



**Managing a living cultural landscape:
Bali's *subaks* and the UNESCO World Heritage Site**

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Sukaina Bharwani and Nina Dwisasanti

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Cover photo: The terraced ricefields of Jatiluwih in Catur Angga Batukaru, the core *subak* landscape in the UNESCO World Heritage Site of Bali

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FOREWORD

This project was made possible by the effort and wisdom of many individuals. Maria Osbeck and Sukaina Bharwani originally conceived it, after an invitation from Steve Lansing, from the Stockholm Resilience Centre. Dewi Reny Anggraeni, a freelance consultant, provided organizational support to the *pekasehs* when the *Forum Pekaseh* was formed. Eka Septiawan, and sometimes Gustu Wira Sanjaya, students at UNUD, provided logistical support.

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Om Shanti Shanti Om

Albert, Agus, Maria, Sukaina and Nina

Acronyms and abbreviations used

CAB	Catur Angka Batukaru
Disbud	(Dinas Kebudayaan) Office of Culture, at the provincial level except where otherwise noted
Dispenda	Dinas Pendapatan Daerah, Local Revenue Office
MoEC	Ministry of Education and Culture
SKPD	Satuan Kerja Pemerintah Daerah, Local Government Working Unit
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNUD	Udayana University

Local terms used

<i>Adat</i>	Custom
<i>Awig-awig</i>	Written codes implemented by traditional social units in Bali, such as <i>desa adat</i> and <i>subaks</i>
<i>Badan pengelola</i>	Management body
<i>Banjar</i>	Traditional Balinese hamlet (sub-village unit)
<i>Bendesa adat</i>	Head of customary village
<i>Bupati</i>	Regent
<i>Desa</i>	Village
<i>Desa adat</i>	Customary/traditional village
<i>Desa dinas</i>	Administrative village
<i>Dewan Pengelola</i>	Governing Assembly
<i>Dewan pengarah</i>	Steering committee
<i>Dinas</i>	Office
<i>Jero Mangku Gede</i>	High Priest
<i>Kabupaten</i>	Regency
<i>Kecamatan</i>	District
<i>Musyawaharah</i>	Meeting to discuss issues and achieve consensus
<i>Padi baru</i>	Newly introduced rice variety
<i>Padi lokal</i>	Local paddy rice variety
<i>Pekaseh</i>	The head of a <i>subak</i>
<i>Pemangku</i>	Priest
<i>Pengempon</i>	Volunteer at the temple
<i>Perbekel</i>	The head of administrative village
<i>Pura</i>	Temple, the place of worship and the symbol of religious domain
<i>Puri</i>	King (literally the palace, symbol of the King's authority)
<i>Sabhantara Pekaseh</i>	Head of <i>pekaseh</i> association
<i>Serati</i>	A function in the temple, to prepare offerings (usually done by women)
<i>Sawah</i>	Paddy field
<i>Subak</i>	Self-governed irrigation society in Bali
<i>Subak abian</i>	Dry <i>subak</i> ; refers to non-irrigated field, usually for horticulture
<i>Subak basah</i>	Wet <i>subak</i> ; refers to rice field
<i>Tempek</i>	<i>Subak</i> sub-unit
<i>Tri Hita Karana</i>	Balinese philosophy which emphasizes achieving harmony in three relationships: <i>parahyangan</i> (human-God), <i>palemahan</i> (human-nature) and <i>pawongan</i> (human-human)

CONTENTS

Foreword	iii
Acronyms, abbreviations and local terms used	iv
Executive summary	1
1 Introduction	5
1.1 Participatory resource management	5
2 The World Heritage Site in Catur Angga Batukaru	8
3 Approach, tools and activities	13
4 The World Heritage Site after the inscription	16
4.1 Implementation challenges after the nomination	16
4.2 The new Coordination Forum	19
5 Challenges faced by <i>subak</i> members	21
5.1 Ritual costs	21
5.2 Rising cost of inputs	21
5.3 Maintenance costs	22
5.4 Water availability	22
5.5 Land conversion and taxation	23
6 Key challenges in managing the World Heritage Site	26
6.1 Lack of information about the World Heritage Site	26
6.2 Sustaining the <i>subaks</i> in light of the World Heritage Site	26
6.3 Expectations of the World Heritage Site	27
6.4 Increasing land speculation	28
6.5 Impacts of increased tourism	29
6.6 Long-term implications of uncoordinated policies	30
7 Options for a living cultural landscape	31
7.1 Revisit the ideas and intentions of the former Governing Assembly and implement the UNESCO approved management plan	31
7.2 Establish the <i>badan pengelola</i> at the regency level or consider an interim authority	31
7.3 Meaningful engagement of <i>Forum Pekaseh</i>	33
7.4 Expanded engagement with other actors	35
8 Conclusion	36
References	37
Annex 1: Government actors in the World Heritage Site	38
Annex 2: The <i>subak</i> farmers and their organization in the CAB	42
Annex 3: Action plan resulting from the <i>musyawarah subak</i>	44

Tables

Table 1: <i>Subaks</i> of Catur Angga Batukaru	10
Table 2: Elements of Tri Hita Karana as reflected in the <i>subaks</i>	11

Figures

Figure 1: Map of Bali and its temples	7
Figure 2: Boundaries of the 14 <i>subaks</i> in the CAB listed in the World Heritage Site nomination, overlaid on an aerial photograph	9
Figure 3: Phases of SEI's Partnership in Governance Transition project	12
Figure 4: The historical timeline of the inscription of the Bali Cultural Landscape as a UNESCO World Heritage Site	14
Figure 5: Organizational structure of the Coordination Forum (Forum Koordinasi)	20
Figure 6. Foreign tourist arrivals in Indonesia and Bali, 1994–2013	28
Figure 7: Organizational structure of the <i>subaks</i> in Catur Angga Batukaru. Other <i>subaks</i> in Bali may have a different structure.	41

Boxes

Box 1: The Outstanding Universal Value of the Bali Cultural Landscape	6
Box 2: Catur Angga Batukau – what's in a name?	8
Box 3: The role of academia in the World Heritage Site	17
Box 4: I Nyoman Sutama, chair of the CAB <i>Forum Pekaseh</i>	18
Box 5: The role of women in the <i>subaks</i>	24

EXECUTIVE SUMMARY

In 2012, the cultural landscape of Indonesia's Bali province was inscribed as a World Heritage Site—a place of “outstanding universal value”, to be protected and preserved for all humankind. The inscription recognizes the value of Bali's *subaks*: farmers' organizations that collectively manage irrigation systems on rice terraces, as well as water temples. The *subak* system, which dates back to at least the 12th century, is still in practice. It embodies the Balinese philosophical principle *Tri Hita Karana* (three causes of goodness), which seeks to create harmony between humans and the spiritual realm, between humans and nature, and among humans.

The Balinese *subaks* ensure the equitable distribution of water to farms, maintain the irrigation system, mobilize resources and mutual assistance, resolve conflicts, and ensure the performance of rituals. All the farmers who draw on a single water source – a single dam and canal running from dam to fields – belong to a single *subak*. Bali has about 1,200 *subaks*. The World Heritage Site includes a selection of *subaks* that “exemplify the interconnected natural, religious, and cultural components” of the traditional *subak* system, where farmers still grow traditional Balinese rice organically, and follow all traditional rituals.

The inscription of the Bali Cultural Landscape as a World Heritage Site was the result of more than a decade's collaboration by public- and private-

sector actors, academia, NGOs and other supporters. They envisioned a broad, participatory and inclusive management system for the site, involving government agencies at different levels, village leaders, and the *subaks* themselves. Yet successfully realizing this vision is no small task, given Indonesia's complex bureaucracy and very hierarchical social structure. Bali is also undergoing rapid socio-economic changes, which the establishment of the site could itself accelerate by attracting more tourists and investors.

In 2013, at the request of the Government of Indonesia, SEI launched a two-year project to support the development of a participatory and effective management structure for the site. Our report focuses on the needs and contexts of the *subak* landscape of Catur Angga Batukaru (CAB), which has the largest number of *subaks* and villages in the World Heritage Site. The core inscribed site includes 20 *subaks* covering a total of 2,400 ha. The largest *subak* is Jatiluwih, with 562 members, while the smallest is Wongaya Betan, with 90 members. Each is led by a democratically elected *pekaseh*; together they sit on the *Forum Pekaseh Catur Angga Batukaru*.

Our study included several rounds of interviews and focus group discussions in four villages – Rejasa, Sangketan, Wongaya Gede and Jatiluwih – as well as a *subak* assembly in May 2014 to build consensus among



A typical *subak* shrine



A farmer walking down to her farm with offerings

the 20 *pekasehs* of the CAB, where they developed a collective action plan to address key concerns. As a result of this assembly, the *pekasehs* established a coordination forum, with a formal code (*awig-awig*) laying out goals and responsibilities. The document was signed by the King (*puri*) of Tabanan and ritually formalized in December 2014. The project also included organizational coaching and capacity-building exercises for the *Forum Pekaseh*.

Key implementation challenges

We found that the implementation of the World Heritage Site in Bali has encountered several hurdles. First of all, the regulations and institutional setup that enabled the nomination did not support the implementation *after* inscription; instead, a new Governing Assembly was set up, with representatives from different government departments. Frequent turnover at key agencies resulted in the assembly members not being able to leverage their agencies' resources, however – nor did the assembly succeed in bringing together different agencies to solve problems that required collaboration. Moreover, Udayana University (UNUD) experts, which had provided crucial technical expertise during the nomination process, was barred by university rules from serving as individuals on the assembly. And among farmers, the assembly's name – *Dewan Pengelola* in Bahasa Indonesia – had negative connotations, as a "*dewan*" is a formal entity in Indonesia and is typically a top-down body that issues decrees for others to follow. This sense was exacerbated by the fact that important actors were excluded from the assembly, notably the king (*puri*) of Tabanan, the high priest of Batukaru (*pemangku gede*), *pekasehs* in the CAB, and NGOs active in the area.

In 2014, drawing on the recommendations of a UNUD study, the governing assembly was replaced by a Coordination Forum (*Forum Koordinasi*), chaired by the Regional Administrator, who has the authority to call the heads of offices (*dinas*) to join meetings. The vice chair is the head of the Bali Province Culture Office. UNUD is an official member, as are the *pekasehs* and *bendesa adat* (heads of customary villages). This structure provides a more viable platform for coordinating across government agencies to provide the resources needed to meet the goals of the World Heritage Site. The forum's first meeting was held in September 2014.

The establishment of the World Heritage Site has come as *subak* members face several challenges that are making farming less viable as a livelihood. The profitability of farming is linked to the variety of rice grown, water availability, affordable supply of inputs, and the cost of

associated rituals. For environmental reasons, there is strong support for using a local variety (*padi lokal*), but it has a long growing period (five to six months) and hence requires more rituals. In comparison, the new variety (*padi baru*) has a shorter growing season (three months) and requires fewer rituals but demands more agricultural inputs. All varieties require a reliable water supply.

Challenges faced by the *subaks*

The Balinese believe that all land belongs to deities, and every action on the land requires a ritual to seek the gods' permission, or else the farmers will have bad luck, in the form of pests, diseases or other disturbances. Yet these rituals, which are a core aspect of *subak* life, are increasingly expensive; in Pura Luhur Batukaru, the highest temple in the CAB, the five major rituals performed each year cost at least 40 million IDR (3,333 USD). Already in the 1980s, a study had estimated that rituals accounted for around 60% of a *subak's* expenditures.

Farming practices have also changed. The Green Revolution introduced chemical inputs, new varieties and new technologies, and farmers now expect to be able to use modern inputs and technologies, including organic fertilizers. Currently, substantial quantities of organic fertilizer are needed in the production of rice, but they are more expensive than chemical ones. Making them more affordable would require either subsidies, or changes at the landscape level that make organic farming more efficient.

Another challenge is that technical support for *padi lokal*, the local rice variety, is limited, as extension workers are only knowledgeable in the production of *padi baru*, the improved variety. This is an important concern if *padi lokal*, which demands fewer inputs, is to be promoted in the World Heritage Site. Farmers expressed a willingness to grow local rice organically, but only if inputs, techniques and guidance are provided, and if any losses from reduced yields are offset by government subsidies.

In addition, each *subak* needs financial support for temple renovation and for the maintenance of paths and irrigation networks. Water temples are important part of the *subak* landscape. It is here where major rituals in the *subaks* are held and where water channelled to each farm branches out, so their regular maintenance is essential. The maintenance of irrigation systems is also crucial to keep the land suitable for wet rice cultivation. The availability of water is a critical concern in the CAB and the rest of Bali. Not only is tourism being



The paksehs, partners, and supporters during the musyawarah subak in May 2014 at Prana Dewi Retreat Centre, Tabanan

given preferential treatment in water allocation, but there is no coherent water policy or central authority to oversee water allocation.

High tax rates on farmland are another major challenge, as they depress income and are leading more and more farmers to quit and sell their land. The probability of land conversion thus becomes high, and feeds a vicious cycle wherein non-farming land uses increase the value of the land, leading to further increases in the assessed tax rate of adjoining lots. Land conversion is now forbidden within the World Heritage Site, so farmers are now seeking tax relief to help keep rice farming viable. In the surrounding area, however, farmers who need money have no qualms about disposing of their land – a problem exacerbated by the younger generation’s declining interest in farming. Moreover, the growth of tourism in Bali has created new employment opportunities, and many young Balinese now work in the sector. As a result, farming in Bali is becoming the domain of the aging, and even young people who return to the village to take care of the land lack the skills or interest to farm like their parents.

These challenges raise important questions about the long-term viability of the *subaks*. Is it enough if they continue to operate, even if they are mostly a tourist attraction? Or how can their rich heritage be truly preserved, as a living entity, amid such drastically

changing conditions? These are existential questions that the Balinese need to ponder as the pressures from dwindling farm income, development, tourism and cultural protection become severe.

Engaging with the World Heritage Site

In general, the farmers we talked to are optimistic about the World Heritage Site and see it as an opportunity to address the challenges faced by the *subaks*. Still, we encountered several issues, starting with a notable lack of information about the site and its implications for the villages and their inhabitants. Village representatives have attended various meetings on the site, but said they need more “farmer-friendly” materials, including explicit instructions on what farmers and villagers should or should not do on their *subaks* to comply with World Heritage Site rules.

Another widely cited concern is that the Regency of Tabanan established a local management body (*badan pengelola*) for the Jatiluwih Tourism Site, which handles the entrance fees, manages parking lots and maintains the road near the World Heritage Site monument in the Regency. That body was set up before the inscription, and although after the inscription, the chiefs from surrounding villages were invited to get involved, they do not see it as the *badan* for the entire World Heritage

Site. The *subaks* are also not represented in that body, and the infrastructure improvements it has overseen since the inscription have centred on Jatiluwih, leading to discontent in other villages.

Looking ahead, farmers expect the World Heritage Site designation to have a positive impact on their livelihoods, and they have specific ideas of what they would like to see. They want to test local rice varieties, and be able to sell such rice to new restaurants. They want to receive training to help them engage in tourism, such as how to set up homestays, culinary skills, and foreign language instruction. And they want clearer regulation on spatial planning and land conversion, to control development around the World Heritage Site as outsiders seize opportunities created by the site. Moreover, the farmers hope for incentives or support for farmers to keep on growing local rice varieties in the traditional way, organically, and to help them reduce the risk of crop failures and avoid having to give up their lands or convert their rice fields.

It is important to note that tourism sustains the Balinese economy. Bali accounts for roughly 0.3% of Indonesia's land area but 37% of foreign tourist arrivals; tourism directly employs 28% of the island's work force, and contributed nearly 30% of its GDP in 2013. So far, tourism development in the CAB has been limited, even in Jatiluwih, but since the inscription, the pace of change has accelerated. Tourism growth has also brought increased traffic and garbage, rising demand for water, and emerging trends that may not be compatible with *subak* traditions. For example, some farms in Jatiluwih have been booked for tourists to experience an "authentic" rice harvest. Unless this is managed carefully, tourism could dramatically alter the landscape in Jatiluwih.

Options for a living cultural landscape

To protect the outstanding universal value, integrity and authenticity of the *subak* landscape as a World Heritage Site, it is crucial to address land conversion. This requires ensuring a continuous supply of water for the *subaks*, maintaining land for farming, ensuring that labour is available, and ensuring that there are enough funds for rituals. All the CAB actors need to work together to address these issues, but formal mechanisms have yet to be set up to enable those conversations. As of March 2015, the Coordination Forum had not met again since its inaugural session in 2014, and the government of Tabanan Regency has yet to create an administrative body to manage the World Heritage Site in its jurisdiction. Ongoing efforts led by the *subaks* and their *pekasehs* must also continue.

Although these recommendations are solely for the CAB and do not apply to other parts of the World Heritage Site, our intention is to ensure that the World Heritage Site protects the universal values that make Bali unique and sustains the *subaks* into the future while improving people's well-being. To address these cross-cutting concerns, we suggest a number of options, including:

- Implement the UNESCO- approved management plan and make better use of existing materials.
- Establish a *badan pengelola* at the regency level or consider an interim authority.
- Engage meaningfully with the *Forum Pekaseh*.
- Expand engagement with other actors in the World Heritage Site area.

