



Tourism and Land Grabbing in Bali

A Research Brief

January 2018

Acknowledgements:

Despite this research brief having been a collaborative product of many people's efforts, I feel the need to thank some of them for their outstanding and invaluable contributions that led to its publication. Primarily, I would like to thank Sylvia Kay for her constant and patient support throughout all the writing stages of this research brief. I would also like to thank Phyllis Kaplan of the Yayasan Konservasi Sawah Bali (YKSB) for allowing me unprecedented access to her organisation's records, and for the extensive networking aid that she extended. This was invaluable for a large part of the data-collection process, without which this brief would be incomplete. Thanks also to Irhash Ahmady for peer reviewing an earlier draft of the brief. Despite being too many to mention individually, these acknowledgments would be incomplete without mentioning the farmers who were interviewed, who graciously agreed to dedicate time and energy to contribute to this research, and who shared their knowledge and experiences.

Author: Ruben Rosenberg Colorni

Editor: Sylvia Kay, Transnational Institute

Design: Bas Coenegracht

Amsterdam, January 2018



Produced with financial support from the European Commission.
The views expressed herein are those of the publisher and not of the EC.

Table of contents

| | |
|--|----|
| Part I Introduction | 4 |
| Methodology and areas of study | 5 |
| Land grabbing: Definitions and context | 6 |
| Part II Key research findings | 6 |
| 1 Land and livelihoods | 6 |
| a Land deals | 7 |
| b Land taxes and regulations | 8 |
| 2 Water and climate change | 8 |
| a Competing water uses | 9 |
| b Responses to climate change | 10 |
| 3 Seeds and cultural heritage | 12 |
| Part III Conclusions and recommendations | 12 |
| Proposals for a way forward | 13 |
| Endnotes | 14 |

List of Boxes and Figures

| | |
|---|----|
| Figure 1 Map of Bali and study areas | 5 |
| Box 1 Farmer profile: Pak Made A | 7 |
| Figure 2 Areas of water stress in Bali | 9 |
| Figure 3 Areas of saltwater intrusion in Bali | 10 |
| Box 2 Discussing water with farmers | 11 |

Abstract

This research brief is the outcome of original fieldwork conducted between September 2015 and June 2016 across three different locations in Bali, Indonesia. The brief synthesises some of the key research findings with the aim of providing a deeper look into the impact of tourism on agricultural systems, food security, food sovereignty and rural development in Bali. It finds that the massive investment in the tourist industry – which is championed by Balinese policymakers as a driver of economic development and prosperity – has often come at the expense of agricultural livelihoods. In particular, research interviews with farmers and agricultural communities revealed concerns related to the impact of tourism on: i) local land tenure systems and traditional farming practices; ii) management of water resources and adaptation to climate change; iii) protection of native seed varieties and cultural heritage. The brief ends with a series of recommendations addressed to the relevant provincial and national authorities to address some of the issues raised. It argues for a fundamental reorientation away from the wholesale promotion of the tourist industry towards a more balanced approach which offers support and prospects for Bali's farming communities. In this sense, the research brief is of interest to all those who are grappling with the consequences of uneven and contested development, ethical tourism, and the tension between welcoming foreign visitors and protecting indigenous culture, practices, and environments.

Part I Introduction

Over the past 1,200 years the indigenous islanders of Bali, making use of the fertile volcanic soils and abundant rains, developed a system of agriculture with extremely high and stable yields. More than in many other places, the farmers found it to their advantage to cooperate and coordinate closely with their neighbours, resulting in a democratic system of agrarian governance and egalitarian distribution of water, known as the *subak*. This allowed Balinese farmers, until recently, to be “some of the most prolific rice growers of the archipelago, despite the difficulties of supporting a dense population”.¹ This deep relationship to the land-base, on which the Balinese depended, also embedded itself in most of the religious practices of Balinese Hinduism, becoming a cornerstone of the indigenous culture.

Today Balinese agriculture as a whole – and the *subak* construct in particular – is under pressure and threat. The seemingly relentless growth of tourism and urbanisation has, over the past four decades, taken priority in the allocation and use of water and land. Due to the enormous economic interests associated with the tourist industry – tourism constitutes 30% of the island's GDP, with some researchers calculating that up to 80% of the island's economy is dependent on revenues from tourism² – tourism and related services have come to dominate much of the policy and decision making surrounding natural resources. As a result, the large-scale acquisition of land by the hospitality sector has not only deeply affected the physical landscape and its metabolic balance, but also the local economy and social arrangements.

The introduction and application of Green Revolution policies, starting in 1969, has also added to many of the hardships faced by the *subak* and its farmers. The government-imposed hybridised and transgenic crops have drastically reduced the biodiversity of cultivated varieties and hindered the traditional practice of saving seeds from one harvest to the next. The mass use of agrochemicals has contaminated virtually every waterway and basin, brought soil biota to critical or non-existent levels, and drastically depleted soil health. The crops' diminished ability to weather climate shifts, which have themselves become more dramatic, has resulted in enormous harvest losses.

All these factors, both individually and combined, have greatly reduced farmers' ability to retain and effectively manage their land-holdings, which are subsequently more easily “grabbed”. They have also significantly affected farmers' health, as well as their economic, ecological, and cultural resilience. As such, the food security and sovereignty of the island as a whole is under threat.³ The attempts of the tourism industry and government entities to salvage Bali's indigenous agrarian constructs are, at present, wholly inadequate to the severity of the hydrological and land crises faced by the entire island. The increasing expansion of the tourism industry has thus become an issue of agrarian, cultural, and social injustice. This report will provide a broad overview of the concerns associated with Bali's food sovereignty, and the resilience of the *subak*, from three thematic perspectives: i) land and livelihoods; ii) water and climate change; iii) seeds and cultural heritage.

