The Impacts of Tourism on Subak, Sawah, and the Environment

Reiley Adelson
SIT Study Abroad

Follow this and additional works at: https://digitalcollections.sit.edu/isp_collection

Part of the Agriculture Commons, Asian History Commons, Asian Studies Commons, Civic and Community Engagement Commons, Fresh Water Studies Commons, Landscape Architecture Commons, Other Public Affairs, Public Policy and Public Administration Commons, Place and Environment Commons, Social and Cultural Anthropology Commons, South and Southeast Asian Languages and Societies Commons, Tourism Commons, and the Water Resource Management Commons

Recommended Citation
https://digitalcollections.sit.edu/isp_collection/3168

This Unpublished Paper is brought to you for free and open access by the SIT Study Abroad at SIT Digital Collections. It has been accepted for inclusion in Independent Study Project (ISP) Collection by an authorized administrator of SIT Digital Collections. For more information, please contact digitalcollections@sit.edu.
The Impacts of Tourism on *Subak, Sawah*, and the Environment

Reiley Adelson
Ngurah Karyadi, Udayana University
SIT Study Abroad
Indonesia: Arts, Religion, and Social Change
Spring 2019
Table of Contents

Acknowledgments .................................................................................................................. 3
Abstract .................................................................................................................................. 5
Methodology .......................................................................................................................... 6
Introduction ............................................................................................................................ 9
  Research Questions ............................................................................................................... 10
  Ethics and Limitations ......................................................................................................... 11
Subak ....................................................................................................................................... 12
  History ........................................................................................................................................ 12
  How it Works ............................................................................................................................. 13
  Today .......................................................................................................................................... 16
Tourism ................................................................................................................................. 17
  History ........................................................................................................................................ 17
  Positive Impacts ....................................................................................................................... 25
What Can We Do? .................................................................................................................... 28
  IDEP ............................................................................................................................................ 29
  Wisnu Foundation ................................................................................................................... 31
  Zoning ......................................................................................................................................... 34
The Future? ............................................................................................................................. 36
  IDEP ............................................................................................................................................ 36
  Odeck ......................................................................................................................................... 37
  Dede and I Kadek ....................................................................................................................... 38
  Nyoman and Kadek .................................................................................................................... 39
Conclusion ............................................................................................................................. 40
Appendix 1: ............................................................................................................................... 42
Bibliography ............................................................................................................................ 45
  Primary References .................................................................................................................. 45
  Secondary References .............................................................................................................. 45
Acknowledgments

I would like to start off this paper by giving thanks to those who were a crucial part in my ability to carry out research for my Independent Study Project (ISP). This process has been long and difficult at points so I am very grateful of the support I received from everyone involved. Firstly, I would like to thank the School for International Training (SIT) for giving me, and many other students, the opportunity to, one, come to places like Indonesia and Bali, and two, for allowing us to immerse ourselves in different cultures and have the experience of a lifetime. I now cannot imagine my life having not come to this beautiful place and meeting these wonderful people.

Secondly, I would like to thank the wonderful staff of SIT. To our academic director Bu Ari, thank you for not only being our teacher and advisor, but for also being a mother figure to all of us while we are here. Without her support, guidance and love, I don’t know if I would have been as successful in this journey of study abroad and research for my ISP period. To our other teachers, Pak Yudi, Kazu, Sani, Dian, Triska and Afrih, thank you for helping us to learn the Indonesian language and for being there for us with anything we needed! If not for them, I would have not been as confident in my ability to be on my own carrying out interviews in the Indonesian language. Also special shout out to Sani for translating my interviews.

Thirdly, thank you to my academic advisor Ngurah Karyadi. Without your help I would not have been able to find the many contacts that you provided me with. Not only were the contacts helpful in their own right, they also lead me to more people who I could talk with. Which leads me to the fourth thank you, and that is to all of those who allowed me to sit down and speak with them about the environment, tourism and its impacts. I am very lucky to have been able to hear many different opinions and be able to highlight those in my ISP paper.
Fifth, I would like to thank all of the families that allowed me to stay with them throughout this whole SIT experience, especially my homestay family in Kerambitan. Thank you for allowing me to become a part of your family and I will never forget the love and gratitude you showed towards me. To the family who allowed us into their home in Ubud for ISP period, thank you for allowing us into your space and treating us like a part of the family instead of just as guests. And lastly, to my own family and friends back in the US thank you for making my trip to Bali even possible in the first place. I am so happy that I have a support system that will make me feel loved even when we are on opposite sides of the world! I am so excited to share stories, pictures and my research with you all!
Abstract