Conclusion

Bali is the first cultural landscape in Indonesia to be listed as a UNESCO World Heritage Site, and it is still struggling with implementation of its management plan. The sites are not managed formally and properly, and the designs of those who led the nomination remain unimplemented. Resolving these issues will require political will and engagement at all levels of government and – just as important – meaningful participation by all key stakeholders, particularly the *subaks*.

The good news is that the farmers are eager to get involved, to work to maintain their practices and rituals, prevent land conversion, and ensure that there continues to be enough farm labour for the rice terraces. They are well prepared for the challenges of the World Heritage Site, as they have well-established democratic governance practices, and they have shown that they are capable managers of their landscape. What they need are effective mechanisms to participate in the site management, and real, sustained attention to their needs, such as an adequate supply of water, and support for organic farming practices.

The ingredients for a successful farmer-led management system are already in place in the *subaks*. The members of *Forum Pekaseh* have also codified the rules that bind them and defined their responsibilities. The goals of the UNESCO World Heritage Convention can thus be realized in the Bali Cultural Landscape, if key institutions are made to work better. Most of all, in our view, the future of the Bali Cultural Landscape depends on how well the relevant governance institutions in Indonesia can empower the farmers to oversee and manage the heritage they built.

1 INTRODUCTION

In 2012, the cultural landscape of Indonesia's Bali province was inscribed as a World Heritage Site – a place of “outstanding universal value”, to be protected and preserved for all humankind.¹ The inscription recognizes the value of Bali's *subaks*: farmers' organizations that collectively manage irrigation systems on rice terraces, as well as water temples. Dating back to at least the 12th century, the *subak* system is still in practice, making it the only living cultural landscape among World Heritage Sites in Southeast Asia.² The *subaks* embody the Balinese philosophical principle *Tri Hita Karana* (three causes of goodness), which seeks to create harmony between the human world and the spiritual realm (*parahyangan*), between the human world and nature (*palemahan*), and among humans (*pawongan*). As a concrete realization of this philosophy, the *subaks* “give spiritual meaning to the governance of the rice terrace ecology” (Ministry of Culture and Tourism and Government of Bali Province 2011).

The Balinese *subaks* are well known and have been widely studied. They perform multiple functions: ensure the equitable distribution of water to farms, maintain the irrigation system, mobilize resources and mutual assistance, resolve conflicts, and ensure the performance of rituals (Wandia 2010). *Subaks* are organized by water source; as Geertz (1959) notes, “all individuals owning land which is irrigated from a single water source – a single dam and canal running from dam to fields – belong to a single *subak*.”

Lansing (2012) describes *subaks* as “egalitarian organizations that are empowered to manage the rice terraces and irrigation systems on which the prosperity of the village depends ... they have frequent meetings that are governed by the same strict democratic etiquette. Between them, the village and *subak* assemblies govern most aspects of a farmer's social, economic, and spiritual life.” By ensuring that

agreed irrigation schedules are followed, Lansing and colleagues (2012; 1987) also note, *subaks* maximize water distribution and control pest outbreaks.

Bali has about 1,200 *subaks*. The World Heritage Site includes a selection of these that are deemed to “exemplify the interconnected natural, religious, and cultural components” of the traditional *subak* system, where the *subak* system is still fully functioning; where farmers still grow traditional Balinese rice without fertilizers or pesticides; and “where the landscapes overall are seen to have sacred connotations” (UNESCO World Heritage Centre n.d.). Box 1 further describes the cultural value of the site.

1.1 Participatory resource management

The inscription of the Bali Cultural Landscape as a World Heritage Site was the result of more than a decade's collaborative effort by public- and private-sector actors, academia, NGOs and other supporters. The management system they envisioned was broad, participatory and inclusive, involving multiple government agencies at different levels, village leaders, and a crucial constituency, the *subaks* themselves. Yet successfully realizing this vision is no small task, given the complex Indonesian bureaucracy and the country's very hierarchical social structure. Bali is also undergoing rapid socio-economic changes, which the establishment of the World Heritage Site, known in Bahasa Indonesia as *Warisan Budaya Dunia*, could itself accelerate, even as it aims to preserve its unique traditions, dramatic landscape, and historical monuments.

In 2013, at the request of the Government of Indonesia, SEI launched a two-year project to support the development of a participatory and effective management structure for the site. The work was financed through Programme Support from the Swedish International Development Cooperation Agency (Sida). This report distills the lessons and insights from the project, which focused on the *subak* landscape of Catur Angga Batukaru (referred to here as the CAB).³

1 The official name of the site is Cultural Landscape of Bali Province: the *Subak* System as a Manifestation of the *Tri Hita Karana* Philosophy. For a detailed description and background, see: <http://whc.unesco.org/en/list/1194>.

2 The two other Southeast Asian cultural landscapes inscribed as World Heritage Sites as of this writing are Vat Phou and Associated Ancient Settlements within the Champasak Cultural Landscape in Laos and Rice Terraces of the Philippine Cordilleras. For a full list, see: <http://whc.unesco.org/en/list/>.

3 We use Catur Angga Batukaru as this is the official name, used in the nomination and inscription documents. However, as discussed in Box 2, locally the site is widely known as Catur Angga Batukau.

Box 1: The Outstanding Universal Value of the Bali Cultural Landscape

Bali's cultural landscape is inscribed in the World Heritage List based on three criteria. The boldface introduction identifies each criterion; the text that follows is the description at the World Heritage Centre website:

Criterion (iii): to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared

The cultural tradition that shaped the landscape of Bali, since at least the 12th century, is the ancient philosophical concept of *Tri Hita Karana*. The congregations of water temples that underpin the water management of the *subak* landscape aim to sustain an harmonious relationship with natural and spiritual world, through an intricate series of rituals, offerings and artistic performances.

Criterion (v): to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change

The five landscapes within Bali are an exceptional testimony to the *subak* system, a democratic and egalitarian system focused on water temples and the control of irrigation that has shaped the landscape over the past thousand years. Since the 11th century the water temple networks have managed the ecology of rice terraces at the scale of whole watersheds. They provide a unique response to the challenge of supporting a dense population on a rugged volcanic island that is only extant in Bali.

Criterion (vi): to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance

Balinese water temples are unique institutions, which for more than a thousand years have drawn inspiration from several ancient religious traditions, including Saivasiddhanta and Samkhyā Hinduism, Vajrayana Buddhism and Austronesian cosmology. The ceremonies associated with the temples and their role in the practical management of water together crystallise the ideas of the *Tri Hita Karana* philosophy that promotes the harmonious relationship between the realms of the spirit, the human world and nature. This conjunction of ideas can be said to be of outstanding significance and directly manifest in the way the landscape has developed and is managed by local communities within the *subak* system.

Our analysis is informed by our appreciation of village-based landscape management and the important roles local resource users and managers play. We know from several examples in the field that they are an important component in successful and sustainable management of natural and environmental resources. We also realize that traditional knowledge systems permeate the *subak* landscape and want to support them and acknowledge their relevance as well as provide spaces for their inclusion in the management of the World Heritage Site.

Our work in the CAB focused on understanding different actors' perspectives on the World Heritage Site, their expectations, their engagement to date, and challenges to the successful implementation of a participatory resource management system. We worked most closely with the *subak* members and leaders, whose practices and rituals are the essence

of the cultural landscape. Our report begins by providing an overview of the World Heritage Site and its component *subaks*, and a description of the activities we carried out in Bali. We then examine the governance challenges that have arisen since the inscription, and how they are being addressed. Next, we look at the main issues faced by the *subaks*, the impact of the inscription and related socio-economic changes, and the farmers' expectations, concerns and priorities with regard to the site. Finally, we discuss a range of options for more effective, inclusive and participatory management of the World Heritage Site, and offer some closing reflections.

The insights presented here are drawn from several rounds of individual and group discussions with the farmers, *pekasehs* (heads of *subaks*), representatives of Udayana University, staff of Samdhana Institute, representatives of the Ministry of Education and

2 THE WORLD HERITAGE SITE IN CATUR ANGGA BATUKARU

The core *subak* areas in the World Heritage Site are found in Catur Angga Batukaru (CAB) in the Regency of Tabanan and in the Pakerisan Watershed, although the latter includes only a handful of *subaks*. The CAB has the largest number of *subaks* and villages, and is thus the key landscape in the World Heritage Site.

CAB includes four main temples supporting the highest temple of Pura Luhur Batukaru, one of the six important temples (*sad kahyangan*) in Bali. These five temples are considered a unit that cannot be separated. Four guardian temples are spread along the east–west axis of Mount Batukaru, the second-highest volcano in Bali. Pura Pucak Petali and Pura Besi Kalung face east, while Pura Muncak Sari and Pura Tambawaras face west. Pura Luhur Batukaru faces south. The subordinate temples are known as Dang Kahyangan temples and all related to *subaks*. Pura Pucak Petali is a temple for harmony; Pura Besi Kalung, for security; Pura Muncak Sari, for wealth or welfare; and Pura Tambawaras, for health. Every six months, the King (*puri*) of Tabanan attends, in established order, a ritual in each of these temples.

Figure 2 shows the 14 *subaks* listed in the World Heritage Site nomination. In May 2014, six more were added, as new *subaks* splintered off from their mother *subaks* (see Table 1).

These 20 *subaks* in the CAB cover a total of 2,400 ha. The largest *subak* is Jatiluwih, with 562 members and seven *tempekan* (groups), while the smallest is



A shrine in Pura Luhur Batukaru

Box 2: Catur Angga Batukau – what's in a name?

The World Heritage Site nomination refers to “Catur Angga Batukaru”, a term that means “four temples of Batukaru”, but local elders and priests have objected to the use of ‘Batukaru’, as they call the site “Batukau”. In this report we use *Batukaru*, as this is the official name, but we must note the discrepancy. Questions have also been raised about the inclusion of only four supporting temples, when there are many others connected to *subaks* within the hierarchy of Batukaru, all in similar alignments, called *Jajar Kemiri*. Yunus Arbi, of the Ministry of Culture and Tourism, explained to the research team that he used the term “Catur Angga Batukaru”, and the temples it includes, based on the work of I Nyoman Sugiarta, of the Religious Department of Tabanan. This enabled the World Heritage Site in Tabanan and Buleleng to encompass the forests and lakes, form a contiguous connection between the *subaks*, the temples, the forest and the two lakes of Tamblingan and Buyan in Buleleng Regency. There are also rituals that connect the *subaks* with these ecosystems.

Local people use the term *Jajar Kemiri* to describe the alignment of the temples from east to west of Mount Batukaru. However, Arbi said it could not be used in this case because the temple zones, although linearly oriented from east to west, do not have contiguous physical boundaries down slope. Therefore, the most suitable term to describe the core of the World Heritage Site, the Batukaru Ecological System, is the CAB.

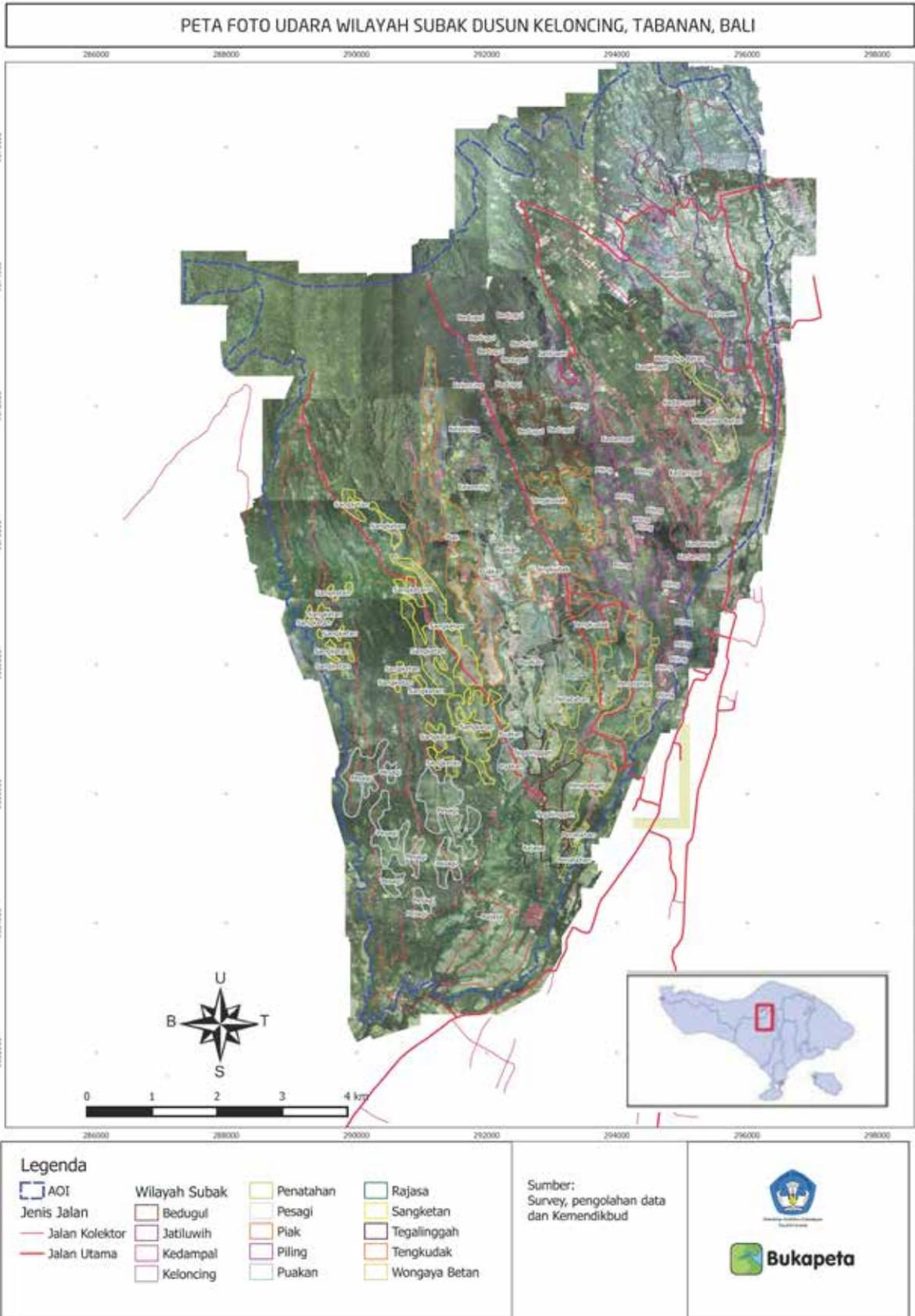


Figure 2: Boundaries of the 14 subaks in the CAB listed in the World Heritage Site nomination, overlaid on an aerial photograph
Source: Ministry of Education and Culture, Bukapeta.

Table 1: Subaks of Catur Angka Batukaru

Name of subak	Village	Age of pekaseh	Size of subak (ha)	Number of months as pekaseh (months)	Number of farmer households	Number of tempeks	Remarks
Pancoran Sari	Penganggahan	63	77	3	171	5	Formed in 2014
Tegal Linggah	Tegal Linggah	63	99	60	250	4	
Anyar Sangketan	Anyar Sangketan	74	79	360	250	4	Formed in 2011
Keloncing	Keloncing	65	79	6	225	5	
Sri Gumana	Rejasa	68	87	48	203	3	Formed in 2010
Bedugul	Wongaya Gede	66	119	12	284	10	
Rejasa	Rejasa	52	214	48	246	9	
Tengkudak	Tengkudak	68	83	5	123	9	
Tingkih Kerep	Tingkih Kerep, Tengkudak	58	53	48	132	4	Formed in 2010
Jatiluwh	Jatiluwh	58	303	24	562	7	
Penatahan	Penatahan	48	210	60	322	9	
Sangketan	Sangketan	72	91	48	230	4	Formed in 2010
Piling	Piling, Mengesta	63	154	24	264	9	
Dalem	Pesagi Dalem	45	94	5	145	2	Formed in 2014
Puring	Sangketan, Penebel	50	56	36	120	4	Formed in 2013
Wongaya Betan	Mengesta, Wongaya Betan	39	97	5	90	1	
Puakan	Tengkudak, Puakan	54	92	9	205	4	
Pesagi	Kuumkeladi	56	153	60	235	4	
Kedampal	Kedampal	65	90	12	124	3	
Piak	Bengkel, Wongaya Gede	46	178	6	300	8	
Average		63	120	44	224		
Total					4,481	103	

Source: SEI survey

Wongaya Betan, with 90 members and one tempek. Six of the *subaks* have only been created since 2010. As shown in Table 1, the CAB has a total of 4,481 farmer households who are members of *subaks*. All these *subaks* are located in Kecamatan (sub-district) Penebel in the Regency of Tabanan.

