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

Albert M. Salamanca, Agus Nugroho, Maria Osbeck, Sukaina Bharwani and Nina Dwisasanti
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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.

Nonette Royo and Sandhika Ariansyah of the Samdhana Institute advised us on a number of issues in the field. Their active support ensured that the project was grounded in the everyday realities of the subaks. Nonette’s knowledge of Indonesian laws was also invaluable, and she offered us warm hospitality in her lovely house for a number of our meetings. The Samdhana Institute also allowed us access to their peaceful Prana Dewi Retreat Centre during the Subak Assembly.

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We are also deeply grateful to the pekasehs and farmers for allowing us to be part of their landscape, even for a short time. They have opened their doors to us and shared with us details of their lives. We have learned a lot from them. Of course, our gratitude to Bali is incomplete without mentioning Pak Nyoman Sutama, the chair of Forum Pekaseh and the pekaseh of Jatiluwih. He has been an inspiration to all of us. He listens to his fellow farmers and, above all, he has made things happen for them and for those who value the subaks.

We would like to thank our editor, Marion Davis, and our reviewer, Rasmus Kløcker Larsen, both of whom provided valuable feedback. While their inputs have been hugely helpful, we bear responsibility for any shortcomings that linger.

Finally, thanks to the Swedish International Development Cooperation Agency (Sida), whose Programme Support to SEI provided funding to this project.

Om Shanti Shanti Om

Albert, Agus, Maria, Sukaina and Nina
Acronyms and abbreviations used

CAB    Catur Angga 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

Adat    Custom
Awig-awig    Written codes implemented by traditional social units in Bali, such as desa adat and subaks
Badan pengelola  Management body
Banjar    Traditional Balinese hamlet (sub-village unit)
Bendesa adat    Head of customary village
Bupati    Regent
Desa    Village
Desa adat    Customary/traditional village
Desa dinas    Administrative village
Dewan Pengelola  Governing Assembly
Dewan pengarah  Steering committee
Dinas    Office
Jero Mangku Gede    High Priest
Kabupaten    Regency
Kecamatan    District
Musyawarah    Meeting to discuss issues and achieve consensus
Padi baru    Newly introduced rice variety
Padi lokal    Local paddy rice variety
Pekaseh    The head of a subak
Pemangku    Priest
Pengempon    Volunteer at the temple
Perbekel    The head of administrative village
Pura    Temple, the place of worship and the symbol of religious domain
Puri    King (literally the palace, symbol of the King’s authority)
Sabhantara Pekaseh  Head of pekaseh association
Serati    A function in the temple, to prepare offerings (usually done by women)
Sawah    Paddy field
Subak    Self-governed irrigation society in Bali
Subak abian    Dry subak; refers to non-irrigated field, usually for horticulture
Subak basah    Wet subak; refers to rice field
Tempek    Subak sub-unit
Tri Hita Karana    Balinese philosophy which emphasizes achieving harmony in three relationships: parahyangan (human-God), palemahan (human-nature) and pawongan (human-human)
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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
the 20 *pekaseh* 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
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
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 tourism development in the CAB has been limited, contributing nearly 30% of its GDP in 2013. Since the inscription, the pace of tourism development in the CAB has been limited, contributing nearly 30% of its GDP in 2013.

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. 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. 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 (Windia 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).

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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 Samkhya 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
Culture, the priests in the temples of the CAB, the King and council, and the provincial Department of Culture. The resulting recommendations are targeted to the needs and contexts of the CAB and may not fully apply to other parts of the World Heritage Site, such as the subaks in Pakerisan Watershed and temples Pura Taman Ayun and Pura Ulun Danu Batur (see Figure 1). We hope that this publication will be useful for practitioners, researchers and policy-makers in Bali and elsewhere dealing with the management of cultural landscapes, to inform their understanding and action on the “conservation” of a living cultural landscape.
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

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 Sugiartha, 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 Angga Batukaru