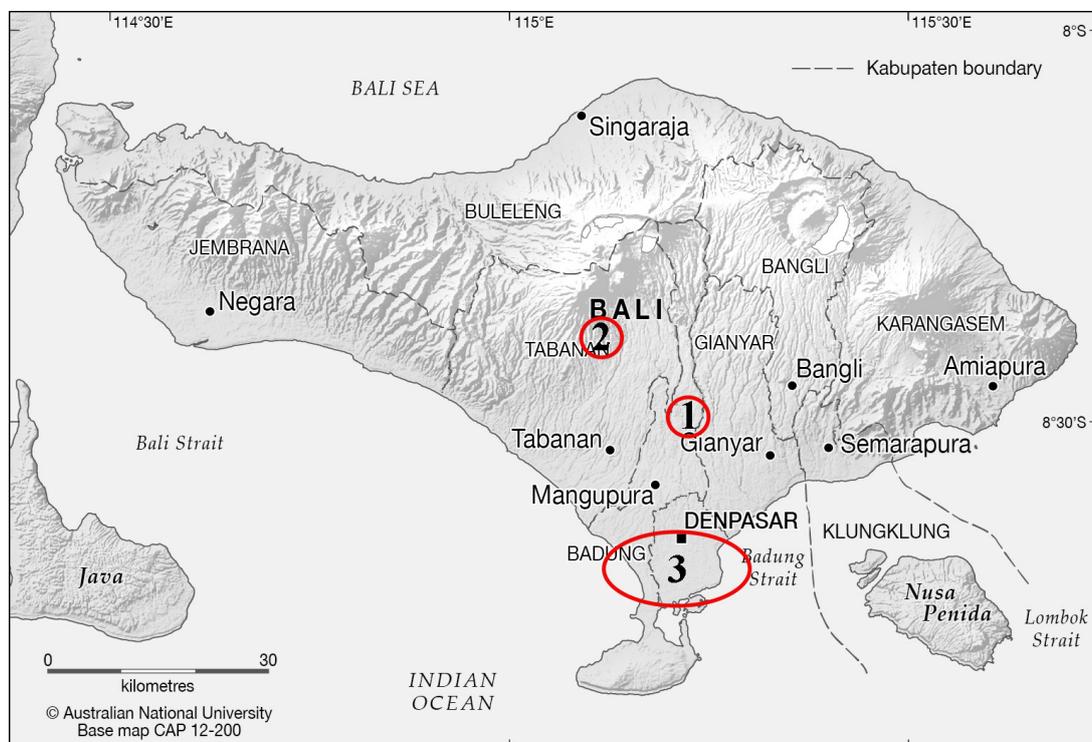
Methodology and areas of study

The data outlined in this report is the culmination of both desk and field research conducted between September 2015 and June 2016. Fieldwork was intensively conducted on-site over the course of one month and included semi-structured in-depth interviews, unstructured interviews, group sessions, and participant observation. These were primarily conducted on three agricultural “landscapes”. The geographic location of these landscapes was chosen in order to provide an accurate representation of the various farming practices (and attitudes towards tourism development) around the island, and to attempt to determine an association based on their proximity to tourism-related activities.

The first of these areas (1) focused on *subak Malung* and the holistic agrarian initiatives employed by local actors and farmers in the area. The second site (2) focused on the *Jatiluwi*h landscape; UNESCO and local NGOs have been invested in various development projects and initiatives in this area. The third (3) was located within the southern urban landscape - amongst the field sites, it is the area that has undergone the most intensive tourism development.

Figure 1

Map of Bali and Study Areas



The primary crop being cultivated in all three areas is rice. In *subak Malung*, the heritage farmers interviewed were engaged in the revitalisation of an ancient variety, originally cultivated by the Bali Aga people, named *Mangkok*. The cultivation of this variety was only recently revitalised by the Yayasan Konservasi Sawah Bali. The most significant secondary crops cultivated in this *subak* are Moringa (*Moringa olifera*) as a nitrogen-fixing and value-added perennial crop, and sweet potatoes.

Subak Jatiluwi, located in the UNESCO-protected Catur Angga Batukaru watershed, is composed by farmers from the adjacent villages of Jatiluwi (80%) and Gunung Sari (20%).⁴ The primary variety of rice cultivated in this area is the *Taunan Jatiluwi*, a red rice which derives its name from the long growing season (six months) it requires, thus making its planting possible only once a year. The second six-month growing season was traditionally dedicated to the reconstitution of the soil via natural means such as inter-cropping of legumes and cow manure. A minor amount of tomatoes, sweet potatoes, and eggplant are also planted but primarily as a subsistence crop for the farmers themselves.

Within the southern urban landscape, the *subaks* inspected included those of Intaran Barat, Intaran Timur, Sanur, and Panjer, all located within or near the village of Sanur, the subak of Padanggalak in Kesiman, and the subaks of Srogsogan and Banyukuning located in Padangsambean and Pemecutan respectively. The urban landscape inspected did not possess any heritage rice varieties; instead numerous hybrid varieties were cultivated. Farmers interviewed in this area were often not able to name the variety they were cultivating but specified that they were the governmental distributed ones developed by the Agrarian Institute of Bogor. The lower elevations and higher temperatures in comparison to the previous two landscapes allow for substantial cultivation of secondary crops with corn, eggplant, chillies (Rawit), cucumbers, and tomatoes dominating.

Land grabbing: definitions and context

In recent decades, the global discourse surrounding land grabbing has been revitalised by a number of academics and social-agrarian movements within the context of a renewed rush to enclose, privatise or otherwise control and capture land and associated natural resources such as water or forests.

Land grabbing is the process whereby large investors (public or private) acquire – through coercion or persuasion, legal or illegal means – large areas of land as well as concessions related to its use. The term does not only reflect the physical reality of acquiring control of the land, but also a socio-economic process of grabbing control over its management and regulatory mechanisms. Through this process, former political, social and ecological relationships are often up-ended and re-arranged.⁵ Traditionally, land -grabbing in the context of the (corporate) food system has been associated with large agri-business entities and the mass monoculture of ‘flex crops’⁶ - as is the case in many parts of Indonesia such as Kalimantan, Sumatra, and West Papua.

In Bali, thanks to its minute size, mountainous terrain, and historical appeal to western visitors, the capital-intensive tourism industry has developed to become the primary (but certainly not the sole) perpetrator of land grabbing on the island. Today, Bali is the primary destination for nearly 50% of all foreign tourists visiting Indonesia.⁷ While tourism undoubtedly contributes considerably to the national government’s coffers, the process by which Bali has become a global tourism hotspot is complicated. It must be noted for instance that the Balinese peoples as a whole never made a conscious decision to become a tourism haven but, rather, this development was promulgated by the Dutch colonists, the national administration, and the religious high caste (the Brahmins), raising important questions around the nature of development, who is included, who is excluded, who benefits, who loses and who gets to decide.