Each *subak* is led by a democratically elected *pekaseh* (head). The *pekasehs*' average age is 63, and together they sit on the *Forum Pekaseh*. Each farms a paddy field of about 0.6 ha. (See Box 4 for a profile of Nyoman Sutarna, a *pekaseh* of Jatiluwh and the current chair of the *Forum Pekaseh*.)

Table 2: Elements of Tri Hita Karana as reflected in the subaks

Tri Hita Karana elements	Practices in subaks
<i>Parhyangan</i> (realm of the spirits)	Rituals and ceremonies
<i>Pawongan</i> (realm of humans and society)	The <i>subak</i> organization Awig-awig (formal regulations) Proportional distribution of water to member farms using the concept of <i>tektek</i> Cropping and planting are agreed by consensus Ability to lend and borrow water among farmers or <i>subaks</i>
<i>Palemahan</i> (realm of nature)	Management of water resources Sediment control Design of irrigation system by consensus Agricultural activities by consensus Inlet-outlet system to facilitate sharing of water among farmers or <i>subaks</i>

Source: Windia (2010), based on Sadira (1999)

The boundaries of a *subak* are different from those of local administrative units. There are nine villages (*desa*) in the CAB;⁴ the high temple, Pura Luhur Batukaru, is in Wongaya Gede.⁵ A *subak* area may spread across more than one village, and a village may have more than one *subak*. The members of *subaks* may also reside in different or adjacent villages.

There are different kinds of “village” in Indonesia: administrative village (*desa dinas*) and customary village (*desa adat/pakraman*). This is reflected in the dual local governance structure in Bali, which includes traditional (*adat*) systems and official (*dinas*) structures. The *subaks* in the CAB operate in both systems, depending on the issue at hand. Due to the political nature of the *desa dinas*, farmers sometimes prefer to apply *adat* laws to help them, such as when they had the king and high priest formalize the written code (*awig-awig*) of the *Forum Pekaseh* the CAB

4 Two additional villages, Keloncing and Puakan, are considered hamlets (*banjars*) of Wongaya Gede.

5 As the caretakers of this temple, the people of Wongaya Gede have slightly different traditions and beliefs than others in Bali. They do not perform the ritual of “*ngaben*” (cremation) and the following “*melasti*” (discarding the ashes from cremation and other bad things to the ocean), as they believe that, unlike other temples, Pura Luhur Batukaru does not have the connection to any ocean temple. After blessing their field (*sawah*) with holy water (*tirtha*), they also do not observe the “*nyepi*” (literally “silence”, but here it means refraining from farm work for some time). They also do not depend on blessings of the king of Tabanan, since they have their own in the form of the *Tjokorda Gunung* (King of the Mountain) who has equal spiritual power. This *Tjokorda Gunung* is the High Priest (*Jero Mangku Gede Kebayan Lingsir*).

through a ritual. It was also suggested by the *pekasehs* that, when it comes to the monitoring of *subaks* in the World Heritage Site, it will be good to also involve the traditional decision-making assembly (*krama desa, krama banjar*). Currently the *Forum Pekaseh* fulfils spiritual obligations through the *subaks*.

The ritual function of *subaks* is important: as noted earlier, it is the material manifestation of the Hindu-Balinese cosmological principles of Tri Hita Karana. The elements of this philosophy are represented in the *subak* temple hierarchy and the rituals performed (*parhyangan*); the irrigation network and paddy fields, including fauna and flora (*palemahan*); and the *subak* organization and rules (*pawongan*) (Sutawan 2004).

A shopkeeper placing daily offerings, *comang sari*, on the ground to thank god for peace

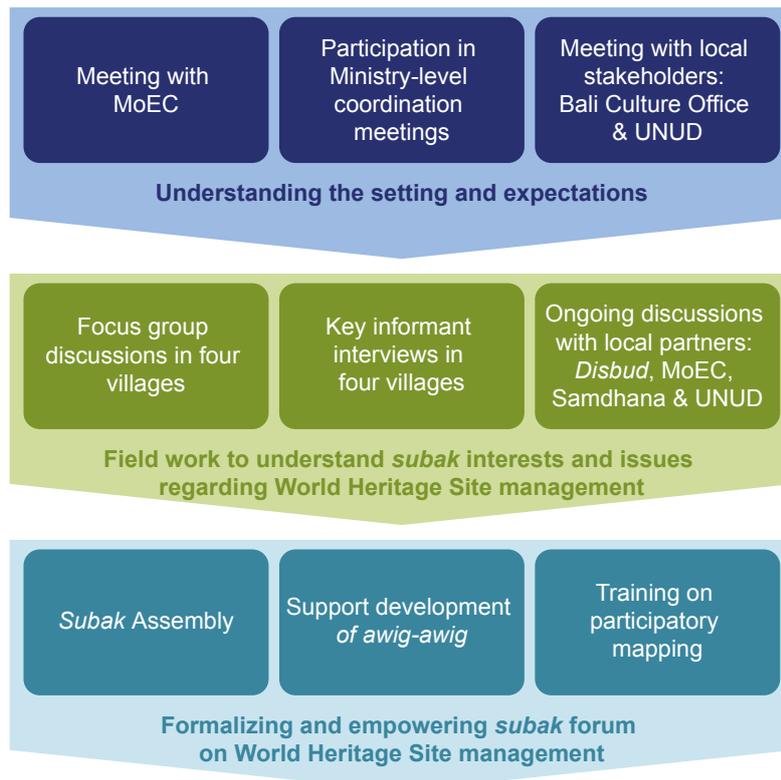


Figure 3: Phases of SEI's Partnership in Governance Transition project

Table 2 outlines different practices within *subaks* and how they fit with Tri Hita Karana. These rituals also link the *subaks* with the temple hierarchy in the CAB and the King (*puri*) of Tabanan. During the *musyawarah subak* held in May 2014, the *pekasehs* planned a series of activities addressed to each component of Tri Hita Karana resulting in action plans addressing religious,

livelihoods of those who did not make the step towards the services sector. It is the place where changing notions and domains of customary law, religion and spirituality, and governance meet – and where cultural meanings and identities in relation to water, irrigated agriculture and a host of other domains are re-negotiated and contested using, among others, law and policy”.

social and environmental concerns (see Annex 3 for the action plan).

Because of the role of the *subaks* in the Balinese landscape, the *pekasehs* have important roles to play, including the management of the landscape and organization of rituals. A village chief told the research team that although he is chief by day, when he is in uniform, he listens to the *pekaseh* about *subak* activities as soon as he returns home and dons his farming hat.

Thus, it is apt to cite Roth (2014): “the *subak* is one of the stages on which important socio-political developments are acted out in their full complexity. The *subak* is not only an irrigation society, but also the seat of environmentally sustainable ‘local wisdom’, a cultural-religious stronghold against globalization and other threats to ‘traditional’ Balinese culture, an economic asset in the tourist industry, and the basis for the



The *pekasehs* on the first day of their *musyawarah subak* in May 2014 at Prana Dewi Retreat Centre, Tabanan

3 APPROACH, TOOLS AND ACTIVITIES

As noted in the introduction, the Partnership in Governance Transition project was developed to contribute to the design of an effective and participatory management of the cultural landscape in Bali. The project was implemented in phases (see Figure 3 for an illustration of the process), adapting to evolving conditions. First there was a **preparatory phase**, with site visits and preparatory and introductory meetings. The second phase was the series of 11 **focus group discussions** in February and March 2014, each including about 20 participants. We also conducted 14 key informant interviews with farmers, women in the *subaks*, *pekasehs* and heads of *pekaseh* associations, *puri*, priests, village chiefs, *adat* officials, and students.

Both the focus group discussions and the interviews were conducted in four villages:

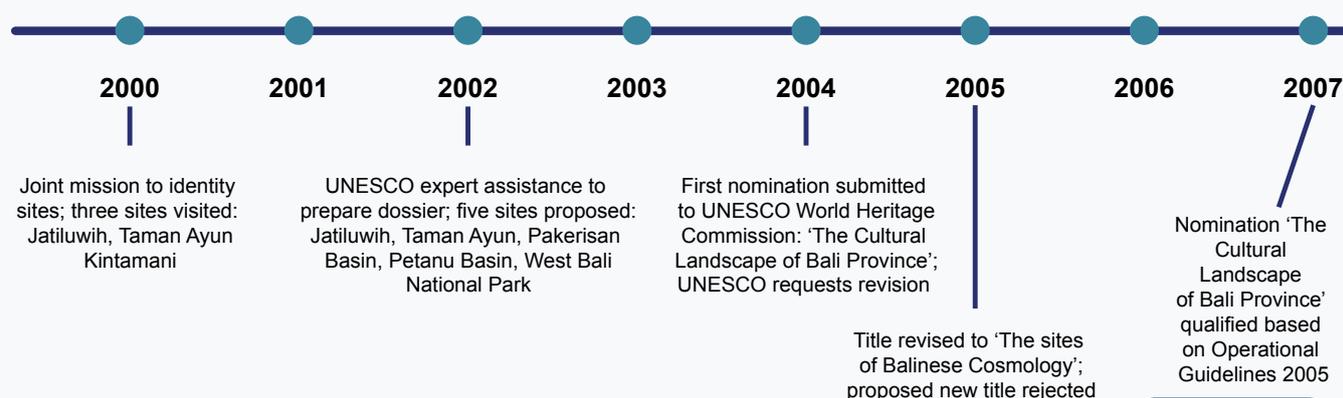
- **Rejasa**, in the southern part of the site, was covered by the Ministry of Education and Culture (MoEC) social mapping exercise in 2011 in preparation for the nomination (see Figure 4 for the stages of the nomination process).
- **Sangketan**, in the western part of the site, adjacent to a protected forest, has two temples included in the World Heritage Site (Pura Luhur Muncak Sari and Pura Luhur Tambawaras).
- **Wongaya Gede**, in the northern part of the site, includes the High Temple Pura Luhur Batukaru, and three *subaks* in the village (Bedugul, Keloncing and Piak) are mentioned in the nomination dossier.
- **Jatiluwih**, in the eastern part of the site, is considered iconic due to its picturesque landscape of terraced rice fields, and also includes two other major temples, Pura Luhur Pucak Petali and Pura Luhur Besi Kalung. As a tourism hub, the village has experienced social tensions, such as conflicts over land conversion and over the impact of tourism, and resentment from other villages of the revenue it collects from tourist fees.

The third phase involved **feedback and learning**, along with support for the formalization of participatory



The High Priest of Pura Luhur Batukaru (front, second from right) flanked by representatives of the King of Tabanan, Udayana University, and MoEC

Figure 4: The historical timeline of the inscription of the Bali Cultural Landscape as a UNESCO World Heritage Site



governance structures. We shared the results of the focus group discussions and interviews, and organized a *subak* assembly (*musbak* or *musyawarah subak*) on 11–12 May 2014 in Wongaya Gede. The purpose of the assembly was to build consensus among the *pekasehs* of the CAB. They shared issues encountered in their *subaks* and developed a collective action plan to address them. They were also able to get the support of the Samdhana Institute, Udayana University (UNUD), MoEC, the Office of Culture (*Dinas Kebudayaan*, or Disbud), the King (*puri*) of Tabanan and the High Priest (*pemangku gede*) of Batukaru.

The *subak* assembly was important not only because it allowed the farmers' voices to be heard for the first time, along with different World Heritage Site actors, but because it led to concrete plans and activities for how the management of the site could be operationalized.

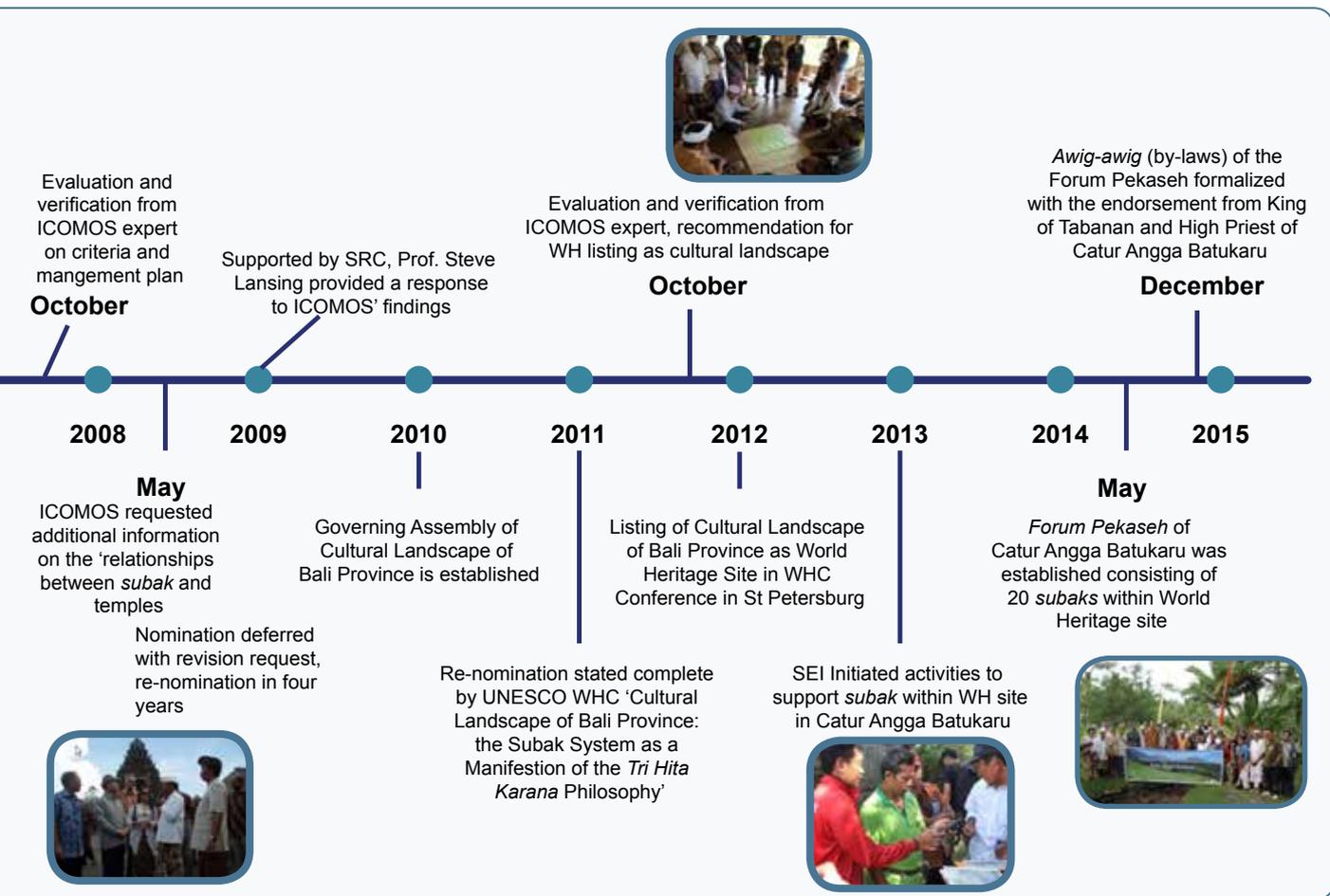
This phase also included a significant milestone in the organizational history of the *pekasehs*: the establishment of a **coordination forum** for the 20 *pekasehs*, the *Forum Pekaseh Catur Angga Batukaru*. The group appointed the *pekaseh* of Jatiluwih as chair, and drafted

an *awig-awig* with goals and responsibilities.⁶ The document was signed by the King (*puri*) of Tabanan and ritually formalized in December 2014 to convey it to the gods and request their blessings.

The *pekasehs* who met during the ritual (*pakeling*) said they see the *awig-awig* as a tie that will bind them together. They had an option to have the *awig-awig* formalized by the government, but they worried that this approach was too political, so they opted for the *puri* and the *pemangku gede*, whom they are perceived as neutral and with *subaks*' interests at heart. They also see the *subaks* and the *puri* as inseparable. For instance, when they encounter problems in their farms, they always consult the *puri*.

The final phase was to **build capacity** among the *pekasehs* to participate in ongoing government initiatives to manage the World Heritage Site. A participatory mapping training exercise in November

6 See: <http://www.sei-international.org/home/seiweb/html/mediamanager/documents/Projects/Awig-awig-Forum-Pekaseh-CAB-2014.pdf> (in Bahasa Indonesia).



2014 focused on skills to “read” maps and to articulate problems encountered in the *subaks* to government agencies. The *pekasehs* said that, by mapping their irrigation networks and showing their current problems, they hope to be able to request support from the Ministry of Agriculture, which has already expressed a willingness to help with irrigation. Finally, we provided organizational coaching for the *Forum Pekaseh* Catur Angga Batukaru.

Throughout the project, the SEI team met farmers in the field, visited them in their homes, and participated in important rituals such as *nangluk merana* and *ngusaba*. We have also shared our insights regularly with the Samdhana Institute, MoEC, UNUD and Disbud. We also worked with local facilitators and organizers to ensure that the interventions were relevant and tailored to the needs and interests of the *pekasehs*, and that the benefits of the work would be sustained.