<table>
<thead>
<tr>
<th>Name of subak</th>
<th>Village</th>
<th>Age of pekaseh</th>
<th>Size of subak (ha)</th>
<th>Number of months as pekaseh (months)</th>
<th>Number of farmer households</th>
<th>Number of tempeks</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancoran Sari</td>
<td>Penganggahan</td>
<td>63</td>
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<td>171</td>
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</tr>
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<td>Tegal Linggah</td>
<td>63</td>
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<td>Anyar Sangketan</td>
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<td>79</td>
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<td>Keloncing</td>
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<td>225</td>
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<tr>
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<td>Wongaya Gede</td>
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<td>Rejasa</td>
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<tr>
<td>Tengkudak</td>
<td>Tengkudak</td>
<td>68</td>
<td>83</td>
<td>5</td>
<td>123</td>
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<td></td>
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<td>Tingkii Kerep, Tengkudak</td>
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<td>132</td>
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<td>5</td>
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</tr>
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<td>Formed in 2013</td>
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<td>Wongaya Betan</td>
<td>Mengesta, Wongaya Betan</td>
<td>39</td>
<td>97</td>
<td>5</td>
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<td>63</td>
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<td>44</td>
<td>224</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,481</td>
<td>103</td>
<td></td>
</tr>
</tbody>
</table>

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 Sutama, a pekaseh of Jatiluwih and the current chair of the Forum Pekaseh.)
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 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 fulfills 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).

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

<table>
<thead>
<tr>
<th>Tri Hita Karana elements</th>
<th>Practices in subaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parhyangan (realm of the spirits)</td>
<td>Rituals and ceremonies</td>
</tr>
</tbody>
</table>
| Pawongan (realm of humans and society) | The subak organization  
Awig-awig (formal regulations)  
Proportional distribution of water to member farms using the concept of tektek  
Cropping and planting are agreed by consensus  
Ability to lend and borrow water among farmers or subaks |
| Palemahan (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 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).

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).
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, 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 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”.

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

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

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7 This is the Peraturan Gubernur Bali Nomor 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.


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 (sabhantara 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.

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).
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,
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.
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
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; Machhub 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 pekaseh, 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
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
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.
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.

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
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.

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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.

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 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 Balinese. 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 Daerah Wisata Jatiluwih), 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 pekaseh 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 pekaseh 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 pekaseh 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. 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.
REFERENCES


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.

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 Sabhartara 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 Sabhartara Pekasehs are normally elected. In cases where they are politically appointed, their legitimacy is questioned. The Sabhartara Pekaseh at the district level oversees the division and creation of new subaks and reports this to the Dispenda, which then formally recognizes them.

![Diagram](image-url)