Part II Key research findings

1 Land and livelihoods

Bali receives and is tasked with providing for the needs of nearly ten million tourists a year. With a population of little over four million, the burden on the island’s land and its agricultural resources is severe. The ever-increasing influx of tourists requires the construction of an ever-increasing number of accommodations, which in turn requires large amounts of land to be “developed”. It is important, however, not to solely focus on the scale of the land being acquired but also on the impacts that such acquisitions have. Land becomes commodified and is traded like any other economic asset despite the complex set of cultural, political, social, and ecological relations that it embodies. This has come at the expense of local, rural, poor and agricultural communities whose livelihoods depend on access and use of resources associated with this land.⁸ Efforts by UNESCO – the United Nations body charged with protecting cultural heritage - to integrate forms of community-based tourism in some *subaks* has inadvertently contributed to this development, as it indirectly supports the notion of the landscape as one to be visually and aesthetically exploited, rather than requiring protection as a complex agrarian management system.

a) Land deals

One of the primary problems related to land grabbing and the commodification of agricultural land in Bali is large-scale purchases, particularly for real-estate development and the hospitality industry. In certain and very rare cases, government owned land can be devolved to Indonesian citizens or legal entities for agricultural use (Hak Guna Usaha) under an extendable contractual term of 25-35 years. Such arrangements, however, are outside the norm in Bali and non-existent in the case of the subak system in which individual ownership predates such regulation. The majority of landholdings in Bali are individually or family owned under a freehold title (Hak Milik), even in a communally administered area such as a subak. Ownership of land within this denomination can be transferred from an individual to another individual (or legal entity) based on contractual agreements, but cannot be transferred to individual foreigners. In order to facilitate land ownership by foreigners, however, the practice of setting up a legal entity that will hold such a title is common. In the past fifteen years, this has greatly contributed to the loss of agricultural land at the rate of some 1,000 hectares per year. While the subak system oversaw the irrigation of almost 18% of the island's total land area in the 1990s^{9 10}, current available data yields a comparative figure of 13.56%^{11 12}. This means that in the past twenty-five years, Bali has lost nearly 25% of its agricultural land while both its residential and tourist populations have grown considerably – by 66%^{13 14} and 330%^{15 16 17 18} respectively.

BOX 1

Farmer profile: Pak Made A

Pak Made A. is a seventh -generation farmer from the subak of Bunutan. While some within his community have decided to sell their land, he strongly believes in its economic and cultural importance.

"I have been asked to sell. Everybody here has been asked to sell. There isn't one of us that hasn't. Some of us have sold in the past, but we have collectively decided that the rest of us are not going to.

You can always make money and print more, you can't make new land. The land available to us is becoming smaller and smaller, and the cities are getting closer and closer. In this area, the villas and restaurants are embedded in the landscape, and in this very way they are destroying the beauty they need to survive. You cannot mix the *subak* (wet-land administration) with the *desa/banjar* (dry-land administration). There is a reason the two have been separate for thousands of years."

We don't mind tourism, but we are farmers. If we are going to let tourists in our communities, it is to help us farm, not take that away from us. We already have the structures to succeed in our farming – the *Pe-calang* (local enforcers), the *Pekaseh* (the elected *subak* leader), the youth groups, the women and farmers – they just need to be used and revitalised. Tourism is not helping us do that, it is instead destroying the little that is left."

While in the 1990s there seemed to be genuine efforts to curb tourism development (such as the 1991 moratorium on major tourism projects), as well as to diversify and balance the island's economy, this rapidly "disappeared in the face of investment pressure"¹⁹. The aforementioned moratorium, which was supposed to halt the construction of all classified hotels until 1995 while awaiting an UNDP evaluative report, was retracted before the report had even been completed. Instead, construction resumed and the last two governors have instead pointed to tourism as the primary means of economic growth. The arrangement by which individual regencies within the province are allowed to set their own laws and regulatory permits has further compounded the issue and created a lack of accountability – the *bu-patis* (regency governors) often claim to be pressured by the province to develop tourism facilities, while the provincial governors claim they cannot curb these developments as it would mean interfering with the policies of each regency.

The loss of agricultural land to tourism and urbanisation has also resulted in a generational labour shift never seen before in Bali. While it was expected for the sons of a family to engage in the caretaking and cultivation of the land they inherited (*warisan*), this practice is quickly vanishing. In the period spanning 2003 to 2013, the island witnessed a 17% decrease in the number of families who are engaged in some form of agricultural activity,²⁰ and a 29% decrease in subsistence farmers (those cultivating less than 0.5 hectares).²¹ As a result, more than 13,000 households have ceased being involved in the cultivation of rice,²² 55,000 households have stopped their cultivation of other secondary vegetable crops,²³ and small holder farming households (between 0.5 – 2 hectares) have decreased by 22%.²⁴ While there is no data available on the total surface area covered by tourism developments, studies²⁵ have found a very strong direct correlation between the increase in tourism facilities and the decrease in cultivated agricultural land and in farming households/individuals.

The only agricultural sector that appears to have grown in Bali in the last thirteen years is the “forestry” sector. While forestry traditionally refers to the management and conservation of forest environments, the term in this context refers to quite the opposite - namely the cutting down of forests and the production of timber. Much of such locally sourced timber is used to cut costs on large-scale constructions, such as luxury resorts. Furthermore, the jungle of the northern regencies of Tabanan, Gianyar and Karangasem is a form of natural flood and erosion control, holding land and water flowing from the volcanoes’ slopes. Deforestation in these areas is causing increasing flash-floods in the cultivations at lower elevations. Farmers thus have to contend not only with the harms caused by longer and harsher droughts, but also with the damaging effects of excessive water.

b) Land taxes and regulations

An additional burden placed on farmers and their land holdings in Bali is the tax regime which governs them. Generally speaking, the commodification of land as an asset favours capital intensive industry while disadvantaging farmers, especially since taxes are based on the estimated economic value of land, not on its productive potential. Whenever real estate or tourism development takes place near agricultural land, the perceived and estimated economic value of nearby areas increases. As a result, land taxes skyrocket to such high levels that farmers are unable to pay them with their agricultural income. This often strongly incentivises farmers to sell their holdings and abandon agricultural occupations in favour of employment in the tourism industry for them and their families. In response, farmers in Gianyar and Tabanan, two of the three largest agricultural producing regencies of the island, have formally asked the regent for a moratorium on agricultural land taxes. Such calls, however, have so far been ignored, with the notable exception of Badung regency where the mayor enacted such a moratorium in April 2017, citing the need to “protect agricultural land in the Badung Regency from land conversion” while stating that legislation was “no longer in accordance with the social development of the community”.²⁶

The capital-intensive nature of tourism has also resulted in widespread corruption as regulations are not being adhered to, or enforced upon, tourist hotels and other related businesses. While these regulations may look comprehensive and holistic on paper, they are rarely, or only loosely, applied to the industry which now dominates the Balinese economy. There is also an utter lack of resources dedicated to zoning enforcement both at the regional and local level. The fact that many political exponents of tourism are also heavily invested in the industry constitutes a conflict of interests that prevents effective enforcement of laws and regulations. Both national and transnational “big money” often finds ways to get officials to “look the other way”, or to over-ride, or even amend local by-laws in their favour, with complete disregard for Balinese agriculture and the people’s wellbeing as a whole.