The *pekasehs* of Catur Angga Batukaru entering the gates of Pura Luhur Batukaru during the first day of their assembly

4 THE WORLD HERITAGE SITE AFTER THE INSCRIPTION

4.1 Implementation challenges after the nomination

Like all projects based on non-local concepts, the implementation of the World Heritage Site in Bali has encountered challenges. First, MoEC and UNUD said, the existing regulations and institutional setup that enabled the nomination did not support the implementation *after* inscription. A Governing Assembly was set out by regulation No. 32,⁷ and after the property was inscribed, the Governor issued decrees in 2011 and 2012 to appoint the assembly's members. Soon it was realized that this did not work, because the members, though drawn from different government departments, were not empowered to represent their offices. Under Indonesia's law on regional autonomy, civil servants are moved around regularly from one office to another, so the assembly members often no longer represented the offices that were meant to be represented, and which were crucial to the implementation. Thus, a new decree was needed to ensure appropriate representation on the assembly, by enabling different offices or agencies to be involved, and putting the Regional Secretary (*Sekretaris Daerah*) in charge to coordinate among departments and levels of government. (See Annex 1 for a description of the government entities involved in the World Heritage Site.)

Second, and related to the issues described above, the Governing Assembly was ineffectual at its core function: to bring together key offices or agencies – and through the assembly members, connect with the respective ministries which, in turn, would contribute to the site's budget and activities. For instance, the Ministry of Public Works supports primary and secondary irrigation channels, such as rivers and dams, while the Ministry of Agriculture needs to support tertiary irrigation systems (canals to paddy) to paddy fields. Regulation of land conversion on the site is also the role of the Ministry of Public Works. In practice, the necessary resources and policy support were not always provided because of the individual vs. institutional membership issue noted above.

7 This is the Peraturan Gubernur Bali Nomer 32 Tahun 2010 Tentang “Dewan Pengelola Warisan Budaya Bali” [Governor of Bali Regulation No. 32 Year 2010 About “Governing Assembly of Cultural Heritage Bali”], enacted by Governor's Decree No.281/03-H/HK/2012, dated 12 March 2012.

Third, although UNUD provided technical expertise during the nomination process, university rules barred some of those experts from representing the university in the management of the World Heritage Site. A decree issued in 2014⁸ made UNUD an official member of the site's management body (now renamed *Forum Koordinasi*, or Coordination Forum⁹) and tasked UNUD with providing technical expertise in agriculture and forestry, ecosystems and environment, international relations and governance, social science, World Heritage Site management, and spatial planning. MoEC then entered into an agreement with UNUD outlining these roles. (See Box 3 for a closer look at the role of UNUD and academia in general in understanding the complex character of the *subaks*.)

A fourth problem is that the term “Governing Assembly” – *Dewan Pengelola* in Bahasa Indonesia – has negative connotations, especially for local farmers. A “*dewan*” is a formal entity in Indonesia that implies superior entities issuing decrees or pronouncements for others to follow. In other words, it is a top-down body, not answerable to the people. Further upsetting local people is that in 2012, the Regent of Tabanan created a management body (*badan pengelola*) to manage Jatiluwih as a tourist destination, focused on collecting fees at the Jatiluwih rice terraces as well as promotion, parking, security and cleaning of the area. The *badan pengelola* did not include the *subaks* or extend to other villages, which created the perception that only Jatiluwih would benefit from tourism on the World Heritage Site.

Fifth, important actors were not included in the General Assembly, notably the king (*puri*) of Tabanan, who is well respected, the high priest of Batukaru (*pemangku gede*), *pekasehs* in the CAB, and NGOs active in the area. (There are a number of relevant NGOs in Bali, but two of the most significant ones when it comes to

8 Keputusan Gubernur Bali Nomor 11/03-H/HK/2014 Tentang “Forum Koordinasi Pengelolaan Warisan Dunia Lansekap Budaya Provinsi Bali” [Governor of Bali Decree Number 11/03-H/HK/2014 About “Coordination Forum for Management of World Heritage Cultural Landscape of Bali Province”]

9 In the management plan submitted to UNESCO in the nomination, the highest policy-making body is called the Governing Assembly, but since the 2014 decree, that body has been called the Coordination Forum. Here, we use whichever name is appropriate to the time-frame under discussion.

Box 3: The role of academia in the World Heritage Site

The recognition of Bali as a World Heritage Site is due in large part to the dedication of Balinese and international researchers to understanding the role of *subaks* in Bali's polity, history and landscape; their institutional dynamics; the complex adaptive system that produced them; and the challenges they face now and into the future. Jha and Schoenfelder (2011) note that "anthropologists, agricultural scientists and archaeologists have all contributed to a large body of work on the *subak* that deals with such diverse topics as ritual economy; management of paddy ecology; watershed-level organization; irrigation technology; historical developments; the autonomy of irrigation communities vis-à-vis elites; water politics and upstream-downstream power negotiation; and responses to external economic changes and governmental interventions".

Udayana University (UNUD) has been instrumental in both the nomination process (see Figure 4), and during implementation, advising government agencies and the *Forum Pekaseh*. Its *Subak Research Centre (Pusat Penelitian Subak, or Puslit)* is a technical adviser to the World Heritage Site's Coordination Forum, and it provided legal advice in the creation of that body. *Puslit* also occasionally acts as a bridge between the *pekasehs* and the various offices in the Regency of Tabanan, and it and other UNUD staff provided input to the drafting of *Forum Pekaseh's awig-awig*. In addition, they have advised the *pekasehs* when there are issues in the field regarding the management of the *subaks* or on the implementation of the World Heritage Site.

UNUD researchers and cultural advocates have also been involved in previous nomination attempts since 2000 of various cultural properties in Bali, such as the Besakih Temple.

World Heritage Site issues are the Samdhana Institute and Yayasan Wisnu.¹⁰)

The head of the *pekaseh* association (*sabhantera pekaseh*) at Penebel said the *puri* has an important role to play in the *subak*, but his role has been weakened by the Green Revolution, as traditional farming practices such as pest control have been supplanted by chemical use.¹¹ Today, most of *subak* farmers still consider the King Tjokorda important, especially during key farm rituals. But in the political arena, his position is largely

ceremonial. His involvement in the World Heritage Site nomination was minimal or non-existent. His inclusion in the Coordination Forum only happened after MoEC and the Samdhana Institute advocated for it. Unlike other kings in Bali who inherit their thrones, the current king (*Tjokorda Tabanan*) is democratically elected.



The King of Tabanan, Ida Cotoroda Anglurah, collecting vessels of holy water

10 The Samdhana Institute is based in Bogor but with an office in Bali. It has been instrumental in providing advice and financial support to Disbud during the nomination process by funding the orientation visit of representatives from the defunct Governing Assembly to Angkor Wat. It is also helping a group of farmers implement community-based tourism, such as home stays, while also advising the *Forum Pekaseh* on payments for ecosystem services and cooperatives.

Although Yayasan Wisnu, based in Bali, is not currently involved in the World Heritage Site, it has projects in villages in Badung, Karangasem and Kelungkung focused on community-based tourism and participatory planning.

11 The role of the Green Revolution in weakening the roles the temples play in irrigation management in Bali and the concomitant ecological degradation that ensued is discussed at length in the work of Lansing (2012; 1987).

Box 4: I Nyoman Sutama, chair of the CAB Forum Pekaseh



I Nyoman Sutama, 58, is *pekaseh* of Jatiluwih, the largest *subak* in Penebel in the Regency of Tabanan, and chair of the *Forum Pekaseh Catur Angga Batukaru*.

Fondly called Pak Nyoman, he has been a farmer all his life, growing rice, cacao, vegetables and durian fruit on half a hectare (5,000 m²) of land. He was nominated three times to become *pekaseh*, but refused twice before accepting when five groups (*tempeks*) nominated him again in 2011.

He says he never dreamed of becoming a *pekaseh*, but took the position out of respect for his fellow farmers. He is the fourth *pekaseh* to have led Jatiluwih in his lifetime.

At first, he says, he encountered a number of challenges, such as when some members were suspicious of how he managed the funds of the *subak*. He realized that he couldn't really stop some people from thinking in that way; the best he can do is to be transparent with the decisions he makes and how funds in the *subak* are used.

In 2014, Pak Nyoman was elected as chair of the *Forum Pekaseh*.



Pak Nyoman and other *pekasehs* of Catur Angga Batukaru taking a break from their assembly

Priests also play important roles in the Balinese village structure. The priest is central to the performance of rituals, prayers and devotions in the temples, and is a respected figure who mediates between humans and gods through rituals and offerings. Some serve only as priests, while others have other occupations as well. In Sangketan village, for instance, one of the *pekasehs* is also a priest at Pura Tambawaras. Together with the heads of customary villages (*bendesa adat*) and the *pekasehs*, the priests comprise the third pillar of traditional power structure called

tri sakti (*sakti* means powerful). These roles could approximate the three dimensions in *Tri Hita Karana*, wherein the priest would deal with the spiritual realm (*parahyangan*), the village head with the human/social realm (*pawongan*), and the *pekasehs* with the natural realm (*palemahan*). (See Annex 2 for the organizational structure of *subaks*.)

The lack of representation of the *subaks* is particularly problematic because it is their landscape, their production and irrigation systems, their lifestyle,



An aerial view of subaks in Catur Angga Bahuru © Bukapeta

and their temples and rituals that make up the World Heritage Site. In the Governing Assembly structure, the farmers, through “representatives of all *subaks*” and “representatives from all customary villages”, were members of working groups that would implement what the assembly agreed. They were specifically tasked with day-to-day site management based on *subak awig-awig* (traditional codes) and customary *adat* law. However, farmers, *pekasehs*, and leaders of traditional villages in the CAB said this was by no means adequate representation.

4.2 The new Coordination Forum

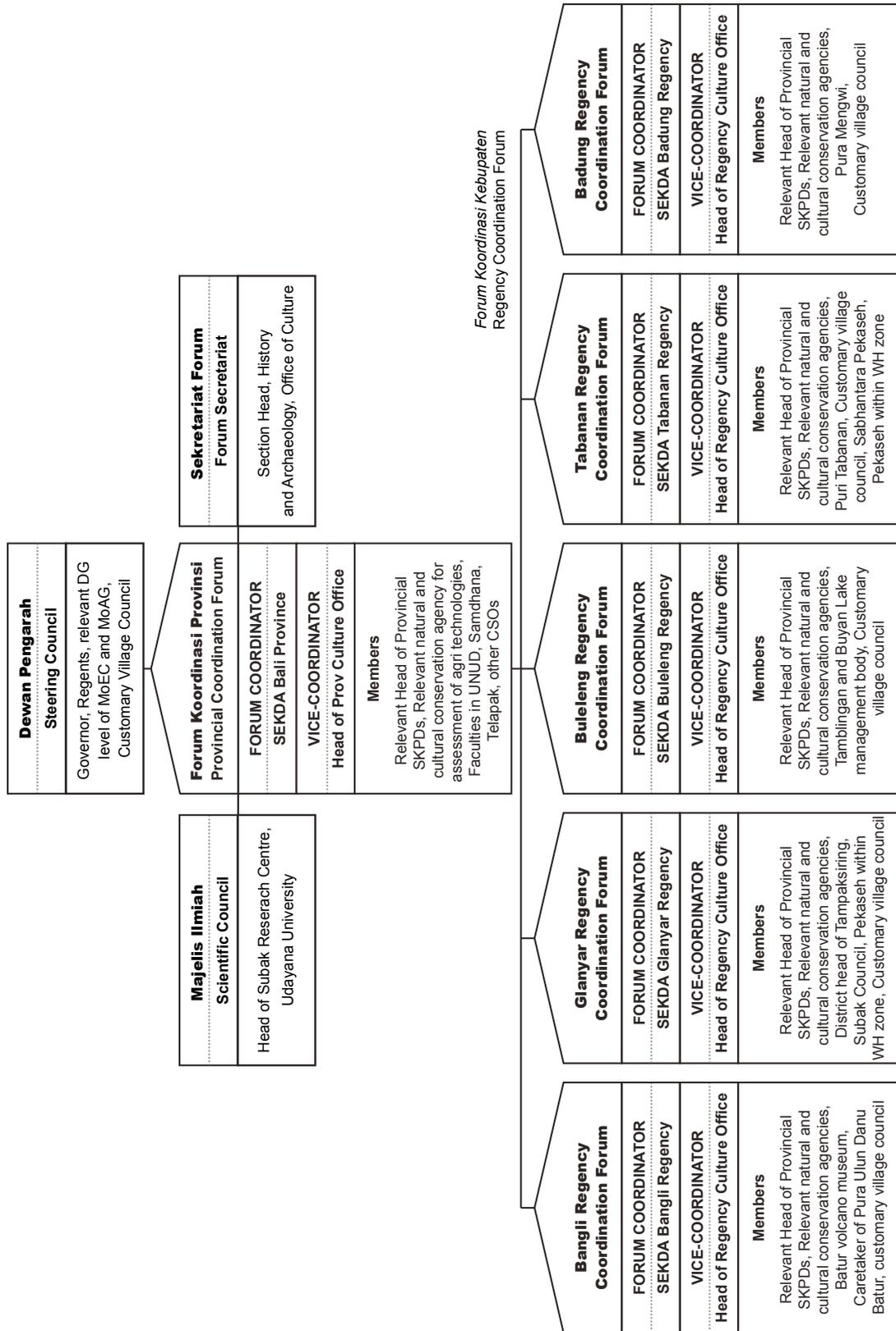
In 2013, after discussions with MoEC that had determined a “Coordination Forum” would be a more appropriate governance body for the World Heritage Site, UNUD conducted a study to determine how best to set up such a forum (Ardhana et al. 2013). The study found the forum should emphasize the preservation of nature and culture, with the farmers as the key stakeholders. It also laid out action plans to preserve and promote ecosystem services in four areas on the site, and it provided recommendations to protect *awig-awig*, incorporate the World Heritage Site priorities into the spatial plans of regencies that had not yet done so, and to provide government support for spatial planning by institutions such as the *subak* forums.

In 2014, the Coordination Forum (*Forum Koordinasi*) was officially set up. It is chaired by the Regional Administrator, who has the authority to call the heads of offices (*dinas*) to join meetings. The vice chair is the head of the Bali Province Culture Office. This structure provides a more viable platform for coordinating across government agencies to provide the resources needed to meet the goals of the World Heritage Site. The first meeting was held in September 2014, to introduce the management plan and plan programmes for the next five years.

Most importantly, the new structure brings in key stakeholders who had not been adequately represented previously, as discussed above. Through the *pekasehs* and the *Forum Pekaseh*, as well as *bendesa adat* (head of the customary village), the farmers of the CAB now have a clear role in decision-making and discussions about the World Heritage Site – not just in project implementation. The organizational structure of the Coordination Forum is shown in Figure 5.

As part of the project, we set out to examine the situation on the ground, and how the governance changes have been received in the *subaks*. We initiated a series of conversations with different actors in the World Heritage Site, and learned that farmers still face a number of challenges. We outline those problems below, then offer some suggestions to address them.

Forum Koordinasi Pengelolaan Warisan Budaya – Lansekap Budaya Provinsi Bali
Coordination Forum for Management of Cultural Heritage – Cultural Landscape of Bali Province



Source: Derived from the Governor's Decision No. 11/03-H/2014

Figure 5: Organizational structure of the Coordination Forum (Forum Koordinasi)

5 CHALLENGES FACED BY SUBAK MEMBERS

The establishment of the World Heritage Site has come as *subak* members face several challenges that are making farming less viable as a livelihood. The profitability of farming is linked to the variety of rice grown and the cost of associated rituals. For environmental reasons, there is strong support for using a local variety (*padi lokal*), but it has a long growing period (five to six months) and hence requires more rituals. In comparison, the new variety (*padi baru*) has a shorter growing season (three months) and requires fewer rituals. Given the escalating costs of rituals and the increasing use of *padi baru*, it is possible that the performance of key rituals that underpin the *subak* system will be compromised in the long term.

5.1 Ritual costs

The Balinese believe that all land belongs to deities, and every action on the land requires rituals to seek their permission. Without those rituals, farmers will have bad luck, in the form of pests, diseases or other disturbances. It is through these rituals that the *subaks* have been preserved, maintained and sustained for hundreds of years. Key rituals during the rice growing cycle include (Sutawan 1987):

- *Magpag toya*, a ceremony held at the *ulun empelan* or at the *ulun suwi*, water temples built near a dam, when the water is first opened at the start of the wet season;
- *Ngusaba*, a thanksgiving ceremony held before a harvest by members of the *subak* at their *bedugul* (shrine on rice fields);
- *Nangluk merana*, a ritual done mostly with *padi lokal* to prevent pests and to ask permission from the deities to do pest control as needed; and
- *Piodalan*, a ceremony to inaugurate a *subak* temple.