**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)

<table>
<thead>
<tr>
<th>Problem and challenges</th>
<th>Solutions</th>
<th>Action</th>
<th>Support needed</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guests entering holy place without permission</td>
<td>Prepare an announcement in holy places asking guests to write their name and address</td>
<td>Add a policy in the awig-awig on tourist visits in holy places</td>
<td>Regency, province and central government</td>
<td>June to December 2014</td>
</tr>
<tr>
<td>The walls of the ulun suwi, bedugul and other holy place are in need of maintenance, and some need to be completed</td>
<td>Repair and complete walls</td>
<td>Submit a proposal to the government</td>
<td>Regency, province and central government</td>
<td>June to August 2014</td>
</tr>
<tr>
<td>The tri manggala functions (priest, offering makers, and helpers) have not yet been given attention or consideration</td>
<td>Provide training according to each person’s task</td>
<td>Suggest a training programme to the government</td>
<td>Ask the Religion Department in regency and province to give training</td>
<td>June to August 2014</td>
</tr>
<tr>
<td>The costs of pujawali rituals are being provided for the pengempon (volunteers)</td>
<td>• Ask donation from people around the subaks • Ask support from the government</td>
<td>Send a request to the government</td>
<td>The government to allocate funds</td>
<td>2014/2015</td>
</tr>
<tr>
<td>There is a need for capacity-building of priests, serati, prajuru and subak members still need improvements</td>
<td>Training is needed</td>
<td>Prepare place and participants</td>
<td>Everyone’s participation is needed</td>
<td>November to December 2014</td>
</tr>
<tr>
<td>Priests lack awareness of swadarmaning (obligation)</td>
<td>Refer to the priests’ forum (forum pemangku)</td>
<td>Prepare guidance about priesthood</td>
<td>Provide books about priesthood</td>
<td>July 2014</td>
</tr>
<tr>
<td>Problems and challenges</td>
<td>Solutions</td>
<td>Action</td>
<td>Support needed</td>
<td>When</td>
</tr>
<tr>
<td>-------------------------</td>
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<td>------</td>
</tr>
<tr>
<td>Investors increasingly eyeing the World Heritage Site</td>
<td>Government has to be more selective in granting permit (business or construction)</td>
<td>Farmers agree at the forum not to sell their land</td>
<td>Need to keep permits from being issued to investors within the World Heritage Site</td>
<td>At the Forum and going forward</td>
</tr>
<tr>
<td>The agency which gives permits is not yet responsive to the World Heritage status of some sites</td>
<td>The farmers should be educated about World Heritage status to avoid land use change (by Tourism Office)</td>
<td>Farmers have to be ready to accept direction and education from Tourism Department</td>
<td>Tourism Department needs to provide the requested education and direction to farmers</td>
<td>Until December 2014</td>
</tr>
<tr>
<td>Farmers lack of awareness about world heritage status</td>
<td>Subak members must become key actors in the management of World Heritage Site</td>
<td>Farmers have to be ready to become guides in their subaks</td>
<td>The government should recognize the key role of subaks in site management</td>
<td>To be initiated by May 2015</td>
</tr>
<tr>
<td>Government has not given socialization and attention specifically targeted to the people living in the subaks</td>
<td>Subak members should develop an understanding of world heritage sites so that it can be preserved and passed down to our children</td>
<td>Farmers will not convert the function of their farm-lands within the heritage sites</td>
<td>The government has the responsibility to support subak in development of its awig-awig</td>
<td>January to June 2015</td>
</tr>
<tr>
<td>Subak institution has not been recognized as a key actor in management of World Heritage Site</td>
<td>• Tour guides are to be given training/introduction on subaks • Tour guides need to cooperate with the farmers to become guides at the World Heritage Site</td>
<td>• Farmers to educate tour guides about the subak. • Pekasehs will prepare a roster of qualified guides</td>
<td>• Tour guides need to be open to receiving education from farmers about subaks and the World Heritage Site • Guides have to cooperate with farmers</td>
<td>June to December 2015</td>
</tr>
<tr>
<td>There are no tour guides who can explain the subak system correctly and comprehensively</td>
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</tbody>
</table>

Table A2: Action points to maintain human relationships (pawongan)
## Table A3: Action points to maintain relationship with the environment (palemahan)

<table>
<thead>
<tr>
<th>Problems and challenges</th>
<th>Solutions</th>
<th>Action</th>
<th>Support needed</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Irrigation</strong></td>
<td></td>
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</tbody>
</table>
| Irrigation systems are in poor condition | • Direct funds from the National Programme for Community Empowerment (Program Nasional Pemberdayaan Masyarakat) to solve irrigation problems  
• 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 | • Assign team working in group to repair irrigation system  
• Draft letter to relevant government offices | • Specific policy support from government through Joint Ministerial Decree (Surat Keputusan Bersama)  
• Need attention from regency, provincial and national government Government agencies | July to August 2014 |
| Conservation and protection of forests |         |        |                |      |
| No permit for groundwater extraction |           |        |                |      |
| **II. Land conversion** |           |        |                |      |
| High taxes | Recommendation to relevant government offices | Give recommendation to the government | • 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 awig-awig / Perarem | Arranged by members of subak |    |      |
| 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 | Mina padi (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 | • Request support in provision of cows for the farmers (different from Simantri, Integrated Farming System Programme by the province)  
• Marketing  
• Diversification | • Recommend the creation of a Husbandry Office  
• Introduction of farming technology | • Husbandry Office  
• Agricultural Office | June 2014 |
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