2 Water and climate change

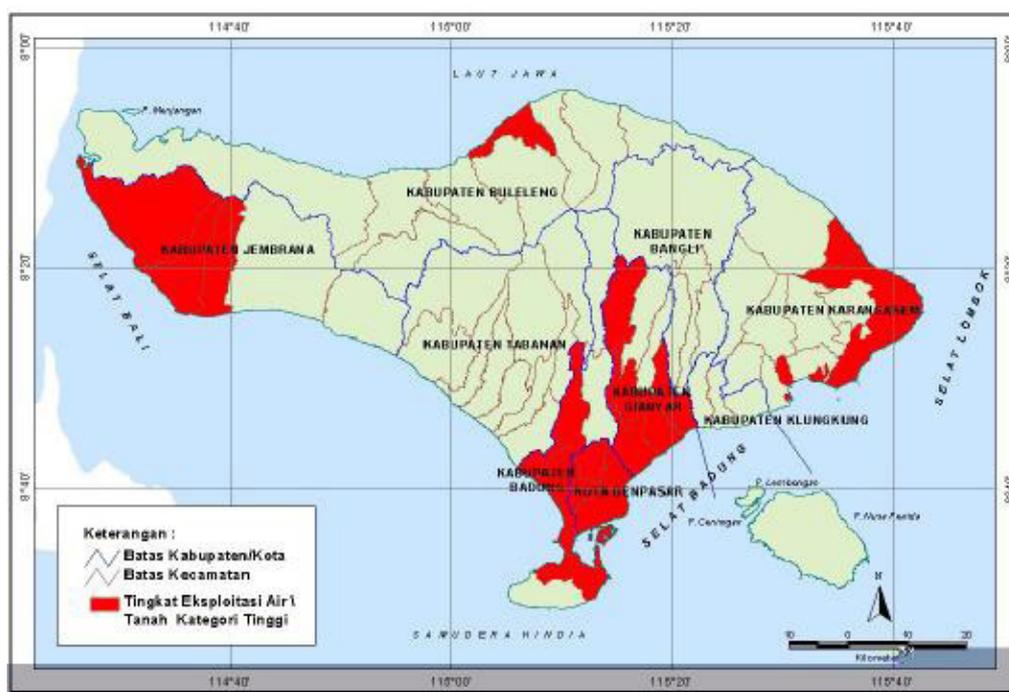
Water is the primary resource to have moulded Balinese theology, agriculture, and worldview. This relationship is embodied by the presence of almost all sacred Balinese Hindu sites near or on major bodies of water. There are 1,273 springs, 8 ground water basins, 4 lakes, 4 dams, 5 ponds, and 162 rivers in Bali.²⁷ Many of the rivers are seasonal or dependent on heavy rainfall.²⁸ Bali is also one of the few major tourism island destinations that is blessed with a high abundance of water, frequent and heavy rainfalls, as well as a topography that facilitates water collection.²⁹ However,

the strain that has been put on these resources by the tourism industry has had severe effects on current water availability, often resulting in “poor, rural, and agricultural communities being disproportionately affected”.³⁰ In Bali’s case, these effects can be traced to two primary factors: a) the over-consumption of water by the tourism industry, and b) the increasingly extreme climate patterns.

a) Competing water use

It is estimated that 65% of the island’s water reserves are used to supply tourism facilities, and that the asymmetry of hydrological scarcity in Bali corresponds to the presence of heavy tourism development.³¹ In a luxury villa or hotel, as much 35 times the amount of water is consumed per person as in the local residences. The building and occupancy of a double hotel room in a luxury hotel/resort/villa, consequentially, can equal as much as 70 times the consumption of a local Balinese individual, or 17 times that of a local family of four. In order to accommodate these demands, hotels have traditionally resorted to underground wells reaching 90 - 110m in depth. This, in turn, leads them to have de-facto preferential access to water over the local population, which is particularly vulnerable in times of drought and

Figure 2
Areas of water stress in Bali



as a result finds its crucial human right to water violated.

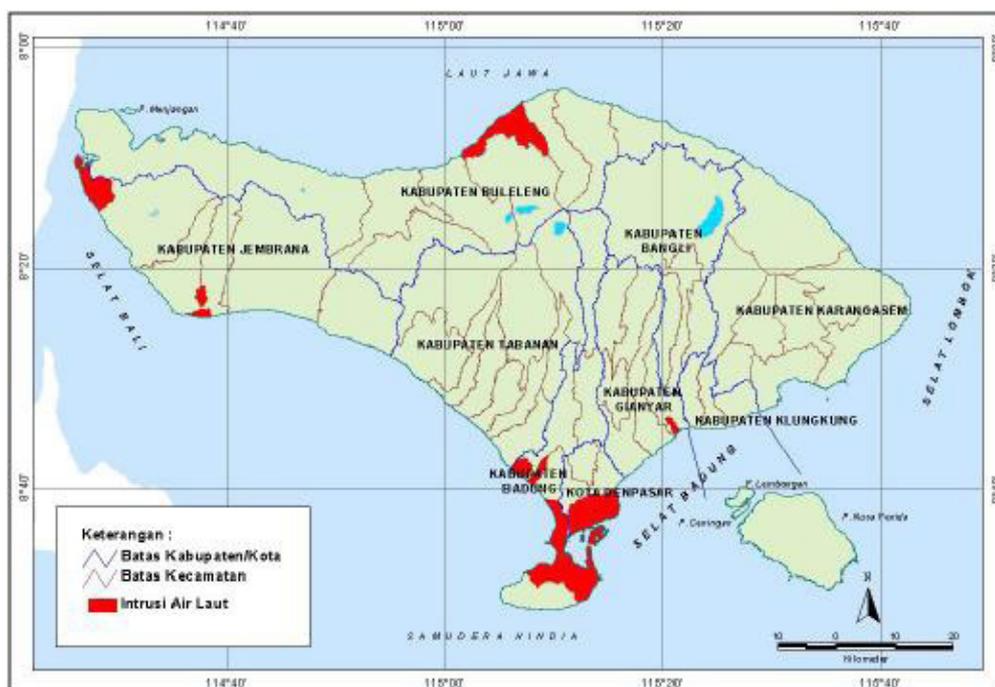
There are also structural factors that facilitate the diversion of water initially intended for agriculture to tourism facilities. The performance assessment system of the PDAM (public water company), for example, is largely based on the manager’s ability to generate profit, despite the repeal of the Water Resources Act no. 7 of 2004 which was intended to promote privatisation of this vital sector. Since various categories of businesses pay different rates per litre of water (the highest rate being paid by hotels and large industry), managers are systematically incentivised to prioritise sale to the entities that pay most. In 2008, the local regencies and the PDAM created a water reservoir in the regency of Tabanan. The aim of this reservoir was to catch and store surplus water during the rainy season in order for it to be used by farmers during periods of scarcity. The stated intention behind the project was that 100% of the water would be used for agricultural purposes. In reality however, up to 60% of the reservoir water has instead been diverted to tourism facilities.³²

Corporate control over water resources and surrounding decision-making processes is a problem in itself. In Bali, however, it also is tightly linked to the issue of land usage, as the availability of water has traditionally determined the location and survival of agrarian communities. By acquiring control over the distribution of water, powerful economic actors can use such control to facilitate their acquisition of land. For example, a widespread practice in the southernmost studied area has been one of 'land-drying': purposefully cutting a field off from the irrigation system so that through disuse, it will be excluded by the by-laws of the agricultural community. Once the land is no longer irrigated, it is classified under a different legal domain, which facilitates the use of that land for tourism development. In this way, water grabbing and land grabbing are closely connected.³³

Figure 2. displays the areas of the island which are under severe water stress due to over-exploitation of underwater aquifers and inadequate water supply. The most severely affected areas are those surrounding the major urban and tourism centres: the whole southern peninsula (bottom), the surroundings of Ubud (centre-right), Amed (far-right), Singaraja (north) and Negara (left).

