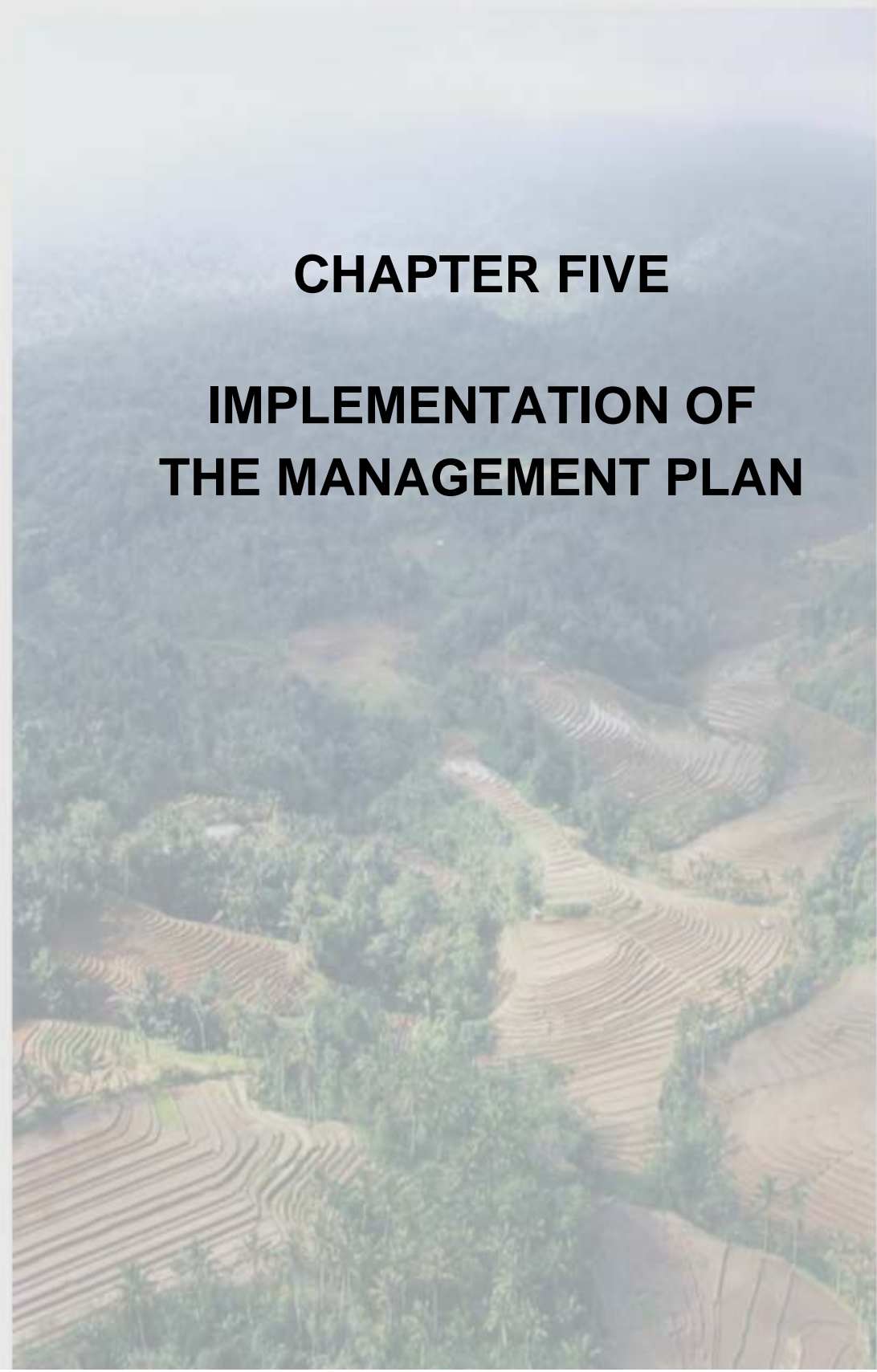
<sup>3</sup> Ostrom, E. (2005). *Understanding Institutional Diversity*. Princeton, NJ: Princeton University Press.

Cultural Property (ICCROM). It is envisaged that Bali's World Heritage site will become a learning center in adaptive co-management for the Indo-Pacific region.