Ritual offerings are not negotiable. The costs of big rituals, especially the elaborate offerings, in Pura Luhur temples is subsidized by the revenue office (*sedahan agung* or *dispenda*). Smaller expenses and decorations during ceremonies are shouldered by the community (called *ngayah*, a donation). According to the King of Tabanan and the High Priest (*Jero Mangku Gede Kebayan Lingsir*) of Pura Luhur Batukaru, these subsidies have been insufficient since 2008 and are not released on time so that the farmer



Colourful offerings of Bali

devotees incurred debts to pay for the ritual offerings themselves. In Pura Luhur Batukaru Temple itself, there are five big rituals performed every year, costing at least 40 million IDR (3,333 USD).

Already in the 1980s, Sutawan (1987) had showed that rituals accounted for around 60% of a *subak*'s expenditures, and such costs continued to pose a challenge. Similarly, rising ritual costs, along with a shortage of labour due to declining interest in farming and migration, have hindered the conservation of Ifugao Rice Terraces, a counterpart of Bali in the Philippines (Araral 2013).

Interestingly, the frequency of visits to the temple and the quality and variety of the offerings that devotees bring may be indicators of the well-being of the community. The village head of Wongaya Gede observed that some of offerings are already degraded, and the quality is poor, while in the past, people brought fresh fruit and delicately prepared food items. Now mass-produced and packaged items are being offered, possibly reflecting competing demands on people's time. We also learned that when devotees feel embarrassed of the quality of their offerings, they cover them up with a cloth, which happened frequently during economically trying times in the village.

5.2 Rising cost of inputs

The Green Revolution introduced chemical inputs, new varieties and new technologies, and farmers now expect support for agricultural inputs and technologies, including organic fertilizers. Studies have shown that the Green Revolution tipped over the intricate balance of the "coupled social-ecological system" sustained by the *subaks* for millennia (Lansing and Fox 2011; Lorenzen and Lorenzen 2010; Lorenzen and Lorenzen 2008; Lansing 2007; Bardini 1994; Mitchell 1994; Machbub et al. 1988). An extension worker in the village of Rejasa noted that farmers' outlook has also changed: they have become impatient and prefer "quick fixes" such as shortening the planting season and using chemicals to kill pests and weeds. Organic farming will also not work if only a handful of farmers are involved, as there will not be an economy of scale in the supply of organic fertilizers. Currently, substantial quantities of organic fertilizer are needed in the production of rice, but they are more expensive than chemical ones. Making them more affordable would require either subsidies, or changes at the landscape level that make organic farming more efficient.

The head of a local NGO working on environmental and resource management in Bali said that there should be enough government support to secure farmers' livelihoods and improve their well-being, including incentives for sustainable farming as well as spatial planning and zoning measures. However, the same NGO representative said, there might be an element of tokenism in the government's current support to the farmers. Before Bali was inscribed as a World Heritage Site, there was a Tabanan Regency regulation aimed at promoting sustainable farming and maintaining the paddy in perpetuity, but it has not been implemented.

Another challenge is that technical support for *padi lokal*, the local rice variety, is limited, as extension workers are only knowledgeable in the production of *padi baru*, the improved variety. At the meetings called by the head of the *pekasehs*, the extension workers only discuss issues relating to *padi baru*. This is an important concern if *padi lokal*, which demands fewer inputs, is to be promoted in the World Heritage Site. The *pekaseh* and priest (*pemangku*) in Sangketan said that the farmers in the village are ready to go organic if the site management wants them to, as long as inputs, techniques and guidance are provided. In Wongaya Gede, the *kepala desa* said farmers would also need an incentive or interim compensation to cover potential reductions in their income due to the longer growing period for *padi lokal*.

5.3 Maintenance costs

Each *subak* needs financial support for temple renovation and for the maintenance of paths and irrigation networks. Water temples are important part of the *subak* landscape. It is here where major rituals in the *subaks* are held and where water channelled to each farm branches out, so their regular maintenance is essential. The maintenance of irrigation systems is also crucial to keep the land suitable for wet rice cultivation. When the land becomes a *subak abian* (dry *subak* or plantation garden), farmers lacking the expertise to farm it profitably may find it best to convert it to a non-agricultural use.

5.4 Water availability

The availability of water is a critical concern in the CAB and the rest of Bali. Without it, the *subaks* will die. There are worries in Jatiluwih that too much water has been diverted to Nusa Dua's tourism complexes, at the expense of farming. What confounds the problem, however, is not diversion *per se* but the lack



A recently planted subak in Catur Angga Batukaru

of a coherent water policy in Bali and of an authority that oversees allocation of water (Strauß 2011). The preferential treatment given to tourism in water allocation has perverse impacts on the future of the *subaks*, given that water has material and symbolic roles in the cultural landscape.

5.5 Land conversion and taxation

The high tax on land is contributing to the declining profitability of farming. The issue of land taxes has been a major problem of farmers. It has also become complicated to resolve and has serious ramifications for the viability of the World Heritage Site. Farmers complained that the tax they currently pay on their farmland is already high and becomes a disincentive to continue farming, as it depresses income. The probability of land conversion thus becomes high, and feeds a vicious cycle wherein non-farming land uses increase the value of the land, leading to further increases in the assessed tax rate of adjoining lots. When tax becomes high, farmers seek relief by selling the land, which is often then converted to non-farm use. However, since the World Heritage Site declaration, land conversion is technically disallowed within the core site, so farmers are now seeking tax relief to help them to keep growing wet rice.

Land conversion will continue to be a key challenge. Farmers who need money have no qualms about

disposing of their land, particularly given that farming is no longer considered a profitable enterprise. In a number of villages in Tabanan, land has been rented out for poultry production and for villas. Interestingly, the issue of land conversion was not a major issue when Fox (2012) conducted her field surveys in the CAB in 2008–2009. In decreasing order of importance, she found that the key problems of farmers she surveyed were: water shortages, land taxes, lack of legal protection for farmland, lack of interest in farming among youth, tourism development, loss of soil fertility, and small financial return. She looked at land conversion as a potential result of increasing tourism development, but found the majority of farmers she interviewed in the Batukaru area “do not consider the sale or conversion of *sawah* to be a significant problem at present” (Fox 2012). Assuming that her findings are representative, the significant jump in awareness of the farmers on the trend of land conversion could mean that land conversion has become far more prominent in recent years.

Further undermining farming in the CAB is the younger generation’s declining interest in farming, a phenomenon also seen in other places in Southeast Asia. Young people are also migrating to urban centres, and household labour, the mainstay of smallholder production in the region, has declined (Eder 1999; Hayami and Kikuchi 1981; Rigg 2002; Rigg 2005; Rigg 2006; Rigg and Salamanca 2011; Rigg et al. 2012; Caouette and Turner 2009). As noted above, this

Box 5: The role of women in the subaks

Women in Bali are rarely seen leading the key activities of the *subak*. For instance, all *pekasehs* are men. Rituals are led by men. Yet both men and women are expected to perform the work of the *subak*, in a partnership referred to as *krama subak* (Jha 2004), and women play a vital role in daily *subak* activities: working on growing crops, controlling pests and weeds, assisting in fertilizing the plots and harvesting, and preparing the rituals, including offerings, decorations and prayers. The women's collective in charge of preparing and assisting in the performance of rituals is called *serati*. Each *subak* or each village has at least one *serati*. Through women's roles in rituals, they transcend the domestic and public domains of the household (Nakatani 1997).

When it comes to decision-making in the *subak*, however, women have only an indirect voice; often their opinions are conveyed through their husband or another male relative. They only have a direct voice if they become the head of the family, or replace their husband at *subak* meetings. Jha (2004) notes, based on a literature review, that "in Bali, women do not suffer from some of the disadvantages cited for their lack of participation in decision making elsewhere. Women are considered complementary yet subordinate to men in religious and popular discourse, but social writ does not explicitly bar them from decision making in any setting".



Women play important roles in rituals in Bali

More than *subak* norms, Jha finds, the main reason for women's limited participation is the patriarchal ideology sponsored by the state, which defines men as the heads of the households, the main decision-makers, and the primary actors in the public domain of agriculture.

is also a problem in another World Heritage Site, the Ifugao Rice Terraces (Araral 2013).

Moreover, the growth of tourism in Bali has created new employment opportunities, and many young Balinese now work in the sector, with likely implications for the viability of the labour-intensive *subak* system. Lorenzen and Lorenzen (2010) showed a clear shift in employment from farming to non-farm work with the advent of tourism in Bali. In their interviews in a village near Kuta, they found that "many young Balinese are not willing to join their parents in the fields anymore. Being a rice farmer

is not seen as a desirable career path, particularly because the dark tan of many farmers and the 'dirt' involved in rice cultivation are symbols of lower status, poverty and little education". In their view, this has weakened the *subak's* historically strong ties with other elements of Balinese culture, as "rice cultivation is no longer the major economic activity of most Balinese". Based on a survey of 156 CAB farmers, Fox (2012) found that "where currently, farming continues to be the primary activity, only half of farmers surveyed indicate that they want their children to become farmers. Nearly 60 percent expect that their children will work in off-farm employment.



A farmer looks after her farm in subak in subak Jatiluwih

When asked what vocation they seek for their children, farmers commonly aspire for their children to become doctors or private sector entrepreneurs”.

As a result of this trend, farming in Bali has become the domain of the aging. Fox (2012) reported that of 156 farmers she interviewed from six *subaks* in the CAB (Jatiluwih, Soka Candi, Piling, Wangaya Betan, Peseletan and Bedugul), 55% were 50 years or older, and only around 13% were 35 or younger.

The women farmers in our focus group discussions also said that they do not want their children to be poor farmers, so they always aspire for a better education and for them to have better jobs in urban areas. Young people do still come back to the village to take care of the land and the rice fields, but they have neither the skills needed, nor an interest in farming like their parents. The women suggested that there should be a special subject in the school curriculum about the *subak* agricultural tradition, its values and techniques, so that their children will not be totally lost to modernization. See Box 5 on the role of women in the *subaks*.

Interestingly, though, the issues raised in the focus group discussions are not new. Several studies in various parts of Bali (for example, Fox 2012; Lorenzen and Lorenzen 2010; MacRae 2013; 2011; 2005; MacRae and Arthawiguna 2011; Warren 2005) have already

highlighted these problems, especially the declining profitability of farming, land taxes, water shortages, and younger generations’ disinterest in farming.

That said, the head of the *pekaseh* association of Penebel District (also the village chief of Wongaya Gede) is optimistic that, as long as the water supply is secure, there will always be somebody who will work on the terraces, because the fertility of the land is an incentive. He adds that landless farmers and sharecroppers locally and from other areas (mostly Javanese) are always around and ready to work on their *sawah*. How this ensures that the outstanding universal value of the World Heritage Site is sustained is still a critical question, however, as farms could continue to operate without the vitality and character of the traditional *subak* system. The question becomes: Is it enough for the *subaks* to continue to operate, even if they are mostly a tourist attraction? Or how can their rich heritage be truly preserved, as a living entity, amid such drastically changing conditions? These are existential questions that the Balinese need to ponder as the pressures from dwindling farm income, development, tourism and cultural protection become severe. The future of farming in the CAB should be a key consideration in the context of the World Heritage Site as a new form of managing the cultural, ecological and social landscape and for which myriad challenges abound.

6 KEY CHALLENGES IN MANAGING THE WORLD HERITAGE SITE

In general, the farmers we talked to are optimistic about the World Heritage Site and see it as an opportunity to address the problems they mentioned above. But based on the focus group discussions, interviews and other discussions with various actors, we have identified several key challenges that need to be overcome so that the World Heritage Site truly benefits the farmers, their *subaks* and the province. We discuss each in turn below.

6.1 Lack of information about the World Heritage Site

Many people in these communities have little information about the World Heritage Site and its implications for the villages and their inhabitants – a concern we first heard from people in Rejasa, but also observed in other villages. First, the “socialization”¹² of the World Heritage Site has not reached all community members; the information was seen as incomplete and unclear, leading to a lack of confidence among village officials (the village chief, the village consultative body, the head of the customary village) and *pekaseh* to share the information with the rest of the community. Village representatives such as the *pekaseh* of Rejasa and the customary and administrative chiefs of Wongaya Gede had attended various meetings on the World Heritage Site, but they did not share the information with farmers because the language used and materials distributed were hard to understand. They would like to have more “farmer-friendly” materials, including explicit instructions on what farmers and villagers should or should not do on their *subaks* to comply with World Heritage Site rules.

Further, village leaders said they need technical guidelines from local government and other officials on how to manage and link up the activities in their *subaks* with the new World Heritage Site scheme. In Rejasa, community members said they are not aware of any tourism development in their village related to the World Heritage Site, and they would like to be involved in any relevant discussions. The site is still a distant concept for them, and they are not aware of any negative or positive implications yet. In Wongaya Gede, farmers’ awareness of the site and of the role their *subaks* play in it is very low. They have

observed more tourists coming to visit their temple, Pura Luhur Batukaru, as part of tours to Jatiluwih, but not to their *subaks*. There is a strong perception that farmers are only “spectators” to the progress, and are not benefiting from tourism activities such as what is happening in Jatiluwih.

Even in Jatiluwih, considered an icon of the World Heritage Site, farmers and village officials are barely aware of the implications of the inscription for their village. They told us that they had not heard of the management body (*badan pengelola*), the Governing Assembly, or the Coordination Forum. In contrast, community members in Sangketan were more knowledgeable, as their village is the site of two key temples (Pura Luhur Muncak Sari and Pura Luhur Tambawaras) in the World Heritage Site, but even they have little sense of what the implications will be for their livelihoods.

6.2 Sustaining the *subaks* in light of the World Heritage Site

The key concern in Rejasa in terms of the World Heritage Site is how to sustain the *subak* and address the challenges for farmers discussed above. In particular, they expect the World Heritage Site to help them increase their profit from agriculture. In exchange, the world can learn from them and their *subak*, which they see as their contribution to the global community. Furthermore, village members in Rejasa are aware that a substantial part of Jatiluwih’s water is going to non-agricultural uses, such as providing water for Nusa Dua’s tourism complexes. Hence, they suggested that there should be a way to monitor such use, as the community is worried that the supply of water to its *sawahs* will be reduced.

Another issue that concerns the farmers in Rejasa about the *subak* organization in this village is the recent (2011) splintering of a *subak* into two *subaks*: the *Subak* Rejasa (the “mother” *subak*) and *Subak* Sri Gumana (the offspring *subak*). The *pekasehs* argued that both *subaks* should be included in the World Heritage Site and receive all the benefits. They were particularly interested in grants from the Governor for each *subak* within the site as a subsidy to assist with improvements to the inscribed *subaks* (more discussion below). The issue of *subak* proliferation was also raised in Sangketan. The proliferation of *subaks* in Wongaya Gede was not a concern for villagers there, however.

12 In the Balinese context, socialization (*sosialisasi*) is a term used to describe information-sharing by the government to villages or communities.

Instead, it appears that the fact that the newly established *subaks* were included in the World Heritage Site has caused resentment in other villages, such as Rejasa and Sangketan, whose *subaks* also splintered but have not all been recognized as part of the World Heritage Site, despite being situated within the boundary defined in the dossier.

Although the decree creating the Coordination Forum (*Forum Koordinasi*) had already been drafted at the time of the focus group discussions, and was approved a few months after, the farmers in Rejasa and Sangketan suggested that it might be appropriate to form a sort of management body (*badan pengelola*) or coordination forum at the village level in which each *pekaseh* would have one vote. They also proffered that other members of the community (for example, the administrative or customary village chiefs, the priest and the women's collective (*serati*)) be included. The situation is complicated, however, by the fact that, as noted earlier, there is already a *badan pengelola* within the World Heritage Site, the *Badan Pengelola Daya Tarik Wisata Jatiluwih* (Governing Authority of the Jatiluwih Tourism Site). It handles the entrance fees, manages parking lots and maintains the road near the World Heritage Site monument.

Jatiluwih has far more experience with tourism than its neighbours. It was selected as a tourist attraction (*daya tarik wisata*) in 1996 by the Regency of Tabanan in order to capitalize on the income from tourists visiting its beautiful terraced landscape, but the only official action that resulted was the establishment of ticket booths at the two entrances. Since then, more restaurants, cafés, homestays and villas have been established in the surrounding area, without formal planning or regulatory enforcement. The *badan pengelola* that collects entrance fees was established before the World Heritage Site was inscribed, in light of Jatiluwih's inclusion in the nomination. After the World Heritage Site was established, the chiefs from surrounding villages were invited to link up with the *Badan Pengelola Daya Tarik Wisata Jatiluwih*. They found this confusing, as they did not see it as the *badan* for the entire World Heritage Site – even though Jatiluwih officials argue that it is all that is needed.



The *peccalang*, traditional village police in Bali, manning a ticket booth in Jatiluwih

Another concern with this governing body is that the farmers (through their *pekasehs*) are still unrepresented. Furthermore, the infrastructure improvements that have been made since the inscription have centred on Jatiluwih, leading to discontent in other villages. Some farmers also have ill feelings about the World Heritage Site because they were sidelined during the discussions around the nomination process.