Numerous banjars and communities in these areas have reported the intrusion of salt-water into these aquifers, causing particular concern as this is an irreversible process.³⁴ The areas worst affected also happen to be located in the major tourism hotspots across the island, but particularly in the southern peninsula (See Figure 3). It should be noted that even government reports make a note of the fact that tourism development and construction are one of the primary identifiable causes for water scarcity in these areas.³⁵

Figure 3
Areas of saltwater intrusion in Bali



b) Responses to climate change

Vulnerability Studies carried out by the World Bank have identified Bali to be among the areas in Indonesia that are especially vulnerable to the effects of climate change.³⁶ In particular, the coastal and agrarian communities are expected to be disproportionately affected by the increasingly extreme climatic patterns such as droughts and floods. Bali is already witnessing significant deviations from historical rainfall patterns: while during wet periods precipitation has increased (up to 10%), leading to a higher risk of flooding and water-damage to crops, reduced rainfall during dry times (up to 70%) often results in drought, and also carries a risk of reduced harvests.³⁷ These fluctuations are already one of the primary difficulties encountered by Balinese farmers, and are resulting in tensions and conflicts between agrarian communities and the local governments, as well as within agrarian communities themselves (see Box 2). Virtually every farmer interviewed mentioned the presence of intra and inter subak water conflicts.

Personal observations during field study visits suggest a lack of awareness and education surrounding the effects of climate change that often lead farmers to be confused as to the reasons for these hydrological fluctuations. Both the provincial and the national government ignore the seriousness of reports released by their own agencies that accurately portray the severity of the situation. A lack of transparency along with a desire to maintain “business as usual” mean that oftentimes policymakers fail to stimulate popular awareness of hydrological problems related to tourism. In turn, this prevents farmers and communities from consciously adopting measures to mitigate their effects. The traditional association of water abundance/scarcity with Balinese Hindu theology may contribute to the lack of understanding of this causal relationship.

Numerous studies have highlighted the *subak*'s demonstrable socio-political and environmentally adaptive properties.³⁸ The reason most often offered attributes such properties to the pluralistic collectivism and communitarian decision-making processes of the *subak*. As such, the system has been deemed particularly well suited to confront the effects of climate change and water scarcity³⁹ Despite this advantage, the compounded pressures exerted by the tourism industry, urbanisation, climate change, and demonstrably failed “Green Revolution” policies are simply proving to be too much for the *subak*'s farmers to resist. While climate change is most likely going to be an inevitable and uncontrollable phenomenon in the near future, it is within the power of local government to address other factors. Agricultural systems that are highly adaptive and engage in sustainable community-based resource management and practices will become not only desirable, but essential to maintain the food security and wellbeing of local populations.⁴⁰ Despite this, there is a lack of a coordinated policy framework to empower the traditional farming systems in Bali; farmers are not integrated into any comprehensive and broader agricultural policy^{41 42}. Instead, the Balinese government, with UNESCO's blessing, has decided to promote the *subak* areas with world-heritage certification as a primary tourist attraction often with little forethought, transparency, or the use of impact assessments.

BOX 2

Discussing water with farmers

The following excerpts were taken from a group interview with three farmers in one of the UNESCO certified *subaks* in Jatiluwih. The aim of the discussion was to determine to what extent farmers were affected by water shortages.

Pak Putu S.

“Whenever there are conflicts within our *subak* it is because of water. Sometimes, the lack of water forces one to take more than their allocation, which means stealing from the neighbouring field. The conflicts are usually resolved without incidents, but they have become more frequent.”

Pak Nyoman N.

“The PDAM (public water company) has very deep wells, up to four-hundred meters. They take the water from the underground, and sell it to the tourism facilities in the south because they can pay a higher price. In the periods of drought, we are left without water, and we lose much of the harvest. Concessions have been given to private companies to do the same, and they sell the water in Jawa after bottling it here.”

Pak Nyoman T.

“The environment serves many functions, but in order to function the environment needs water. The water is confused* and often doesn't come at the right times. Normally, we harvested three times a year, and we were able to do so because we knew when to expect water and when to not. Our calendar is based on that. Now it's unpredictable, and that means that the harvests are also irregular. The public water company takes what is left, and some companies take it to bottle it. Tourism must renounce its excessive water consumption and leave some for the other sectors.”

*irregular, chaotic.

3 Seeds and cultural heritage

Like many parts of the developing world, Bali was the recipient of aggressive “Green Revolution” policies, starting in the 1970s. These policies included the introduction of hybridised varieties of rice – disregarding local habitat and culture with a “one-seed fits all” approach – and synthetic agro-chemicals that were supposed to complement their cultivation. Policymakers promised miraculous increases in yields, as well as increased incomes, to farmers. It soon became apparent that the (marginally) superior yields were “offset by water shortages and unprecedented outbreaks of rice pests and diseases”.⁴³ Studies conducted by agronomists at the time argued that the *subak* was agronomically superior to these supposedly ground breaking programs.⁴⁴ In particular, they dispelled the myth of increased yields and pointed to the much higher energy input-output ratio than the traditional methods. This often resulted in reduced income for the farmers leading, in many cases, to indebtedness. This is a fundamental consideration, as the economic viability and self-reliance seem to be the two primary factors in determining the farmers’ attitudes towards the generational transmission of farming practices and knowledge, and their ability to hold on to their land holdings.⁴⁵

Recently, another set of case studies conducted by Yayasan Konservasi Sawah Bali⁴⁶ reinforced these observations. Their findings suggest that farmers in Bali who are still cultivating heritage varieties with traditional means, and combining them with appropriate modern technologies, have drastically lower losses to climatic elements compared to their conventional counterparts. According to one of the research respondents, heritage local seeds tend to have higher yields because they have location-specific advantages, as they have been cultivated in the area since time immemorial without the addition of agrochemicals. Additional advantages mentioned by farmers included a reduced vulnerability to pests, decreased wind/rain damage, opportunities to use the SRI (System of Rice Intensification) method, and the ability to select the best seeds for the next season. The broad range of these observations point to an ecological and environmental phenomenon: the re-establishment of an artificially managed, but metabolically balanced, ecosystem.⁴⁷ Heritage farmers expressed their belief that the positive economic incentives associated with heritage cultivation – resulting from lower input costs and higher price paid for the products – are helping in at least attenuating the effects of land and water grabbing. It is unclear, however, if this solution is economically sustainable in the medium and long-term.