#### **4.7 Identification of Serial Sites to Extend Ecosystem Conservation and Livelihood Objective**

The selection of sites proposed for inscription as the Cultural Landscape of Bali World Heritage Sites is based on their representative outstanding universal value. There are, however, hundreds of functioning *subaks* in Bali that display the social, spiritual, and ecological characteristics described in the nomination dossier. Throughout Bali, the *subaks* face imminent threats from the rapid pace of tourism development, urbanization, and ecological deterioration. Presently, it is not possible to provide the institutional support and resources necessary to effectively manage such a vast island-wide cluster. Thus, the sites proposed for inscription as a World Heritage property in 2009 are also those with a history of consultation with *subaks*, local communities, and government authorities at the district level. This long-term engagement of local communities and government officials has developed social networks among stakeholders that are essential for successful adaptive co-management of the cluster of sites. The parties involved in the preparation of Bali's World Heritage nomination have a strong commitment to extending the initial World Heritage property to include other threatened *subaks*, water temple hierarchies, and corresponding forests and terraced landscapes as serial nominations.

Preliminary work toward future inscription of the *subaks* and water temples of Bali's Sideman Valley has already been undertaken. This site originates at an important mountain temple on Mount Agung, Pura Pasar Agung, and descends through forests to include 36 *subaks* along two rivers in the eastern district of Karangasem. Presently, this region of Bali is still dominated by traditional rice agriculture, and so far there has been little conversion of rice terraces to commercial uses. However, the Sidemen district is presently zoned for tourist development and numerous plans have been drafted for villa and golf course development. The Coordinating Board will continue the efforts already initiated to add Sideman to the proposed cluster of World Heritage sites. The ongoing process in Sideman and in other important cultural landscapes in Bali will build on the lessons of consultative engagement and the experience of the Coordinating Board, *subaks*, and other stakeholders in management of the initial property.



**CHAPTER FIVE**

**IMPLEMENTATION OF  
THE MANAGEMENT PLAN**

## CHAPTER 5

### IMPLEMENTATION OF THE MANAGEMENT PLAN

This chapter presents two categories of activities that will be implemented under the Cultural Landscape of Bali Province. The first reflects the operational tasks that will be undertaken to establish the policies, systems, and structures presented in Chapter Four. These operational activities will be necessary for the proposed World Heritage Program to develop as an adaptive institution with the capacity to achieve its five key strategic objectives.

The second category includes the specific activities that may be implemented within each priority area of the Cultural Landscape initiative, listed in section 5.4 below. The strategic priorities are:

1. **Livelihood protection and enhancement** for *subak* institutions and their members, as guardians of Bali's unique cultural landscape;
2. **Conservation and promotion of ecosystem services** to ensure sustainable use of natural resources upon which *subaks* and their farming systems depend;
3. **Conservation of material culture** to preserve and enhance the authenticity of sites and structures as a living manifestation of Bali's heritage;
4. **Appropriate tourism development** within the site, to achieve a balance between public and visitor education, generation of tourism-based revenue, and conservation; and
5. **Infrastructure and facility development** consistent with preservation and enhancement of the cultural landscape.

The set of activities proposed here is in fact a 'menu of options' that participating *subaks* and government partners may elect to implement at each individual site. The specific choice of activities means of implementation, and sequencing will be determined based on findings from comprehensive assessments, discussed in Chapter Four. They will be developed as part of Master Plans for each site and integrated into annual work plans, and linked to the monitoring system. Within the Coordinating Board, individual management units will be established with direct responsibility for the coordination and implementation of each strategic objective

(see Figure 4.2). Activities proposed to support each objective are in fact a refined and integrated version of the activities discussed during numerous stakeholder meetings held as part of the process to prepare this nomination. Some of these activities have been ongoing for quite some time, while the majority has been proposed more recently as part of the World Heritage initiative.

The tables presented below list specific activities that will be carried out under the guidance of the Coordinating Board of the Cultural Landscape of Bali Province World Heritage initiative. Estimated periods to achieve the results are given as follows: *short* period, from 3 months to 1 year; *medium*, 1 to 3 years; and *long*, more than 3 years. The agencies or stakeholders which have been involved already or will take part in the implementation of the program are listed below.