In this paper I wish to explore the topic of Sawah, Subak, and the impact tourism has on both of these important parts of Balinese culture. By starting with the history of subak, moving into the Green Revolution, then into the start of mass tourism, and coming all the way up until today, I would like to see how subak has changed and developed or how it hasn’t. I would also like to get a sense of what people see for the future of farming in Bali. To go about this, I talked with rice farmers, who are being directly affected, with tourists, to see if they understand their impact, with experts on business, to see what they feel are the issues, and with people from an NGO who are working to help right the wrongs that have been caused by the factors of tourism like pollution, issues of water and even natural disasters. Above all else, I wanted to gain a deeper understanding as to why this is happening, and to also understand it from an economic aspect because while it is easy to focus on the negative, there are also many positive impacts from tourism.
Methodology

To go about my research, I first decided what I wanted to study and why. After listening to a lecture on Subak and then working in a rice field, I decided I was very interested in this subject and wanted to carry out a project on it. My first interview that was relevant to this subject was with an IHDN\(^1\) student named Dede while we were in the village of Munduk Pakel\(^2\) together. He is studying tourism and I wanted to know more about what that was about and how he feels about tourism and its effect on sawah\(^3\). I recorded the interview and took detailed notes.

Before starting this paper, I reached out to Dede and asked for consent to mention him in this paper and he said yes. After this, I began my own research by reading multiple articles on the history of Subak and the impacts tourism has on it and on rice fields in general. Once I decided I had enough information on my own, I reached out to my ISP advisor, Ngurah Karyadi, with my proposal and asked if he had any connections with people who could help me to understand everything better. He got back to me with a person at IDEP and I reached out to set up an interview with them. I first researched their company and came up with questions to ask them about their projects on water and waste management. I went to their office on Friday, April 12\(^{th}\) and did an interview with two members of their foundation. I asked if I could record and they said yes. Unfortunately, the Sunday after I completed this interview, my phone was lost and along with it, the information from that interview. I contacted one of the people I talked to by email and set up a time to go back and redo it. On Friday April 26\(^{th}\), I redid the interview with Edward and another employee who asked to remain anonymous. This time I took detailed notes.

---

1 Institute Hindu Dharma Negeri University in Denpasar, Bali
2 Name of the village we were staying in located in the Tabanan Regency
3 Indonesian word for rice field
instead of recording. I asked for their consent to mention them in the paper, Edward gave me verbal consent to use his name and the other employee asked to remain anonymous but said that I could still use the information he gave me.

After the first interview I reached out again to Ngurah and asked for more contacts and he sent me back the number of a previous board member for the Wisnu foundation, Odeck Ariawan. I contacted him on April 22nd and on that same day I went to his house and talked to him about tourism and zoning in Ubud. I asked him questions about himself and he gave me great information about what he did which helped me come up with new questions on the spot. I took detailed notes during this interview so that I did not have to rely on a recording. At the end I asked for consent to use his name and he said yes.

The next interview I conducted was with a manager at Titi Batu Sports club in Mas, Ubud on April 24th. I wanted to know more about the club because it is located in a small area surrounded by arable land. I also wanted to know why someone had chosen to work for the tourism industry and not something else. I first asked an employee if anyone was available to talk with me and answer some questions and he pointed me in the direction of his manager, his name was I4 Kadek5. I spoke to him and while he answered my questions I took detailed notes. At the end, I asked if I could put his name in my paper and he asked to be anonymous, I then asked for his Balinese name and if I could mention him as Kadek and he said that was okay.

After this I came up with questions that I could possibly ask a member of a Subak and then general questions for a rice farmer. While at IDEP, I was advised to visit one of the two Subak museums in Bali. I decided to visit the one on Masceti Beach. After, I walked through the

---

4 I in Balinese refers to male and Ni refers to woman. In this case I Kadek is a male
5 In Balinese the birth order is important, those with the name Kadek were born second and those with the name Nyoman were born third.
Subak and was approached by a man, I Nyoman, 48, who lived in the village. I asked if I could interview him and he said sure so we sat and I was able to talk with him and his cousin, I Kadek, 56, about the subak. I asked if I could record this interview and they said yes. Since this interview was conducted in Indonesian, I sent the recording to Sani who is one of my teachers from SIT. Once we were finished I asked for consent to mention them in this paper and they said yes.

After these interviews I put all of my information together and outlined my paper. Once I had my main outline I sat down and wrote. Once I felt I was finished, I edited my transcribed interview, cited my sources and added those to the paper. Lastly, I edited some pictures I took at the various places I visited during my research and then added the relevant photos into my paper where it would help for reference to the text.
Introduction

When driving through Bali, it seems as if rice fields and farming areas are placed anywhere they will fit: in between houses, hotels, on both sides of a busy road, and in the most deserted and touristy areas. When my fellow students and I first saw them on the car ride from the airport in Denpasar, to our program center in Kerambitan, Tabanan, I think I audibly said, “Wow”. It was the sight of them that made me feel like I was officially in Bali, because when I picture this island, it is the rice fields that first came to mind. Being that I am a media studies, journalism and digital arts major, I was excited to photograph them and really capture their beauty. To me, there is something so magical and captivating about them that it only made sense to me that this should also be the first thing other people think about when thinking of Bali. When googling photos of Bali, I expected the first things to come up to be these fields that are so iconic, but, to my surprise, the first row of pictures are of hotels on the beach with people swimming in the private pools of a villa. Scrolling through you get more of this and peppered in are pictures of temples. Eventually there is the classic pictures of rice fields with the mountains in the background.