It has been argued⁴⁸ that there were strong political motivations behind the implementation of the Green Revolution, in particular that the largely US-backed projects were intended to dampen the sentiment for land reform and redistribution (often associated with communist and leftist radical movements) in favour of technological advancements. In short, that they were meant to de-radicalise farmers and agrarian communities, and bring them “into the fold” of capitalist modes of production. This process of depoliticisation of agrarian issues that has taken place since the introduction of Green Revolution policies has left farmers largely without agency or recourse, and without a political ideology that would sympathise with their plight. It is not inconceivable that this has also further exacerbated the ease with which land and water grabbing take place on the island.

One of the least foreseen side-effects, however, would be the impact of these policies on the cultural expressions of the targeted communities. Since in Bali, like in many other places, the indigenous forms of agriculture constituted one of the main cultural pillars, their deterioration has affected the perceived cultural relevance of farmers – a phenomenon that farmers themselves have drawn attention to. This, in turn, reduces labour participation in traditional agrarian systems by succeeding generations, incentivises farmers and their descendants to seek alternative sources of income, and contributes to the longer-term trends described.

Part III Conclusions and recommendations

Over the course of the last five decades, tourist related “development” has come to be perceived as an inevitable reality by the Balinese. It has been imposed on them without their consent and largely without their participation in deciding how it was to be developed. When mass tourism first began (1970s-80s), the Balinese people were told that it would result in poverty reduction, while for most Balinese it has meant much greater socio-economic inequality. Successively

(1990s and 2000s), tourism was hailed as a way to strengthen and highlight the island's vibrant cultural and spiritual landscape, while at the same time commodifying and "trinketising" it for the benefit of the foreign visitors. Now, under the label of "sustainable development", tourism is being promoted as a way to preserve the rural and agrarian landscapes that are the foundation of the island's identity and food security. In the meantime, more and more agricultural land is being swallowed to become swimming pools and luxury resorts. Throughout all these phases, UN agencies have been at the forefront, granting their blessing to the endeavours and often acting as a vanguard for the advance of foreign economic interests. It is understandable that a significant number of Balinese people, and the farmers in particular, have become rightfully sceptical about the solutions proposed by UNESCO and their own government.

There is an ambivalent feeling towards tourism in rural areas. Some communities and farmers are still hoping that tourism may provide additional income and truly contribute to their wellbeing and cultural practices. Others have abandoned any hope that this may be the case and would instead prefer a more protectionist approach from the advances of an industry that does not seem to care for their well being at all. In both cases, however, it is clear to most that the priorities of the local economy and government must shift to focus on the needs of the local population and not to consider these as only secondary concerns or a by-product of fulfilling the aspirations and wishes of tourist visitors. It is time for the island's land to be dedicated towards fulfilling the real primary needs, and indeed the human rights, of the Balinese themselves.

While this report has primarily focused on the negative impact of tourism on Balinese agriculture, farmers' resilience in the face of these adversities is a cause for cautious optimism. During the course of this investigation, many farmers expressed personal, professional, and cultural pride in their occupation. Often, and particularly when still engaged in indigenous and traditional practices, they expressed the need and desire to see successive generations involved in holistic, sustainable and culturally relevant farming activities. There is a very brief window of time in which to act – those that retain the knowledge of such practices are quickly reaching old age and will soon no longer be able to transmit it. On the other hand, a small but vibrant community of young farmers is eager to revitalise Bali's agriculture, but find themselves enormously disadvantaged, outnumbered, and without the support of their government. The activities of concerned local and foreign NGOs, although important and often welcomed, are also not sufficient to confront the magnitude of the situation.

Proposals for a way forward

A joint and multi-pronged effort is required to address the many problems briefly described in this report. In keeping with the thematic division of this report, proposals for the way forward will focus on the three pillars required for a strong and vital agricultural sector: Land, Seeds, and Water. The following proposals are addressed to the relevant Balinese and Indonesian authorities:

Land

- 1 Enact a provincial wide moratorium on agricultural land taxes. Additionally, allow for a streamlined process of exemption from such taxes for farmers in tourism dense areas. This could be achieved by classifying all *subaks* as areas of Strategic National Interest, citing their contribution to the food security of both the island and the nation. Inclusion of agricultural land under this legislative framework would allow for the national and provincial authorities to override the local statutes established by the semi-autonomous regencies. This, in turn, would decrease susceptibility of local zoning enforcement to corruption and economic conflicts of interest related to tourism.
- 2 Establish a dedicated inter-departmental taskforce to review and prevent illegal acquisition of agricultural wetlands (*tanah sawah*) at the provincial level and enforce zoning regulations (*bappeda*). The task-force would report to an advisory council composed of representatives elected by the agrarian communities, NGOs, and inter-departmental representatives. This council would be chaired by the previously eliminated "*sedahan*" - a representative of, and elected by, the members of agrarian communities to act as a liaison between the parallel dry-land (*desa/kota/kecamatan*) and wet-land (*subak*) administrations.

Seeds

- 3 Discontinue and discourage the failed Green Revolution policies that incentivise and subsidise the use of hybrid seeds, GMOs, and synthetic agro-chemicals. Instead, invest in the distribution of organic compost, as well as culturally and environmentally suitable seeds, through the existing government-established SIMANTRI program. Sponsor knowledge transfer programmes between heritage farmers and conventional farmers who are interested in adopting heritage practices. This effort should be complemented by the re-orientation of Agriculture and Agribusiness faculty departments at local universities towards the teaching of holistic organic agricultural practices.
- 4 Utilise the BULOG (Badan Urusan Logistik – Department of Logistic Affairs) to set prices for the main foodstuff commodities, and engage in a multi-stakeholder consultation to decide what those prices could and should be. The aim would be to protect farmers from predatory exploitation by middlemen and provide them with a guarantee of a living wage, while protecting consumers from food-price hikes and inflationary speculation.

Water

- 5 Displace revenue as the primary form of assessing performance of the public water distribution company (PDAM). Instead, incentivise adherence to performance indicators that prioritise conservation, wastewater treatment, and equitable distribution of water to the population at large as well as the agrarian sector. Enforce the promised mandate of the Tabanan Regency reservoir so as to ensure that its water resources be exclusively used for agricultural purposes.
- 6 Engage in a widespread regional public education campaign to inform the local population about the excessive water usage by the tourism industry. Furthermore, a strong regulatory apparatus must be established to prevent the tourism industry from appropriating excessive water resources. This is particularly important when taking into account that water scarcity and inequalities in water distribution are often the source of conflicts among farmers, as well as one of the primary reasons for the abandonment of agrarian activities throughout the island.