BA	<i>Bendesa Adat</i> (Traditional Village Authority)
BPTP	Bureau of Agricultural Research and Technology Assessment, Bali Department of Agriculture
CBCB	The Coordinating Board of the Cultural Landscape of Bali Province
COBP	Cultural Office of Bali Province
DGHA	Directorate General for History and Archaeology
GBP	Government of Bali Province
IAUA	Individual Academic, University or Other Research Agencies (Stockholm Resilience Center, Udayana University)
IDA	Indonesian Department of Agriculture
IDE	Indonesian Department of Education
IDEMR	Indonesian Department of Energy and Mineral Resource
IDEnv	Indonesian Department of Environment
IDF	Indonesian Department of Finance
IDFor	Indonesian Department of Forestry
IDH	Indonesian Department of Health
IDPU	Indonesian Department of Public Works
NGO	Non-Government Organization
OAHC	Office for Archaeological Heritage Conservation in Gianyar
OARB	Office for Archaeological Research, Bali
ORHT	Office for Research on History and Traditional Values in Bali
RG	Regional Governments ( <i>Kabupaten</i> : Badung, Bangli, Buleleng, Gianyar, Tabanan)
SBK	<i>Subaks/ Pekaseh Subak</i>
TBBP	Tourism Board of Bali Province

## 5.1 Legal, Institutional, and Administrative Policies and Structures

Objectives	Activities	Short	Medium	Long
<b>Ensure protection and enhancement of the World Heritage site through proper implementation of the management plan</b>	Establish and officially appoint appropriate members to the Coordinating Board of the Cultural Landscape of Bali Province, including the Public Forum for community participation, Advisory Boards, Secretariat, and working Units (see Fig. 4.3)	GBP DGHA		
	Establish Coordinating Board Office in the Bali Provincial Culture Office	COBP		
	Consult with all stakeholders to affirm the management plan and refine it if necessary	DGHA COCB OAHC		
	Carry out consultative discussions with all stakeholders and the wider public on the refined management plan	DGHA COCB RG	DGHA COCB RG	
<b>Establish legal status for each site including core and buffer zones</b>	Consult with owners and residents of the proposed core and buffer zones to determine the legal status of core and buffer zones	COBP OAHC RG BA SBK	COBP OAHC RG BA SBK	
	Hold consultation meetings with all stakeholders to discuss land use regulations to be applied and enforced within the core and buffer zones	COBP OAHC RG NGO BA SBK	COBP OAHC RG NGO BA SBK	



	Conduct process to establish legal land use regulations for core and buffer zones		CBCB COBP OAHC	
	Map and mark the agreed boundaries to delineate core and buffer zones of each site		OAHC RG	
	Develop and implement law enforcement programs		CBCB COBP OAHC RG	
<b>Ensure that financial support is available from government agencies, public sources, and the private sector</b>	Develop a mechanism to allocate funds from the government at all levels and raise funds from the public in general	DGHA CBCB RG COBP	DGHA CBCB RG COBP	DGHA CBCB RG COBP

## 5.2 Comprehensive and Participatory Assessment

Objectives	Activities	Short	Medium	Long
<b>Implement comprehensive and participatory social-ecological assessments linked to the monitoring and evaluation system</b>	Identify stakeholders in cultural resource management as assessment participants	CBCB		
	Design quantitative and qualitative assessment instruments	CBCB IAUA		
	Establish and train multi-sectoral assessment teams	CBCB IAUA NGO		
	Conduct baseline assessment and analyze data	CBCB IAUA NGO		
	Based on findings, identify research topics for subsequent assessments	CBCB IAUA NGO	CBCB IAUA NGO	CBCB IAUA NGO

<b>Strengthen capacity to carry out ongoing, community-based monitoring</b>	Share findings with assessment respondents and key decision makers	CBCB RG BA SBK	CBCB RG BA SBK	CBCB RG BA SBK
	Use lessons learned through assessment process as basis for technical training of project research staff	CBCB IAUA NGO	CBCB IAUA NGO	CBCB IAUA NGO