6.3 Expectations of the World Heritage Site

Community members expect the World Heritage Site designation to have a positive impact on their livelihoods, and they have specific ideas of what they would like to see. In Rejasa, villagers hope to attract the attention of international experts who will give them an opportunity to test new rice varieties. They also hope to be able to directly supply restaurants with the rice they produce. They have a lot of rice straw that can be used to grow mushrooms, so they need technologies to do so. In addition, they said that the entrance or gateway to the World Heritage Site should be more clearly identified, as they do not know where it is.

Villagers in Sangketan envisaged better welfare for farmers, the preservation of the *subaks*, and conservation of nature through organic agriculture. They said they have returned to the practice of organic agriculture despite aggressive marketing campaigns by chemical companies, and they want government subsidies on organic fertilizers. They also expressed a wish to see farmers respected and recognized as key actors in the

World Heritage Site, and they said they want clear regulations and strict spatial planning within the site. They also suggested establishing an information centre where tourists could learn more about *subaks*.

From the local tourism entrepreneurs, community members expect capacity-building on tourism, such as how to set up homestays, culinary skills, and foreign language instruction so they are better able to take advantage of new opportunities. This topic also arose in Rejasa, where it was suggested that the farmers need training in the English language and in developing homestays.

6.4 Increasing land speculation

As briefly noted above, land use change is an ongoing challenge in the area of the World Heritage Site, with farmland increasingly being sold and converted to non-farm uses. This trend is driven to a great extent by rising tourism, and may have been accelerated by the inscription. As shown in Figure 6, foreign tourist arrivals to Indonesia have roughly doubled in the last 10 years, and visits to Bali have roughly tripled. Land prices are reported to be on the rise, and new

establishments are seen on the landscape. As demand for tourism amenities continues to grow, investment and land speculation are likely to increase as well, driving large-scale land use change in the region. Investors usually target dry farmland (*subak abian*), as it is easier to convert to non-farm use than wet *subak* (*subak basah*, usually paddy fields). Therefore, maintaining the water supply to the paddy fields can help prevent further land use change.

In Sangketan and Jatiluwih, villagers said the regulation on spatial planning and land conversion is still unclear and has been exploited by investors to build villas and similar infrastructure in or around the World Heritage Site. They felt that the outsiders were more aware of the opportunities created by the site and were taking greater advantage of them. Similar sentiments were raised by the customary village chief (*kepala desa*) of Wongaya Gede and the high priest (*Jero Mangku Gede*) about the conversion of rice fields to uses other than agriculture. They said the two main reasons are farmers' low income and lack of water to grow rice, which prompt land owners to sell or convert their land to more profitable use. Furthermore, zoning is not strictly enforced, so green belts are allowed to be converted to non-permitted uses. This has been the case

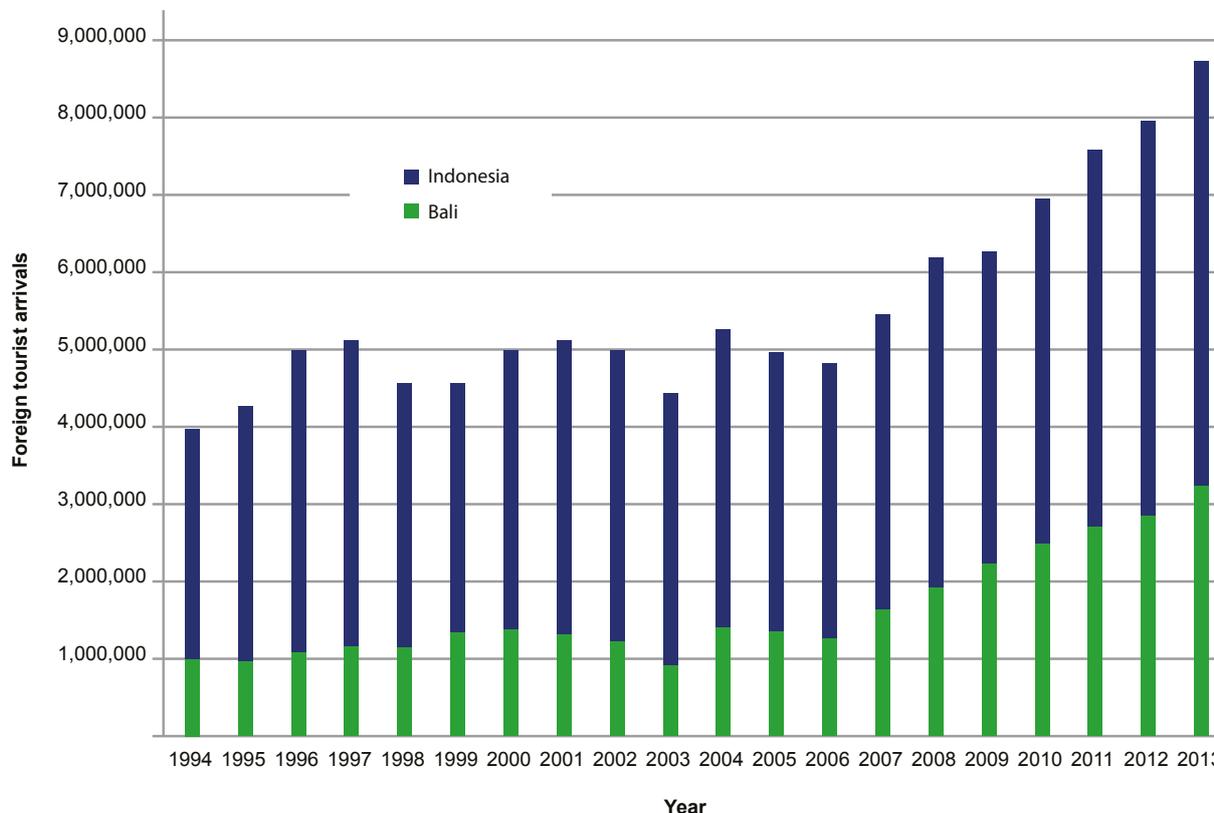


Figure 6. Foreign tourist arrivals in Indonesia and Bali, 1994–2013.

Source: Bali Government Tourism Office, Bali Provincial Government

with a controversial rice mill in Jatiluwih's green belt, which was built with a special permit (*ijin mendirikan bangunan*, or IMB) issued by an influential person. An IMB makes it possible to build in an area designated by the community as a green belt, and before it can be issued, there is supposed to be a consultation with the neighbours. In this case, the neighbours, who are farmers, were never consulted, and the project went ahead despite their opposition.

Now, with the World Heritage Site designation, the farmers expect the government to impose strict rules on spatial planning and zoning. Moreover, they hope for incentives or support for farmers to keep on growing local rice varieties in the traditional way, organically, and to help them reduce the risk of crop failures and financially assist those in need so that they will not give up their lands or convert their rice fields. The *Jero Mangku Gede* further emphasized that if UNESCO wants to preserve the site's outstanding universal value – the *subak* landscape – it has to help keep the farms viable by ensuring the continuous supply of water, availability of land for farming, manpower to work in the *sawah*, and enough funds to perform related rituals.

6.5 Impacts of increased tourism

Tourism sustains the Balinese economy. For an island of just 5,780 km² (roughly 0.3% of Indonesia's land area), part of an archipelago of 17,000 islands, Bali's contribution to tourism in Indonesia is substantial, accounting for 37% of the country's foreign tourist arrivals. Tourism directly employs 28% of the island's work force, providing 674,600 direct jobs. It is also a major source of Bali's provincial income, contributing 29.89% of GDP in 2013 (Bali Provincial Tourism Office n.d.). In this context, it is not difficult to see why tourism is also a major driver of land use change, through the many activities, structures, monuments, and amenities established to support the sector.

Within the World Heritage Site, Jatiluwih benefits the most from tourism, but it also suffers more from its impacts. Jatiluwih has been a well-known tourist destination since the 1970s, due to its beautiful and extensive terraced landscape. However, although the regency and village governments set up entrance gates and ticket booths to collect fees from arriving tourists, tourism development has been relatively limited. While across Bali, there are numerous hotels, travel agencies, tour operators, restaurants, shops, tourist attractions and cultural venues, the Jatiluwih-based tourism industry is limited to a few restaurants and a



Tourists in Jatiluwih admiring a ripening jackfruit

handful of guesthouses and homestays. Many of the tourists who come to the village are day visitors from Denpasar, Ubud, Sanur and other key tourist areas. Since the inscription, however, the pace of change has accelerated significantly.

Tourism growth has brought about environmental problems such as increased traffic on village roads, increased disposal of solid waste, and excessive use of water for homestays, villas and restaurants, which reduces the flow of water to rice fields. Tourism development, as discussed above, is also driving land conversion to non-agricultural uses.

Increased tourism has also led to other emerging trends that may not be socially compatible with the practices in the *subaks*, such as the packaging of the rice harvest as a tourism offering. Some of rice farms in Jatiluwih have already been booked for tourists who want to experience an “authentic” Balinese rice harvest. This is the first time this has been done, but if this becomes a trend, no one knows what the implications could be, especially for the rituals that normally accompany the rice harvest, and for the relationships among farmers.

It is too early to tell, but one can imagine that, unless this is managed carefully, tourism will dramatically alter the landscape in Jatiluwih. For instance, this could delay planned harvest rituals in some farms, and the presence of too many visitors to the *subaks* at once could result in land degradation. Some farmers have already complained about the impact of tourists trekking on delicate paddy bunds and crossing sacred grounds and shrines. Thus, the commodification of the *subak* landscape for tourism is likely to divorce the land

from its productive and symbolic function. Even worse would be what Cole (2012) calls the “museumification” of traditional livelihoods, a phenomenon already seen in the Ifugao Rice Terraces, whose future existence is increasingly uncertain as the people and culture that produced this landscape are changing (Araral 2013; Guimbatan and Baguilat 2006)

Increased tourism in Bali has also meant the transfer of a significant amount of agricultural water from Jatiluwih for non-farm uses in Nusa Dua. Farmers complained about this practice because it has reduced the amount of water available to their farms, and their villages are not compensated for the use of their water. All across Bali, water scarcity is becoming a problem, with groundwater levels falling, land subsiding, and salinity intruding (Cole 2012). Further increases in demand will have significant environmental ramifications.

It should be noted that although the tourism sector is an important actor in the World Heritage Site, as of December 2014, it had not been actively involved in the site's management, because the Coordination Forum had not yet started its operations.

6.6 Long-term implications of uncoordinated policies

In November 2014, the *pekasehs* of the 14 *subaks* in the World Heritage Site received a grant from the Governor of Bali as a reward for the inscription (see Annex 1 for a discussion of the Governor's role in the management of the site). The money went to the original *subaks* listed in the nomination but, as mentioned above, the *subaks* have now increased to 20 after the splintering of some *subaks*. Each of the original *subaks* received 100 million IDR (8,000 USD), but the *pekasehs* decided that the mother *subaks* of those that budded off would share the money they received in order to ward off any conflict. These *subaks* will decide how much to share. This is likely to be a one-off action of the provincial government, and there is no clear rationale for what the money is for and what is meant to be achieved with it. Samdhana and other partners worry that the money will affect perceptions of the World Heritage Site and undermine long-term efforts at maintaining environmental sustainability and social cohesion.

Despite these worries, the *pekasehs* have made plans for the money they received. For instance, *subak* Jatiluwih plans to use some of their money to purchase land for the *balai subak*, a hall to house *subak* meetings and other activities. In Wongaya Gede, farmers will use

the grant to repair their irrigation system. Each of the *pekasehs* has also decided to contribute 1 million IDR (80 USD) to the *Forum Pekaseh* to support its activities.

A recent development that has troubled the *pekasehs* is the Tabanan Regency's plan, through its Revenue Office (*Dispenda*), to issue Local Regulation No. 6 2014, instituting a green belt across Tabanan, based on Regency Regulation No. 11 2012 on spatial planning, which covers the period 2012–2032. The regulation would be implemented by the Public Works Administration (*Dinas Pekerjaan Umum*). It would forbid construction in the green belt, except with permission from the Regent (*bupati*) upon recommendation of the Regency House of Representatives. The tax on land in the green belt would be reduced by 50%; land taxes outside the green belt would remain unchanged. Owners of existing buildings within the zone are not allowed to expand those buildings and must maintain their yards with plants.

On its face, the reason given is lofty: it is a response to increasing tourism development in Tabanan. Regency officials want to protect the environment according to the philosophy of *Tri Hita Karana*, and to conserve nature for tourism as well. However, the *pekasehs* purportedly see the regulation as a ruse to get them to agree to open up their *subaks* to investors who want to capitalize on potential tourism opportunities, for a number of reasons. First, the definition of the boundaries of the green belt, especially for Jatiluwih, is ambiguous. The regulation states that Jatiluwih has 303 ha of green belt, but this is exactly the size of the *subaks* in Jatiluwih (see Table 1). How can the green belt consist of just the *subaks*? If the *subaks* are the green belt, what is the core zone? What happens to other areas outside the *subaks*? Are they available for conversion?

The regulation further defines the green belt as the land on both sides of the village road up to 1 km inward, bookended by the hamlets (*banjars*) of Gunung Sari and Soko. The width of this belt is not uniform on both sides of the road and does not cover a wider area. The area on one side of the road is 1.8 km, but on the other side it is only 650 metres. What happens beyond the belt is an open question and the source of the *pekasehs*' worry, given the current rate of land conversion in Jatiluwih. Moreover, the formulation of this regulation was not transparent and its dissemination was hasty, which caught them by surprise. Finally, should this regulation be implemented, they said, it will conflict with the earlier regency regulation on *sawah abadi*, which conserved the land as rice fields in perpetuity.

7 OPTIONS FOR A LIVING CULTURAL LANDSCAPE

Reiterating the advice of the high priest (*Jero Mangku Gede*) of Pura Batukaru, to protect the outstanding universal value, integrity and authenticity of the *subak* landscape as a World Heritage Site, it is crucial to address land conversion. This requires ensuring a continuous supply of water for the *subaks*, maintaining land for farming, ensuring that labour is available in the *sawah*, and ensuring that there are enough funds for rituals. The importance of the last point was also raised by the King of Tabanan and the village chief of Wongaya Gede.

Put simply, the sustainability of the World Heritage Site hinges on how land is used now and in the future. This is a conversation that all actors in the CAB need to continue to have, but formal mechanisms have yet to be set up to enable those conversations and implement the intentions of the inscription. As of early April 2015, the Coordination Forum (*Forum Koordinasi*) had yet to hold a follow-up to its inaugural meeting, and the government of Tabanan Regency has not yet created an administrative body to manage the sites in its jurisdiction. Continued delays will be costly, and the farmers worry about the prospect of more land conversion and water shortages. The momentum and goodwill achieved by the organization of the *Forum Pekaseh* will unravel without support from the Regency, which, by law, should lead the management of its cultural landscape.

Ongoing efforts led by the *subaks* and their *pekasehs* must also continue. Thus, we offer some ways forward based on almost a year of interaction and listening to the voices of different actors in the CAB. At the crux of these options is the active involvement of the communities, especially the *pekasehs* of the CAB, through their recently established forum, and their members in all aspects of management of the cultural landscape. Through years of experience in deliberative and democratic decision-making guided by the principles of *Tri Hita Karana*, the *subak* farmers in the CAB are capable partners. Their participation will ensure that all interventions in the World Heritage Site will respond to their collective interests and are grounded on the realities they encounter every day in their households, farms and temples.

Although these recommendations are solely for the CAB and do not apply to other parts of the World Heritage Site, notably the *subaks* in the Pakerisan watershed and the temples Pura Taman Ayun and Pura Ulun Danu Batur, our intention is to ensure that the

World Heritage Site protects the universal values that make Bali unique. It should sustain *subaks* into the future while improving the well-being of the Balinese, especially the members of the *subaks* in the CAB. To address these cross-cutting concerns, we suggest the following options:

7.1 Revisit the ideas and intentions of the former Governing Assembly and implement the UNESCO approved management plan

Management plans and information

Regardless of the deficiencies of the institutional arrangements during the nomination, the materials it produced are still valid and contain much useful information. The Detailed Management Scheme approved by UNESCO and the already completed interpretation design framework need to be implemented. At the level of the central government, MoEC has already translated and printed the management plan in Bahasa Indonesia. This is a resource for further consultation and discussion with related local government working units (*Satuan Kerja Pemerintah Daerah*, or SKPD), farmers, and stakeholders at the provincial, regency and village levels.

The Ministry had also done various “socializations” among different actors. It would be useful to share any maps, plans, databases and other information gathered with the designated authorities, to use in the management of the sites. Chapter 6 of the nomination dossier stated that baseline data on livelihoods, *subak* institutional capacity, and environmental factors such as soil and water quality and environmental change were collected from 2006 to 2010 in the CAB and Pakerisan areas (Ministry of Culture and Tourism and Government of Bali Province 2011). A mapping of *subak* boundaries was also conducted by the former Governing Assembly Secretariat. This work is now being redone, as the information collected during the nomination is not available to those who are designing management interventions and communication plans. Proper site interpretation is essential to enable visitors to understand what the World Heritage Site is all about and to provide a truly educational experience that leaves a lasting impression. Again, an interpretation framework had already been designed under the Governing Assembly, but those materials are not available to the responsible agencies in Bali. That needs to change. If needed, a neutral repository for

the information, data and plans may be established; Udayana University's *Subak* Research Centre (*Puslit*) may be able to provide this.