Endnotes

- 1 UNESCO (2012). Cultural Landscape of Bali Province: the Subak System as a Manifestation of the Tri Hita Karana Philosophy. Available from: <http://whc.unesco.org/en/list/1194> [accessed Jul 3, 2016]
- 2 Cole, S. (2012). A Political Ecology of Water Equity and Tourism: A Case Study From Bali. *Annals of Tourism Research*, Vol. 39, No. 2, pp. 1221–1241.
- 3 D.J. Gayle and J.N. Goodrich (eds.). (2015). *Tourism Marketing and Management in the Caribbean*. London and New York: Routledge
- 4 UNESCO. (2011). Nomination for Inscription on the UNESCO World Heritage List. Cultural Landscape of Bali Province. Available: <http://whc.unesco.org/uploads/nominations/1194rev.pdf> [accessed Jul 3, 2016]
- 5 TNI (2013). *The Global Land Grab. A Primer*. Revised edition. Amsterdam: Transnational Institute. Transnational Institute. (2015). *Licensed to grab - How international investment rules undermine agrarian justice*. Available: https://www.tni.org/files/download/licensed_to_grab.pdf [accessed Jul 3, 2016]
- 6 TNI (2014). *Towards Understanding the Politics of Flex Crops and Commodities. Implications for Research and Policy Advocacy*. Amsterdam: Transnational Institute.
- 7 Badan Pusat Statistik. (2017). *Number of Foreign Tourist Arrivals to Indonesia by Entrance, 1997-2016*. Available: <https://www.bps.go.id/statictable/2009/04/14/1387/jumlah-kunjungan-wisatawan-mancanegara-ke-indonesia-menurut-pintu-masuk-1997-2016.html> [accessed Jul 3, 2016]
- 8 TNI (2014). *The Global Water Grab. A Primer*. Revised edition. Amsterdam: Transnational Institute.
- 9 Sutawan, N. (1986). *Struktur dan Fungsi Subak*. Makalah Seminar Peranan Berbagai Program Pembangunan dalam Melestarikan Subak. Bali: Universitas Udayana.
- 10 Sutawan, N. et. al. (1990). *Deskripsi Singkat Hasil Inventarasi Sistem Irigasi pada Tiga Kabupaten di Bali: Gianyar, Badung, dan Gianyar*. Denpasar: Universitas Udayana.
- 11 BPS (2013). *Wetland Area by Province (ha), 2003–2013*. Available from: <http://bps.go.id/linkTableDinamis/view/id/895> [accessed Jul 3, 2016]
- 12 BPS (2014). *Total Area and Number of Islands by Province, 2002-2014*. Available from: <https://www.bps.go.id/dynamic-table/2015/09/10/895/luas-lahan-sawah-menurut-provinsi-ha-2003-2014.html> [accessed Jul 3, 2016]
- 13 BPS (2018). *Total Area and Number of Islands by Province, 2002-2016*. Available from: <https://www.bps.go.id/statictable/2014/09/05/1366/luas-daerah-dan-jumlah-pulau-menurut-provinsi-2002-2016.html> [accessed Jul 3, 2016]
- 14 BPS (2017). *Population projection of Bali Province by Regency/ Municipality, 2011-2020 (thousand)* Available from: <https://bali.bps.go.id/linkTableDinamis/view/id/19> [accessed Jul 3, 16]
- 15 BPS (2018). *Number Of Foreign Guests In Classified Hotel By Province, Indonesia 2003 - 2016 (Thousand)*. Available from: <https://www.bps.go.id/statictable/2009/04/08/1376/jumlah-tamu-asing-pada-hotel-bintang-menurut-provinsi-tahun-2003-2015.html>