### 5.3 Participatory Planning and Design

<b>Objectives</b>	<b>Activities</b>	<b>Short</b>	<b>Medium</b>	<b>Long</b>
<b>Engage stakeholders in management of the property through participatory site planning and activity design</b>	Review of assessment findings by project management and site representatives	CBCB RG	CBCB RG	
	Hold participatory meetings to identify critical management issues for each respective site	CBCB RG BA SBK	CBCB RG BA SBK	
	Formulate site management plans (Master Plans) in alignment with assessment findings	CBCB RG BA SBK	CBCB RG BA SBK	
	Develop and implement annual work plans for the Coordinating Board and each site		CBCB RG BA SBK	CBCB RG BA SBK
	Ensure consistency between site management and work plans, strategic priorities for management of Bali Cultural Landscape, and government initiatives		CBCB	CBCB

## 5.4 Strategic Priorities for Implementation

**Strategic Priority 1:** *Livelihood protection and enhancement for subak institutions and their members, as guardians of Bali's unique cultural landscape.*

Objectives	Activities	Short	Medium	Long
<b>Support farming as a prosperous livelihood activity</b>	Provide subsidies for land tax relief to all <i>subak</i> members participating in the proposed World Heritage initiative		IDF	IDF
<b>Support access to basic educational and health services for households within the Cultural Landscape</b>	Provide an educational subsidy to offset cost of formal school fees for children of all <i>subak</i> members, through secondary school ( <i>SMA</i> )		IDE GBP RG	IDE GBP RG
	Establish a fund to support non formal education and vocational training for <i>subak</i> members and families		IDE IDA	IDE IDA
	Distribute a health subsidy card to all households within the Cultural Landscape boundary to provide free basic Category One medical services (according to established government categories for health care support)		IDH GBP RG	IDH GBP RG
<b>Build capacity and social capital of traditional management institutions and participating communities</b>	Double the current level of annual government funding allocation to participating <i>subaks</i>		GBP	GBP
	Double the current level of annual government allocation to traditional village administrative units ( <i>desa pekraman</i> ) within the World Heritage Boundaries		GBP	GBP
	Hold workshops and			

	training on relevant topics to build the capacity of the local population, based on the results of assessment and study findings			
<b>Conserve and enhance the intangible attributes of Bali's Cultural Landscape</b>	Carry out anthropological research on Balinese customs and practices that maintain social systems, <i>subak</i> institutions, and ecosystem functions.	ORHT IAUA RG IDFor IDEnv BA SBK	ORHT IAUA RG IDFor IDEnv BA SBK	ORHT IAUA RG IDFor IDEnv BA SBK
	Establish community-based educational programs to increase awareness and improve knowledge of traditional values and practices, especially for youth		COBP IDE RG	COBP IDE RG
	Provide advising services to farmers and community members to manage the costs of ceremonial activities		BPTP RG	BPTP RG
	Carry out cultural exchange programs or Balinese cultural exhibitions related to the Cultural Landscape of Bali Province		CBCB IAUA RG ORHT NGO BA SBK	CBCB IAUA RG ORHT NGO BA SBK

**Strategic Priority 2:** Conservation and promotion of ecosystem services to ensure sustainable use of natural resources upon which subaks and their farming systems depend.

Objectives	Activities	Short	Medium	Long
<b>Ensure conservation of natural resources that sustain Bali's irrigated terraced landscape</b>	Conduct research on formal and non formal forest management, access, and use		IAUA NGO IFor	IAUA NGO
	Provide community socialization for forest conservation and national regulations for forested areas		IDFor IEnv	IDFor IEnv
	Develop (as needed) and enforce regulations to protect for forested within and associated with the proposed sites		IDFor GBP RG BA	IDFor GBP RG BA
	Provide assistance to households that rely on forested zones to support sustainable non-timber forest production, such as honey cultivation		IDA IDEnv IDFor GBP RG	IDA IDEnv IDFor GBP RG
	Enforce existing water conservation regulations to prohibit deep well construction within the World Heritage area and all associated catchment areas		IDEnv IDPU IDFor RG	IDEnv IDPU IDFor RG
	Train and support farmers in on farm water quality monitoring		IDEnv IDA BTP	IDEnv IDA BTP
	Establish composting facilities on farm and at livestock production sites to manage livestock waste and prevent water contamination		IDEnv IDA BTP GBP RG	IDEnv IDA BTP GBP RG