Zoning

Zoning is another important component of the management plan. There is a need to accelerate zoning, because it is a highly bureaucratic and time-consuming process. Thus, it tends to be very slow, which investors could exploit to develop land before it is protected. Zoning is important to manage diverse land uses and has to be coordinated at the Regency, provincial and national levels. At the national level, declaring the CAB a national strategic area will bring in government resources to support the management of the cultural landscape, but this process takes time.

Strategic priorities

The strategic priorities detailed in Chapter 5 of the management plan (Ministry of Education and Culture 2013) need to be implemented:

- Livelihood protection and enhancement;
- Conservation and promotion of ecosystem services;
- Conservation of material culture;
- Appropriate tourism development;
- Infrastructure and facility development.

7.2 Establish the *badan pengelola* at the regency level or consider an interim authority

The Governor's Decree No. 11 of 2014, which set up the Coordination Forum to replace the Governing Assembly, specifies the creation of a management body (*badan pengelola*) at the regency level. This body has not been established yet, though as discussed earlier, there is a *badan pengelola* in Jatiwulih (*Badan Pengelola Daya Tarik Wisata Jatiwulih*), primarily to collect fees from tourists. It does not include *subak* representatives and, though it has invited other villages to participate, has not really engaged with them.

Implementation of the management plan cannot wait much longer; recent news articles warn that the *subak* system in the World Heritage Site is "on the brink of collapse" (Dharmiasih and Lansing 2014; see also Asia Sentinel 2013; Finlayson 2013). The Bali Cultural Landscape is not a single, uniform entity, but a fragmented property involving diverse landscapes and monuments. Managing this fragmented landscape requires an institution with sufficient authority and power to get all the relevant actors at the table to discuss various options. A more inclusive, encompassing,

regency-wide *badan pengelola* can help achieve this. A regency-level body is part of the implementation plan for the Governor's 2014 decree establishing the Coordination Forum, as the latter is just a venue for discussing and deciding various issues in the World Heritage Site. Even the *badan pengelola* may take time to set up properly, however, and in the meantime, an interim authority, duly designated by MoEC and the Governor of Bali and with convening power and resources, should be considered, to enable coordinated action as soon as possible.

Our conversations with the *pekasehs* indicate that only an intervention at the national and provincial levels will overcome the harm done by inaction at the regency level. So this is an issue that the MoEC and *Disbud Provinsi* (the Provincial Culture Office) need to consider. Insights from the experience of Borobudur, which has a similar institutional setup, could be useful. Such an institutional arrangement could also be explored in the context of designating the CAB as a national strategic area (*Kawasan Strategi Nasional*), as already highlighted in the existing management plan. (See Annex 1 on the roles of the different government agencies in the World Heritage Site.)

National strategic areas are governed by Law No. 26 of 2007 on Spatial Planning. They are defined as areas where spatial planning is prioritized due to their national significance for sovereignty, defence and security, economy, culture and/or environment, including areas designated as World Heritage Sites. Once an area has been designated as strategic, the national government has the right to initiate planning and control the use of the area. Such planning and control may be delegated to local governments through the mechanisms of "de-concentration and/or tasked assistance", which imply different levels of delegation of authority. Through Presidential Regulation No. 58 of 2014, Borobudur became the first national strategic area in a World Heritage Site. The national government prepared the spatial plan for Borobudur, and empowered various actors to coordinate and work together to manage the World Heritage Site.

Such an authority is not only needed at the provincial level, however, but also at the landscape level in Bali. The CAB actually spans both Tabanan and Buleleng regencies, so the management of the site requires the cooperation of both local governments. Tabanan hosts the *subaks* in the cultural landscape, while Buleleng is home to the lakes. The two regencies share the forests that link the two landscapes together, which makes coordinated action most sensible. But such joint management intervention will not materialize until an



authority convenes the two regencies and jump-starts the planning process.

One cannot underestimate the challenges of managing a *living* cultural landscape wherein the local people are very much part of the practices and beliefs that have been designated as a World Heritage Site – as opposed to “traditional” cultural landscapes where only the buildings and places are protected for the history they invoke. There are not many examples for Bali to learn from. The closest one is the Ifugao Rice Terraces in the Philippines, which also struggles with many management challenges. UNESCO could put Bali on the endangered list already for failing to implement the management plan and follow up on its key recommendations. In fact, UNESCO already warned the Government of Indonesia after it received an anonymous complaint about the state of affairs in 2013. In a letter, it reminded the government to implement the recommendations made during the 36th session of the World Heritage Committee in St. Petersburg in 2012, for which progress was to be reported to UNESCO in 2014. Seriously considering an independent interim authority could save Bali from being declared endangered and, even worse, being removed from the World Heritage Registry. That would be an affront to the dignity of the nation and the hopes and aspirations of the Balinese. As Dharmiasih and Lansing (2014) have warned, “UNESCO is watching”.

7.3 Meaningful engagement of *Forum Pekaseh*

There are two aspects in this recommendation. First, to ensure that the *Forum Pekaseh* can function effectively, the institutional context needs to be improved, particularly with regard to the SKPD at

the regency level. We have observed that the farmers feel inherently limited in their ability to communicate with the various actors in the SKPD. They have always felt that they are at the bottom of the hierarchy; thus, they are not assertive in articulating their concerns to the regency. There needs to be a greater appreciation of the role of the *subaks* in the World Heritage Site, particularly by the culture office (*Disbud Kabupaten*).

Role of various departments of Tabanan Regency

To facilitate the active participation of relevant government agencies or offices in Tabanan, a consensus-building (*musyawarah*) process among units needs to be conducted within the SKPD at the regency level. These units may include, among others, the culture office, agriculture, forestry, public works, revenue and tourism. Engaging them all is important not only because of the roles they have to play in World Heritage Site management, but also to provide a broader perspective for the culture office on how cultural issues are linked with other issues in the Regency. This may also be attended by the King of Tabanan. UNUD’s *Puslit*, the Provincial Culture Office, MoEC, the *Forum Pekaseh* and other actors would only serve as resources. As an incentive and to allow a neutral space for dialogue, this *musyawarah* should be conducted outside Bali, preferably in Yogyakarta, which would allow for a field trip to Borobudur and Prambanan, other World Heritage Sites in Indonesia.

The goals of the *musyawarah* would be to increase awareness of the World Heritage Site, gain an understanding on how to manage it, and develop a consensus on future options for the cultural landscape of the regency. This would give the culture office and SKPD an appreciation of the importance of *subaks* and of the role that the *Forum Pekaseh* plays. Senior officers from each government unit should attend, to

ensure that decisions can later be implemented. Such a process is essential to develop a common understanding of the World Heritage Site and of each actor's role in it. Our experience during the assembly for the *pekasehs* shows that meaningful results arise from a well-planned, designed and facilitated *musyawarah*.

Development of a community-based monitoring and evaluation system

Meaningful engagement with the *pekasehs* in the context of the World Heritage Site should also be pursued by creating an enabling environment where reflection and learning are inherent components. That is to say, the monitoring and evaluation should not be seen just as a means to meeting UNESCO reporting requirements. While compliance is important, monitoring and evaluation protocols must be developed purposefully to empower people and enable learning. Thus, we envision the development of a *subak* community-based monitoring system that gathers insights and implements actions in a living cultural landscape, reflecting, learning and adapting over time.

Participatory development of M&E indicators

We explored the monitoring and evaluation framework provided in Chapter 6 of the management plan to assess which of the indicators can be articulated in a participatory manner or whether alternative indicators can be provided through a series of conversations with farmers. Although *subak* members wondered whether it is their responsibility to conduct the monitoring, they found some of the indicators provided in Chapter 6 to be too technical and complicated. They then suggested to define the indicators in terms of what is relevant for them, and focusing on the issues that concern them. For instance, irrigation is an important issue; the infrastructure needs to be strong to handle the volume of water, especially at division points, and it requires regular maintenance.

The flow of the water, too, needs to be ensured. For instance, in Wongaya Gede, worms are eroding the canals, leading to their collapse. In Rejasa, small crabs burrow in the canals. The channelling of water from a spring in Jatiluwih to Nusa Dua in southern Bali has also reduced water flows. Thus, the farmers raised the need to monitor the use of water for purposes other than rice farming (e.g. poultry business, housing and settlements development, new villas, hotels and restaurants) in the World Heritage Site area.

Farmers also cited the maintenance of roads in the *sawah*, which they use to transport farm inputs, implements and harvests, as an important concern they

want to monitor. So is the state of their water temples, such as the Pura Bedugul and the Pura Ulun Suwi.

In terms of their economic well-being, farmers suggested that monitoring may be done by looking at the quality and variety of *banten* (offerings), as households offer what they can afford, and temple decorations are voluntarily contributed by members (see also the previous discussion on the costs of rituals). The number of visits to temples could also be an indicator of household well-being, because households tend to visit more frequently when they have something to offer. When households are embarrassed of the quality of their offerings, they will cover them so that they are not visible. On the other hand, in the view of some farmers in Rejasa and Wongaya Gede, local school attendance is not a good indicator of farmers' well-being because, if they can afford it, they will always send their children to schools in town. Therefore, a decline in school attendance may simply mean that farmers have enough money to send their children to study elsewhere.

In view of these locally available indicators of change and how these resonate with farmers' priorities, it is important to set up a community-based monitoring system that not only helps World Heritage Site managers and stakeholders track the efficiency and effectiveness of their interventions, but also enables learning. This system will empower the *Forum Pekaseh* to act as a collective rather than as individual and fragmented members of working groups, because the *pekasehs* will be better able to identify and discuss issues that they all face. The hierarchical nature of Balinese society also means that placing the farmers alongside government technocrats would only drown them in silence. The voice of the farmers will never be heard. Thus, monitoring how the "living" cultural landscape is conserved necessitates taking the concerns of farmers as a starting point.

Monitoring the outstanding universal value of the World Heritage Site

Another set of issues that a community-based monitoring approach can help address is how to protect the outstanding universal value of the Bali Cultural Landscape. We discussed these issues with the farmers, and they suggested that indicators for monitoring need to be linked with the three components of *Tri Hita Karana*, which are:

- *Parahyangan* (relationship with God): the indicators should be linked to the quality and frequency of rituals, preparation of offerings, maintenance of the water temples;

- *Palemahan* (relationship with nature): the indicators should be linked to the maintenance of the water resources, the lakes and rivers, the soil, the forest and its biodiversity;
- *Pawongan* (relationship with other human beings): the indicators should be linked to how equitably the water is shared, the decision-making process in growing crops, the *subak* organization, and the sharing of benefits.

In short, the farmers prefer monitoring to be based on the issues that concern them and not on something abstract that they do not believe has any bearing on their welfare. They also said they saw an opportunity for monitoring during the regular meetings of the *subaks*.

Action plans

The *pekasehs* already outlined action plans during their assembly in May 2014. These action plans could be the starting point for a farmer-led monitoring and evaluation framework to assess progress and learn from their outcomes. The action plans are summarized in three tables in Annex 3.

Actors in the World Heritage Site who want to work in the cultural landscape of the CAB may well be advised to refer to these plans and see which actions they could support. These action plans came out of rigorous debates and discussions among the *pekasehs* of the CAB who gathered for two days to discuss their role in the site. These action plans were shared with the King of Tabanan and the High Priest of Pura Batukaru in the presence of the Samdhana Institute, the MoEC, UNUD and SEI.

7.4 Expanded engagement with other actors

There are issues in the World Heritage Site which cultural or heritage actors cannot address on their own, and which require interventions from other sectors. For instance, there are issues concerning tourism sustainability, water policy, and the implications of new laws and regulations on villages. This is not an exhaustive list. There are others that are definitely needing attention, but we highlight them here because they align with the issues raised by the farmers.

Package tourism sustainably

In view of the problems related to increasing tourism development in the CAB, as discussed earlier, the tourism departments at the provincial and regency levels need to be involved in the management of the World Heritage Site. So far, they have not been involved

actively; this is a problem that the Coordination Forum needs to address.

Also, there is a need to keep track of and be critical of tourism fads and other staged events, such as the attempt to package the rice harvest as a tourism product. Given the problems brought about by increased tourism in Bali in general, and in Jatiluwih in particular, this trend is problematic as it will, as Urry and Larsen (2011) put it, transform the cultural landscape into a spectacle, whereby it is “packaged”, “themed” and “sanitized” for the consumption of visitors. This would fray the unique social, spiritual and ecological relationships that give Bali its outstanding universal value.

Coherent water policy

The availability of water is crucial to the survival of the *subaks*. Bali, in general, urgently needs a coherent water policy that includes protecting key sources of water, such as the highland lakes that sustain the *subaks* in the CAB and many places, from degradation and overexploitation, and managing competing demands. The impacts of climate change and variability on Bali’s water resources also need to be considered. As part of a discussion among farmers in Badung Utara during a scoping assessment on climate change adaptation in 2011, it was noted that “during the dry season, droughts were hotter and lengthier, killing grass required for cattle feed. ... Signs that could previously be relied on to predict weather and the change of seasons were regularly failing. Overall, production and income were reported to be declining. Life had become harder and more uncertain” (Salamanca et al. 2013).

Law 6/2014 on villages and implications for Forum Pekaseh

The *Forum Pekaseh* should study the implications of the enactment in January 2014 of Indonesia’s new village law, which gives villages the right to regulate and manage local government affairs, community interests, and customary and traditional rights. The law significantly increases funding for villages, much of it from the national government, providing for an amount equivalent to 10% of central government transfers to lower levels of government to go directly to the villages, in addition to previously existing transfers. Villages are also entitled to 10% of the national funds received by districts and municipalities, after subtracting special allocation funds. The money is all meant to be used for development purposes, as determined by villages themselves (Howes and Davies 2014). This could be an opportunity or a burden to the farmers, depending on how it unfolds in the coming years and how ready villages in the CAB are to seize the opportunities that arise.

8 CONCLUSION

The future of the World Heritage Site and the cultural landscape it is meant to protect will be driven by actors with sometimes diverging interests and responsibilities. The farmers in the area have tilled the land and cultivated wet rice for generations, guided by the Hindu-Balinese cosmology of *Tri Hita Karana*. The *subak* is a manifestation of those intricate relationships, where water is a giver of life and sustains the farmers' lives and environment. In return, they respect one another, their environment and their gods. Yet their world needs to be understood in the context of a larger landscape of politics and power.

The farmers will keep farming with or without the World Heritage Site, but they see the inscription as an opportunity to help them address the problems they face. At the same time, being part of a World Heritage Site requires adjustments, in terms of what they can or cannot do in the landscape. They need to understand the implications for their livelihoods of various management measures, and have since asked UNUD, *Disbud Provinsi* and MoEC for more information to help them understand the management of a World Heritage Site. Samdhana also has an ongoing programme to help some farmers set up a cooperative and homestays. In short, the farmers are hopeful that the inscription will bring them benefits, including a return to traditional values and farming systems at a time when many young people are uninterested in *subak* life or in solving the *subaks'* problems.

A key challenge for the World Heritage Site in Bali is that two very different sets of actors have been involved in the nomination process and the implementation. Securing the inscription was a long, tedious and expensive process, stretching over more than 10 years. Per Indonesian law, however, the MoEC is only in charge of the nomination; once a site is inscribed, management needs to devolve to the local levels, with the ministry simply facilitating reporting to UNESCO. Now another set of stakeholders have to work together to realize the vision for the site. This requires hammering out the details of heritage management, and confronting the realities of the Indonesian bureaucracy, which is huge, tangled in complicated administrative procedures, decentralized, and heavily politicized. Yet there is little capacity in the province and regency culture departments to manage a cultural landscape, much less a World Heritage Site.

In fact, Bali is the first cultural landscape in the country to be listed as a UNESCO World Heritage Site, so there are no experiences or insights to draw from. Southeast Asia more broadly is also of little help, having only three cultural landscapes inscribed so far. Thus, as highlighted here, Bali is still struggling with implementing its management plan. The sites are not managed formally and properly, and the designs of those who led the nomination remain unimplemented.

Resolving these issues will require political will and engagement at all levels of government and – just as important – meaningful participation by all key stakeholders, particularly the *subaks*. The good news is that the farmers are eager to get involved, to work to maintain their practices and rituals, prevent land conversion, and ensure that there continues to be enough farm labour for the rice terraces.

The farmers are also well prepared to participate in the process, as they have well-established practices of deliberative and democratic governance, learned through generations of managing their *subaks*. They have shown that they are capable managers of their landscape. What they need are effective mechanisms to participate in the site management, and real, sustained attention to their needs, such as an adequate supply of water, and support for organic farming practices.