- 16 BPS (2018). Number Of Foreign Guests In Non-Classified Hotel By Province, Indonesia 2003 - 2016 (Thousand). Available from: <https://www.bps.go.id/statictable/2009/04/08/1378/jumlah-tamu-asing-pada-hotel-non-bintang-menurut-provinsi-tahun-2003-2016.html> [accessed Jul 3, 2016]
- 17 BPS (2018). Number Of Indonesian Guests In Classified Hotel By Province, Indonesia 2003-2016 (Thousand). Available from: <https://www.bps.go.id/statictable/2009/04/08/1377/jumlah-tamu-indonesia-pada-hotel-bintang-menurut-provinsi-tahun-2003-2016.html> [accessed Jul 3, 2016]
- 18 BPS (2018). Number Of Indonesian Guests In Non Classified Hotel By Province, Indonesia 2003-2016. Available from: <https://www.bps.go.id/statictable/2009/04/08/1379/jumlah-tamu-indonesia-pada-hotel-non-bintang-menurut-provinsi-tahun-2003-2016.html> [accessed Jul 3, 2016]
- 19 Hirsch, P. and Warren, C. (2002). *The Politics of Environment in Southeast Asia*. London and New York: Routledge.
- 20 BPS (2013). Jumlah Usaha Pertanian Menurut Subsektor dan Pelaku Usaha Tahun 2003 dan 2013. Available from: <https://bali.bps.go.id/statictable/2014/11/06/123/jumlah-usaha-pertanian-menurut-subsektor-dan-pelaku-usaha-tahun-2003-dan-2013.html> [accessed Jul 3, 2016]
- 21 BPS (2013). Jumlah Rumah Tangga Usaha Pertanian Menurut Golongan Luas Lahan yang Dikuasai Tahun 2003 dan 2013. <https://bali.bps.go.id/statictable/2014/11/06/124/jumlah-rumah-tangga-usaha-pertanian-menurut-golongan-luas-lahan-yang-dikuasai-tahun-2003-dan-2013-.html>
- 22 BPS (2013). Jumlah Usaha Pertanian Menurut Subsektor dan Pelaku Usaha Tahun 2003 dan 2013. Available from: <https://bali.bps.go.id/statictable/2014/11/06/123/jumlah-usaha-pertanian-menurut-subsektor-dan-pelaku-usaha-tahun-2003-dan-2013.html> [accessed Jul 3, 2016]
- 23 BPS (2013). Jumlah Usaha Pertanian Menurut Subsektor dan Pelaku Usaha Tahun 2003 dan 2013. Available from: <https://bali.bps.go.id/statictable/2014/11/06/123/jumlah-usaha-pertanian-menurut-subsektor-dan-pelaku-usaha-tahun-2003-dan-2013.html> [accessed Jul 3, 2016]
- 24 BPS (2013). Sensus Pertanian Propinsi Bali. Available from: <https://st2013.bps.go.id/dev2/index.php/site/tabel?tid=21&wid=5100000000> [accessed Jul 3, 2016]
- 25 Rosenberg Colorni, R. (2016). *The Effects of Tourism Development on Bali's Agriculture*. Unpublished.
- 26 Bupati Badung, Provinsi Bali. (2017) Peraturan Bupati Badung No 24 Tahun 2017. Pengurangan Pajak Bumi dan Bangunan Perdesaan dan Perkotaan Berdasarkan Kondisi Tertentu Objek Pajak Pada Ruman dan Tanah Pertanian. Available from: http://jdih.badungkab.go.id/uploads/PERBUP_24_2017.pdf [accessed Jul 3, 2016]
- 27 IDEP (2016b). Overview of Bali province physical, administrative and environmental data. Available from: www.idepfoundation.org/images/idep/how-you-can-help/support-a-project/bali-water-protection-program/bwp_annex1_bali_situation_overview.pdf [accessed Jul 3, 2016]
- 28 BLH (2016). Laporan KLHS Bali - Strategic Environmental Assessment (KLHS) [Management and Conservation of Water Resources (Bali Province)]. Available from: <https://www.scribd.com/doc/249234967/2-3-Laporan-KLHS-Bali> [accessed Jul 3, 2016]
- 29 IDEP (2016a). Bali Water Protection Program. Available from: http://www.idepfoundation.org/images/idep/how-you-can-help/support-a-project/bali-water-protection-program/bwp_agama_tirtha.pdf [accessed Jul 3, 2016]
- 30 TNI (2014). *The Global Water Grab. A Primer*. Revised edition. Amsterdam: Transnational Institute.
- 31 BLH (2016). Laporan KLHS Bali - Strategic Environmental Assessment (KLHS) [Management and Conservation of Water Resources (Bali Province)]. Available from: <https://www.scribd.com/doc/249234967/2-3-Laporan-KLHS-Bali> [accessed Jul 3, 2016]
- 32 Cole, S. (2012). A Political Ecology of Water Equity and Tourism: A Case Study from Bali. *Annals of Tourism Research*, Vol. 39, Nr 2, pp. 1221-1241. DOI:10.1016/j.annals.2012.01.003.
- 33 TNI (2014). *The Global Water Grab. A Primer*. Revised edition. Amsterdam: Transnational Institute.
- 34 IDEP (2016a). Bali Water Protection Program. Available from: http://www.idepfoundation.org/images/idep/how-you-can-help/support-a-project/bali-water-protection-program/bwp_agama_tirtha.pdf [accessed Jul 3, 2016]
- 35 BLH (2016). Laporan KLHS Bali - Strategic Environmental Assessment (KLHS) [Management and Conservation of Water Resources (Bali Province)]. Available from: <https://www.scribd.com/doc/249234967/2-3-Laporan-KLHS-Bali> [accessed Jul 3, 2016]
- 36 World Bank. (2010) *Mainstreaming Climate Change for Sustainability*. Available from: <http://documents.worldbank.org/curated/en/803651468039864174/pdf/534750BRI0710c-10Box345611B01PUBLIC1.pdf> [accessed Jul 3, 2016]
- 37 WWF. (2009). *Climate Change in Indonesia Implications for Humans and Nature*. Available from: http://assets.panda.org/downloads/inodesian_climate_change_impacts_report_14nov07.pdf [accessed Jul 3, 2016]
- 38 Lansing, J.S. et al. (2009). A Robust Budding Model of Balinese Water Temple Networks. *World Archaeology*, Vol. 41(1): 112-133. Available from: http://www.slansing.org/uploads/4/3/4/1/43417789/world_archaeology_2009.pdf [accessed Jul 3, 2016]
- 39 Lansing, J.S. and Fox, K. (2011). Niche construction on Bali: the gods of the countryside. *Phil. Trans. R. Soc. B366:927-934*. DOI:10.1098/rstb.2010.0308
- 40 FAO. *Organic Agriculture and Climate Change*. Available from: <http://www.fao.org/organicag/oa-specialfeatures/oa-climate-change/en/> [accessed Jul 3, 2016]
- 41 UNESCO (2015). Decisions adopted by the World Heritage Committee at its 39th session (Bonn, 2015). Available from: <http://whc.unesco.org/archive/2015/whc15-39com-19-en.pdf> [accessed Jul 3, 2016]
- 42 Salamanca et. al. (2015). Managing a living cultural landscape: Bali's subaks and the UNESCO World Heritage Site. Available from: <https://www.sei-international.org/mediamanager/documents/Publications/SEI-PR-2015-05-Bali-Cultural-Landscape.pdf> [accessed Jul 3, 2016]
- 43 Lansing, J.S. et al. (2009). A Robust Budding Model of Balinese Water Temple Networks.
- 44 Foley, S. (1979). Rice Cultivation in Bali: an Energy Analysis. Available from: <https://www.weadapt.org/sites/weadapt.org/files/legacy-new/placemarks/files/5305e4e-ba08berice-cultivation-in-bali.pdf> [accessed Jul 3, 2016]
- 45 Rosenberg Colorni, R. (2016). *The Effects of Tourism Development on Bali's Agriculture*. Unpublished.
- 46 Yayasan Konsevasi Sawah Bali. (2015). Pilot Project – Synopsis. Unpublished internal document.
- 47 Ibid.
- 48 Shiva, V. (1991). *The Violence of the Green Revolution*. London, New Jersey, Penang: Zed Books.

Abstract

This research brief is the outcome of original fieldwork conducted between September 2015 and June 2016 across three different locations in Bali, Indonesia. The brief synthesises some of the key research findings with the aim of providing a deeper look into the impact of tourism on agricultural systems, food security, food sovereignty and rural development in Bali. It finds that the massive investment in the tourist industry – which is championed by Balinese policymakers as a driver of economic development and prosperity – has often come at the expense of agricultural livelihoods. In particular, research interviews with farmers and agricultural communities revealed concerns related to the impact of tourism on: i) local land tenure systems and traditional farming practices; ii) management of water resources and adaptation to climate change; iii) protection of native seed varieties and cultural heritage. The brief ends with a series of recommendations addressed to the relevant provincial and national authorities to address some of the issues raised. It argues for a fundamental reorientation away from the whole-sale promotion of the tourist industry towards a more balanced approach which offers support and prospects for Bali's farming communities. In this sense, the research brief is of interest to all those who are grappling with the consequences of uneven and contested development, ethical tourism, and the tension between welcoming foreign visitors and protecting indigenous culture, practices, and environments.



The Hands On the Land for Food Sovereignty (HOTL4FS) alliance is a collective campaign by 16 partners, including peasants and social movements, development and environmental NGOs, human rights organisations and research activists aiming to conduct activities in Europe to raise awareness on issues related to the use and governance of land, water and other natural resources and its effects on the realization of the right to food and food sovereignty.

handsontheland.net



The Transnational Institute (TNI) is an international research and advocacy institute committed to building a just, democratic and sustainable planet. For more than 40 years, TNI has served as a unique nexus between social movements, engaged scholars and policy makers.

www.TNI.org