	Collect baseline data on biodiversity of flora and fauna		GBP RG IAUA IDEnv IDFor	GBP RG IAUA IDEnv IDFor
	Establish programs to promote biodiversity conservation		GBP RG IAUA IDEnv IDFor	GBP RG IAUA IDEnv IDFor
<b>Enable transition to sustainable organic rice farming practices among all <i>subaks</i> within the Cultural Landscape boundary</b>	Provide financial incentives to farmers to support costs of transition to organic farming		GBP RG	GBP RG
	Implement training program for farmers in organic farming, post-harvest handling, processing and marketing		IDA BPTP GBP RG	IDA BPTP GBP RG
	Provide ongoing extension services to farmers to support transition to organic agriculture		IDA BPTP GBP RG	IDA BPTP GBP RG
	Provide assistance and incentives to certify organic Bali rice for export		IDA BPTP GBP RG	IDA BPTP GBP RG
<b>Ensure the capacity of the Coordinating Board, staff, and relevant implementing agencies to manage natural resources using an ecosystem services framework</b>	Develop and implement training program in ecosystem services concepts and conservation practices for government agencies and farmers		BPTP IDE IAUA	BPTP IDE IAUA

**Strategic Priority 3:** Conservation of material culture to preserve and enhance the authenticity of sites and structures as living manifestations of Bali's heritage.

Objectives	Activities	Short	Medium	Long
<b>Ensure properties are used appropriately to minimize damage to historical materials</b>	Research the impact of current public use on maintenance of the properties	COBP IAUA OAHC	COBP IAUA OAHC	
	Establish guidelines for the use of highly significant buildings, materials, and landscapes		COBP IAUA OAHC RG	
<b>Retain the existing historical/ original materials so that each site and its constituents meet the test of authenticity in materials</b>	Carry out a detailed and comprehensive inventory of the heritage resources and the cultural landscape to establish a baseline for cultural material conservation	COBP OAHC IAUA OARB ORHT		
	Conduct research on local knowledge and traditional techniques for conservation of cultural materials		COBP OAHC IAUA OARB ORHT BA	
	Develop a manual for the conservation of cultural materials, integrating modern and traditional techniques		COBP IAUA BA RG	
	Train local conservation specialists ( <i>undagi</i> ) on conservation and preservation of cultural materials		DGHA COBP OAHC	DGHA COBP OAHC
	Develop (as needed) and enforce measures to conserve and maintain the forested areas above and surrounding the sites (see Strategic Priority 2, above)		IDFor GBP RG BA	IDFor GBP RG BA

<b>Restore the original cultural landscape in each site in order to regain its authenticity and integrity</b>	Rehabilitate and restore altered cultural landscapes in sites, as needed		COBP BA SBK OAHC RG	COBP BA SBK OAHC RG
	Restore damaged parts of properties and replace new fabricated materials which do not conform to the conservation policy		DGHA OAHC COBP BA SBK RG	DGHA OAHC COBP BA SBK RG
	Provide public education via traditional flora to enhance awareness among the local population of the benefits of maintaining their original cultural landscape	COBP BA SBK RG	COBP BA SBK RG	COBP BA SBK RG
	Provide incentives to local communities for the restoration and maintenance of traditional architecture		COBP BA SBK OAHC RG GBP	COBP BA SBK OAHC RG GBP

**Strategic Priority 4:** *Appropriate tourism development within the site, to achieve a balance between public and visitor education, generation of tourism-based revenue, and conservation.*

Objectives	Activities	Short	Medium	Long
<b>Identify the impact of existing tourism development on the conservation and preservation of the Cultural Landscape of Bali Province</b>	Carry out scientific research on the impact of existing tourism in the Cultural Landscape of Bali Province	COBP IAUA TBBP RG		
	Carry out scientific research on the potential opportunities and problems related to tourism and conservation of the properties included in the Cultural Landscape of Bali Province	COBP IAUA TBBP RG		