The ingredients for a successful farmer-led management system are already available, in the form of the *subaks* and their leaders, the *pekasehs*. The *subaks* have their own rules and a process of decision-making that is recognized by members. They are deliberative and decide by consensus. The members of *Forum Pekaseh* have also codified the rules that bind them together as one entity and define their responsibilities.

The overarching goals of the UNESCO World Heritage Convention can therefore be successfully realized in the Bali Cultural Landscape, but first, deliberate efforts are needed to enable key institutions to work better. Most of all, in our view, the future of the Bali Cultural Landscape depends on how well the relevant governance institutions in Indonesia can empower the farmers to oversee and manage the heritage they built.

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ANNEX 1: GOVERNMENT ACTORS IN THE WORLD HERITAGE SITE

Government actors are composed of national level ministries, provincial departments and governments, district/regency governments and formal village organizations (*desa dinas*).

Ministries in Jakarta

The ministry responsible for taking the lead in the nomination of World Heritage Sites in Indonesia is the Ministry of Education and Culture (MoEC), specifically the Directorate of Value Internalization and Cultural Diplomacy. However, after the site is inscribed, MoEC is required to defer to its counterparts at the provincial and regency levels for implementation, though it remains involved and is UNESCO's key contact point. MoEC also coordinates with other relevant ministries to align policy and programmes on the ground to support the implementation of the management plan. The ministry has hosted several meetings and focus group discussions in Jakarta to discuss opportunities and challenges in managing the Bali site and develop a common plan to support it.

The Ministry of Agriculture provides technical support to farmers and farmer associations (including *subaks*) to increase agricultural productivity. The ministry is also expected to ensure the availability of key inputs (*saprodi*), such as fertilizer, and post-production facilities.

The Ministry of Forestry has the mandate to conserve protected forests and water resources. The water supply for the CAB *subaks* flows down from a protected forest area to the north, which is also part of the World Heritage Site.

The Ministry of Public Works develops and maintains irrigation systems that distribute water to farms. One of the main issues identified by *subak* farmers, aside from the reliability of water supply, is the quality of irrigation systems, as many canals are in disrepair. The ministry also has a role in supporting agricultural infrastructure such as the *subak* road to facilitate the transport of *saprodi* to farms and the harvest to markets.

Governor of Bali

The Regional Autonomy Law of 2004 gave provincial governors in Indonesia expanded powers to guide and supervise the governance of districts and cities and

coordinate the implementation of central government affairs in provinces, districts and cities (Butt 2010). This makes the governor of Bali an important actor in the implementation of the World Heritage Site management plan. The governor's support during the nomination process was instrumental in getting the inscription in 2012. He is also a member of the steering committee (*Dewan Pengarah*) of the Coordinating Forum, which will oversee the implementing agency (see SKPD section below).

Regency (*kabupaten*)

The regency (*kabupaten*) is equivalent to a municipality, and the regent (*bupati*) is equivalent to a mayor. Above the regency is the provincial government, below it is the district (*kecamatan*) level, headed by *camat*, who supervises villages or *desa*.

Under Indonesia's decentralization law, the *bupati* has many powers, including to impose taxes and set local priorities. As should be clear from the discussion in our report, the regency has an important role in ensuring the success of the World Heritage Site, even if it is not directly responsible for its management (see further discussion below).

Local government operational units (*Satuan Kerja Perangkat Daerah, or SKPD*)

Local government operational units (*Satuan Kerja Perangkat Daerah, or SKPD*) are set up at the provincial and regency levels to perform executive and coordination functions of regional governments and of the policies of the national government at regional levels. SKPDs report to the governor or the regent, respectively, not to the relevant national ministries, and this can sometimes create conflicts, as they tend to put local priorities above the ministries'.

Usually the SKPDs mirror the central government's arrangements of ministries, but some functions may be merged into a single unit, such as an office of fisheries and animal husbandry, or energy, mining and environment. The SKPD may also have technical units, such as an office for agricultural extension under the SPKD for agriculture, fisheries, forestry and plantations. Regency-level SKPDs are responsible for implementing field projects, but supervision, planning, monitoring and evaluation are at the provincial

level. The national-level ministries only provide the guidelines and general policies and regulations.

SKPD at the provincial level

The implementation of the World Heritage Site management plan for the Bali Cultural Landscape is under the authority of the Bali Province Culture Office (*Dinas Kebudayaan, or Disbud Provinsi*). It facilitated the establishment of the Governing Assembly and its successor, the Coordinating Forum. Other provincial-level SKPDs have also been invited to contribute and collaborate, including the offices of forestry, agriculture and public works.

MoEC coordinates with *Disbud Provinsi*, but under Indonesia's Law on Decentralization, MoEC has no direct authority over *Disbud Provinsi*. It can only provide guidelines, legal support and technical assistance (such as mapping or surveys).

SKPD at the regency level

Regency-level SKPDs report to the regent, and the SKPD at the provincial and national levels have no direct control over them. Since the province-level *Disbud* is already responsible for the management of the World Heritage Site, the role of the regency-level cultural office (*Disbud Kabupaten*) is unclear, although it is part of the Coordination Forum. In principle, the office should still have an important role, as it is responsible for managing cultural heritage issues at the regency level. However, the office is not actively involved in the management of the site, nor was it adequately consulted and listened to during the nomination process. This has resulted in a lack of appreciation within the regency office of the demands of World Heritage Site management and the implications of the inscription for the regency's cultural landscape. This may also explain the Tabanan Regency's development of the *badan pengelola* (management body) for Jatiluwih, which

conflicts with the World Heritage Site management plan. In 2013, MoEC tried to raise awareness of World Heritage Site issues among relevant SKPDs, but more intensive information and education campaigns and dialogues are needed. In Tabanan in particular, the culture office needs to play a more active role in the management of the site.

Village heads (*kepala desa or perbekel*)

Village-level administration in Bali is unique for Indonesia in that it involves two kinds of administration: the *dinas* (official/formal) and the *adat* (customary). The head of an official village (*desa dinas*) is called *kepala desa or perbekel*, while the head of a customary village (*desa adat*) is called *bendesa adat*. Within the villages, there can be hamlets or sub-villages that mirror that dual system. As discussed briefly in the report, the *desa dinas* serves as a local extension of the official government, while the *desa adat* deals with customary law and traditions. The territorial jurisdictions do not always overlap.

According to the *perbekel* of Wongaya Gede, who used to be a *bendesa adat*, for the Balinese, the power and charisma of the *bendesa adat* is greater than that of the *perbekel*. Villagers tend to listen more to the *bendesa adat* and obey his rules than with the *perbekel*, as they respect social and traditional sanctions more than official rules.

By law and by Balinese tradition, the *subaks* are responsible for the management of their irrigation infrastructure and the environment in the rice fields, sharing this responsibility with the *desa adat*. In some cases, the *subak* shares responsibility for the management of temples and irrigation infrastructure with official government entities as well.

ANNEX 2: THE SUBAK FARMERS AND THEIR ORGANIZATION IN THE CAB

The *pekaseh* is the supervisor of a *subak* unit. This position can be appointed (hereditary) or democratically elected among the heads of sub-groups of farmers within the *subak*, called *tempeks*.

The *pekaseh* holds regular meetings in the *subak* and represents the *subak* at external meetings. Within the *subak*, the *pekaseh* leads members in deciding on what variety of rice to plant, when to plant it, and how to address various issues such as maintaining water flows, repairing canals and dikes. He also coordinates with the priest (*pemangku*) to perform all the rituals related to each step of rice cultivation, such as bringing in the water, germinating the seed, separating and planting the seedlings, managing pests, and harvesting the rice.

Each *subak* receives about 30,000,000 IDR (2,500 USD) per year from the local revenue office (*Dispenda*), which the *pekaseh* uses to fund *subak* management. The *pekaseh* is assisted by a secretary, a treasurer and one or more *juru arah*, depending on the size of the *subak*. The *juru arah* is a messenger who communicates calls for meetings, delivers decisions about what and when to grow, and what rituals to perform. See Figure 7 for the organizational structure of a *subak*.

On 11–12 May 2014, the 20 *pekasehs* of the CAB participated in a *musyawarah*, a meeting to build consensus, at Prana Dewi in Tabanan. Participants gained a deeper understanding of each *subak* in the CAB, clarified

their understanding of the World Heritage Site, discussed problems and challenges, and proposed actions to address them. The high priest (*Jero Mangku Gede*) of Pura Batukaru and a representative of the King of Tabanan's Privy Council also attended, to show their support.

A key outcome of the meeting was the formation of the *Forum Pekaseh Catur Angga Batukaru*, arguably signalling a new era in *subak* rule-making in the region and in Bali. Immediately after the meeting, representatives of the *pekaseh* shared their action plan with the head of *Disbud Provinsi* and regency officials (see Annex 3). By November 2014, they finalized a governing code (*awig-awig*) for the *Forum Pekaseh*, which was signed by the King of Tabanan and affirmed by a ritual ceremony officiated by the *Jero Mangku Gede* of Pura Batukaru in December.

There are two additional levels of governance among the *pekasehs* that should be briefly noted: the *Sabhantara Pekaseh* at the regency level, and at the district level. These are the heads of *pekaseh* associations, whose role is to organize regular meetings of all the *pekaseh* – at least once a month at the district level. The *Sabhantara Pekasehs* are normally elected. In cases where they are politically appointed, their legitimacy is questioned. The *Sabhantara Pekaseh* at the district level oversees the division and creation of new *subaks* and reports this to the *Dispenda*, which then formally recognizes them.

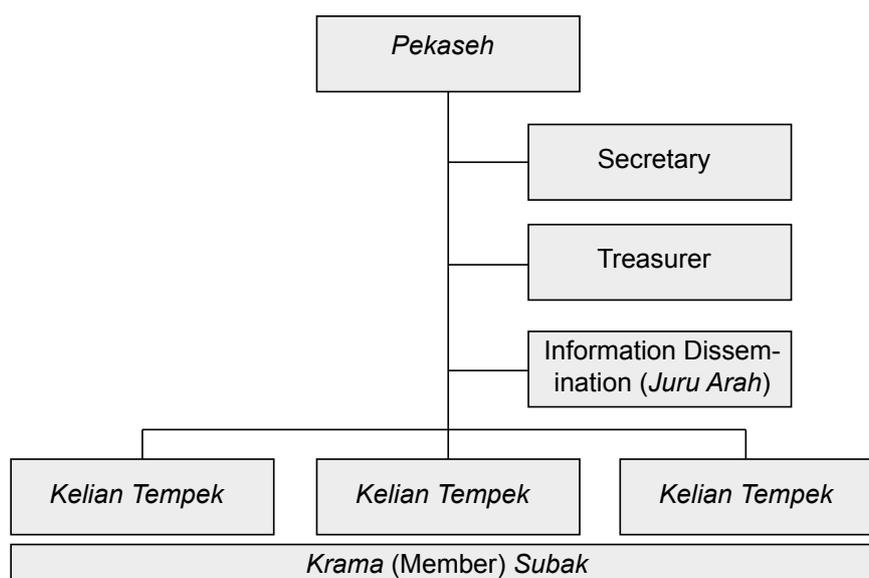


Figure 7: Organizational structure of the *subaks* in Catur Angga Batukaru. Other *subaks* in Bali may have a different structure.

ANNEX 3: ACTION PLAN RESULTING FROM THE MUSYAWARAH SUBAK

Table A1: Action points to maintain the relationship with the gods (*pahryangan*)

Problem and challenges	Solutions	Action	Support needed	When
Guests entering holy place without permission	Prepare an announcement in holy places asking guests to write their name and address	Add a policy in the <i>awig-awig</i> on tourist visits in holy places		June to December 2014
The walls of the <i>ulun suwi</i> , <i>bedugul</i> and other holy place are in need of maintenance, and some need to be completed	Repair and complete walls	Submit a proposal to the government	Regency, province and central government	June to August 2014
The <i>tri manggala</i> functions (priest, offering makers, and helpers) have not yet been given attention or consideration	Provide training according to each person's task	Suggest a training programme to the government	Ask the Religion Department in regency and province to give training	June to August 2014
The costs of <i>pujawali</i> rituals are being provided for the <i>pengempon</i> (volunteers)	<ul style="list-style-type: none"> • Ask donation from people around the <i>subaks</i> • Ask support from the government 	Send a request to the government	The government to allocate funds	2014/2015
There is a need for capacity-building of priests, <i>serati</i> , <i>prajuru</i> and <i>subak</i> members still need improvements	Training is needed	Prepare place and participants	Everyone's participation is needed	November to December 2014
Priests lack awareness of <i>swadarmaning</i> (obligation)	Refer to the priests' forum (<i>forum pemangku</i>)	Prepare guidance about priesthood	Provide books about priesthood	July 2014

Table A2: Action points to maintain human relationships (*pawongan*)

Problems and challenges	Solutions	Action	Support needed	When
Investors increasingly eyeing the World Heritage Site The agency which gives permits is not yet responsive to the World Heritage status of some sites	Government has to be more selective in granting permit (business or construction)	Farmers agree at the Forum not to sell their land	Need to keep permits from being issued to investors within the World Heritage Site	At the Forum and going forward Until December 2014
Farmers lack of awareness about world heritage status	The farmers should be educated about World Heritage status to avoid land use change (by Tourism Office)	Farmers have to be ready to accept direction and education from Tourism Department	Tourism Department needs to provide the requested education and direction to farmers	Until December 2014
Government has not given socialization and attention specifically targeted to the people living in the <i>subaks</i>	<i>Subak</i> members must become key actors in the management of World Heritage Site	Farmers have to be ready to become guides in their <i>subaks</i>	The government should recognize the key role of <i>subaks</i> in site management	To be initiated by May 2015
<i>Subak</i> institution has not been recognized as a key actor in management of World Heritage Site	<i>Subak</i> members should develop an understanding of world heritage sites so that it can be preserved and passed down to our children	Farmers will not convert the function of their farm-lands within the heritage sites	The government has the responsibility to support <i>subak</i> in development of its <i>awig-awig</i>	January to June 2015
There are no tour guides who can explain the <i>subak</i> system correctly and comprehensively	<ul style="list-style-type: none"> • Tour guides are to be given training/introduction on <i>subaks</i> • Tour guides need to cooperate with the farmers to become guides at the World Heritage Site 	<ul style="list-style-type: none"> • Farmers to educate tour guides about the <i>subak</i>. • <i>Pekasehs</i> will prepare a roster of qualified guides 	<ul style="list-style-type: none"> • Tour guides need to be open to receiving education from farmers about <i>subaks</i> and the World Heritage Site • Guides have to cooperate with farmers 	June to December 2015

Table A3: Action points to maintain relationship with the environment (*palemahan*)

Problems and challenges	Solutions	Action	Support needed	When
I. Irrigation				
Irrigation systems are in poor condition	<ul style="list-style-type: none"> • Direct funds from the National Programme for Community Empowerment (<i>Program Nasional Pemberdayaan Masyarakat</i>) to solve irrigation problems 	<ul style="list-style-type: none"> • Assign team working in group to repair irrigation system • Draft letter to relevant government offices 	<ul style="list-style-type: none"> • Specific policy support from government through Joint Ministerial Decree (<i>Surat Keputusan Bersama</i>) • Need attention from regency, provincial and national government 	July to August 2014
Conservation and protection of forests	<ul style="list-style-type: none"> • Identify solutions to improve irrigation • Recommendation to relevant government's departments • Support funding for irrigation repair and move towards self-management • Donation from World Heritage Site management 			
No permit for groundwater extraction				
II. Land conversion				
High taxes	Recommendation to relevant government offices	Give recommendation to the government	<ul style="list-style-type: none"> • Every recommendations are to be analysed by relevant regency, provincial and national government agencies • Support from government 	June 2014
Lack of government attention	Regulate by <i>awig-awig</i> / <i>Perarem</i>	Arranged by members of <i>subak</i>		
Farmers' welfare				
III. Young generation's disinterest in agricultural sector				
Income of farmers is low	Concrete activities to attract young generation	Training for young generation	Ask BPTP (Agency for Assessment of Agricultural Technology) to provide training	June to July 2014
	Special intensification	<i>Mina padi</i> (fish farming in paddy fields)	Need policy direction from agricultural and fishery offices	
Infrastructure needs to be improved	Infrastructure improvement	Improve the infrastructure by working together		
Price protection for farmers' harvest	Insurance for farmers			
Lack of subsidy on organic fertilizer	Shorten the supply chain by establishing cooperatives	Request socialization activity from Tabanan Regency's Cooperative Office	Help farmers set up cooperative	June 2014
Lack of support for harvesting	<ul style="list-style-type: none"> • Request support in provision of cows for the farmers (different from Simantri, Integrated Farming System Programme by the province) • Marketing • Diversification 	<ul style="list-style-type: none"> • Recommend the creation of a Husbandry Office • Introduction of farming technology 	<ul style="list-style-type: none"> • Husbandry Office • Agricultural Office 	June 2014

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