<b>Develop a comprehensive tourism development plan which is sustainable environmentally and economically beneficial to local communities</b>	Hold consultative workshops on Sustainable Tourism in Bali involving the local population living surrounding the heritage sites	COBP IAUA TBBP RG BA SBK	COBP IAUA TBBP RG BA SBK	
	Establish a new tourism management plan based on the results of the workshop and scientific research		COBP IAUA TBBP RG	
	Hold periodic consultative meetings as a vehicle for the local population to participate in the planning, execution, and monitoring of tourism development		CBCB TBBP TBBP RG	CBCB TBBP TBBP RG
	Establish and maintain a mechanism to redistribute tourism revenue for conservation of the heritage sites	DGHA CBCB TBBP RG BA SBK	DGHA CBCB TBBP RG BA SBK	DGHA CBCB TBBP RG BA SBK
	Carry out programs to facilitate participation of the local population in tourism development		CBCB TBBP RG NGO	
	Set up mechanisms to monitor and mitigate the socio-cultural impact of tourism development		CBCB TBBP RG IAUA	CBCB TBBP RG IAUA
	<b>Ensure that visitors enjoy the attractions presented at each site included in the Cultural Landscape of Bali Province</b>	Assess visitor capacity and available tourism facilities of individual sites	CBCB TBBP RG IAUA	CBCB TBBP RG IAUA
Establish visitor management plan for individual sites			CBCB TBBP RG BA SBK	

	Establish visitor centers and trail networks through rice terraces and to select water temples at each site (initial consultation and landscape planning in 2008)	CBCB TBBP RG BA SBK		
	Link management plan to infrastructure and facility development		CBCB TBBP RG IDPU	

**Strategic Priority 5:** *Infrastructure and facility development within the site to support sustainable tourism that is compatible with conservation of the cultural landscape.*

Objectives	Activities	Short	Medium	Long
<b>Ensure that each site included in the Cultural Landscape of Bali Province is accessible to visitors and that the enjoyment of the heritage sites is enhanced</b>	Carry out studies to identify and review the problems and potential of transportation leading to each site		CBCB IAUA RG IDPU	
	Provide comprehensive information on the properties for each site in various forms, depending on the condition of the site		BA SBK CBCB TBBP RG	
	Provide facilities for the comfort, safety and well-being of visitors that enhance the enjoyment of their visit		CBCB TBBP RG IDPU BA	CBCB TBBP RG IDPU BA
	Develop and maintain a comprehensive World Heritage visitor center at the existing Volcano museum facility, Bangli		CBCB TBBP RG OAHC IAUA IDEMR	CBCB TBBP RG OAHC IAUA IDEMR

	Establish and maintain a well-marked 'Cultural Landscape' route to link all sites together with a central visitor center		TBBP RG	TBBP RG
	Conduct studies on retail establishments within and leading to the sites		TBBP IAUA RG	
	Adapt the layout and location of retail shops based on findings of the study and in accordance with standards for maintaining an authentic Cultural Landscape		TBBP RG IDPU	
	Provide training and support services to enhance the quality of retail within and surrounding the sites		TBBP RG	TBBP RG
<b>Ensure the provision of tourism infrastructure and facilities which are environment-friendly and harmoniously integrated into the Cultural Landscape of Bali Province</b>	Hold workshops on environment- and heritage-friendly infrastructure development in Bali		CBCB IAUA RG NGO	CBCB IAUA RG NGO
	Establish guidelines for the development of environment- and heritage-friendly infrastructure		CBCB IAUA RG	
	Disseminate or publish widely the guidelines for the development of environment- and heritage-friendly infrastructure		CBCB IAUA RG IDPU	CBCB IAUA RG IDPU
	Invite proposals for the appropriate development of environment and heritage-friendly infrastructure through design competitions		CBCB RG IAUA	CBCB RG IAUA

	Enforce the implementation of an impact assessment on the heritage sites prior to infrastructure construction		CBCB IAUA RG NGO	CBCB IAUA RG NGO
	Utilize the Public Forum to discuss proposals on the development of infrastructure		CBCB IAUA RG IDPU	

### 5.5 Adaptive Monitoring and Evaluation System

Objectives	Activities	Short	Medium	Long
<b>Establish a system for adaptive monitoring, evaluation, and ongoing research</b>	Establish and maintain the Monitoring, Evaluation, and Reporting Unit to function as a research and information centre	CBCB		
	Train staff to design an effective and dynamic system for monitoring and evaluation that integrates feedbacks into management practices, as stated in the policy and strategies	CBCB IAUA		
	Establish measurable indicators to assess the achievements for all activities, linked to baseline findings	CBCB IAUA		
	Carry out monitoring, evaluation, and reporting			
	a. Daily	BA SBK RG CBCB	BA SBK RG CBCB	BA SBK RG CBCB

	b. Periodically (3 – 6 months)	CBCB OAHC IAUA	CBCB OAHC IAUA	CBCB OAHC IAUA
	c. Occasionally, case by case			
	d. Periodic in-depth case studies			
	e. Annually		CBCB GBP OAHC	CBCB GBP OAHC
	f. Three year evaluation		CBCP COBP OAHC DGHA IAUA	CBCP COBP OAHC DGHA IAUA
	g. Six year impact evaluation			CBCP COBP OAHC DGHA IAUA
<b>Ensure that continuing research is conducted in the Cultural Landscape of Bali Province to improve the interpretation and the presentation of the heritage properties to the public</b>	Carry out fundraising programs to support scientific research and publication of the Cultural Landscape of Bali Province and related topics		DGHA CBCB RG BA	DGHA CBCB RG BA
	Establish and maintain a website to present information on the Cultural Landscape of Bali Province		CBCB GBP	CBCB GBP
	Periodically review information presented at each site and improve with better information based on more current research		CBCB IAUA RG	CBCB IAUA RG
	Call for research proposals on various topics related to the Cultural Landscape of Bali Province		CBCB IAUA OARB ORHT RG	CBCB IAUA OARB ORHT RG

<b>Ensure that research is carried out scientifically</b>	Set up a scientific standard for selection of research proposals		CBCB IAUA	
<b>Develop knowledge and skills to manage an adaptive information system</b>	Conduct training workshops to build capacity in monitoring, evaluation and research for social-ecological systems	CBCB IAUA	CBCB IAUA	CBCB IAUA

### 5.6 Capacity Building for Adaptive Co-Management of Complex Social-Ecological Systems

Objectives	Activities	Short	Medium	Long
<b>Ensure the capacity of stakeholders to adaptively co-manage the Cultural Landscape of Bali Province as a social-ecological system</b>	Establish the Coordinating Board and its managing offices as 'learning' institutions	GBP DGHA CBCB		
	Conduct results-based training workshops for site managers and all Cultural Landscape staff in adaptive governance of social-ecological systems	CBCB DGHA GBP IAUA	CBCB DGHA GBP IAUA	CBCB DGHA GBP IAUA
	Develop and maintain fora for participating <i>subaks</i> and communities to highlight and extend their traditional roles in adaptive management	CBCB GBP RG BA SBK NGO	CBCB GBP RG BA SBK NGO	CBCB GBP RG BA SBK NGO
<b>Establish the Cultural Landscape of Bali Province as a regional learning and training center in adaptive governance</b>	Conduct results-based training workshops for Asia-Pacific regional site managers and staff in adaptive governance of social-ecological systems	DGHA CBCB GBP IAUA	DGHA CBCB GBP IAUA	DGHA CBCB GBP IAUA
	Establish mechanisms for the ongoing exchange of information and lessons learned in applying the methods of adaptive co-management	DGHA CBCB	DGHA CBCB	DGHA CBCB

### 5.7 Identification of Serial Sites to Extend Ecosystem Conservation and Livelihood Objectives

Objectives	Activities	Short	Medium	Long
<b>Extend the initial World Heritage property to include other threatened <i>subaks</i>, water temple hierarchies, and corresponding forests and terraced landscapes as serial nominations</b>	Identify potential serial sites that adhere to the criteria for Outstanding Universal Value, as part of annual work plans	CBCB IAUA	CBCB IAUA	CBCB IAUA
	Conduct extensive consultative meetings with government agencies at all levels, <i>subaks</i> , and local communities to establish agreement on potential inscription	CBCB IAUA GBP RG	CBCB IAUA GBP RG	CBCB IAUA GBP RG
	Conduct research on identified sites to submit serial nomination	CBCB IAUA GBP RG	CBCB IAUA GBP RG	CBCB IAUA GBP RG
	Prepare and submit serial nominations to UNESCO World Heritage Centre		CBCB DGHA IAUA GBP RG	CBCB DGHA IAUA GBP RG
	Carry out all legal, structural, and administrative steps to ensure protection of sites proposed as serial nominations, according to management guidelines		CBCB GBP RG	CBCB GBP RG