What is surprising to me is not that the rice fields are not first, but the fact that what first comes up is the ideal villa for the perfect “Balinese vacation”. Everything these pictures are showing is what attracts the tourist and it makes sense. For an island that has an economy driven by tourism I understand why they would want to brand it as this perfect, serene, and naturally beautiful place. Although, what is not being discussed nearly enough in both outside and inside country media is the consequences of this tourism. In the Balinese Hindu religion, there is the
seen, Sekala\textsuperscript{6}, and the unseen, Niskala\textsuperscript{7}. In these consequences there is the seen, like the litter and the problems with waste management, but there is also the unseen, which is the issues with water and the issues of what is underneath all big corporate hotels and buildings.

**Research Questions**

My interest in this subject peaked after a lecture on subak\textsuperscript{8} and sawah while in the village of Munduk Pakel. After the lecture we were lucky enough to be able to work in the rice field and understand what it is like every day for those who really work there. In the village, we were joined by students from IHDN university, some were majors in tourism and culture. Being able to talk with them about both the positive and negative effects on land in Bali opened my eyes to this problem that many people are unaware of because, again, it is not being discussed enough in the media. This heightened my curiosity to figure out what is really going on and to dive deep into the problems surrounding the subak and sawah. This also gave me the basis for what I wanted my questions to be:

- What exactly is a subak and how does it work?
- What are the impacts, positive and negative, of tourism on the environment?
- How is this affecting subak directly?
- How can we reverse these effects and who is trying to do this?
- What is the future for subak and the environment in general?

This study aims to answer these through interviews with relevant organizations and people and through readings from articles and journals.

\textsuperscript{6} Balinese word for Seen, usually used in reference to religious ceremonies and offerings.
\textsuperscript{7} Balinese word for Unseen, usually used in reference to religious ceremonies and offerings.
\textsuperscript{8} Indonesian word for the community and irrigation system for sawah
Ethics and Limitations

It is important to understand that this research was done over the short period of a little over 4 weeks. Studies like this are usually conducted over the course of months observing one place for that amount of time. With limited time I was unable to dive in as deep as I would have liked to due to some setbacks that were not predicted and not accounted for in the beginning, including but not limited to losing some interviews. With this being said, the information I have gathered is all based on readings, and information provided to me through personal communication and data I have collected during observations. I hope to draw conclusions from the data that I have collected on my own and to not make statements that are not backed by, again, what has been said to me or what I have read on my own.
Subak

History

The subak has been around in Bali for centuries. It was first mentioned about 900 years ago and it is still a significant part of the island. While it is known as the ‘traditional’ irrigation system it also so much more than that. Stephen Lansing, an American anthropologist, defines subak as, “…a self-governing, adaptive, democratic association of farmers who have managed an efficient system of sharing water”\(^9\). Today, scholars estimate that there are about 1,200-1,800 subaks still in Bali, each controlling about 400-800 hectares of land.\(^10\) They combine rituals and resource management to figure out when is good for planting, harvesting and everything in between. Each subak is subdivided into sub-units called munduks and every munduk has about 35 members who cultivate about .44 hectares of land.\(^11\) Each of these subaks operate and maintain their irrigation network almost independently and, again, members are obliged to take part in rituals and religious ceremonies while also required to attend regular meetings where schedules are determined. In an interview with Pak Nyoman, 48, who is a petani\(^12\) and Pak Kadek, 56, who works in the government and does specific work in the rice fields, they explained to me the different jobs within the subak. Both Pak Kadek and Pak Nyoman live in Padang Lagi\(^13\) which is on Pantai Masceti\(^14\). They said,

\(^{10}\) “Studies of the Subak: New Directions, New Challenges”, Human Ecology, www-jstor-org.library.smcvt.edu
\(^{11}\) “Changing Realities— Perspectives on Balinese Rice Cultivation”, Human Ecology, www-jstor-org.library.smcvt.edu
\(^{12}\) Indonesian word for- Rice Farmer
\(^{13}\) Subak located in Gianyar.
\(^{14}\) Pantai- Indonesian word for beach, so, Masceti Beach, where Padang Lagi Subak resides
Subak merupakan organisasi sosial yang ada di Bali yang sudah membudaya. Organisasi subak itu ada ketua kelompok tani (disebut Kelian Subak di Bali). Kelian Tempek sebagai wakil, dan ada petugas yang mengatur air disebut Petajuh, kemudian ada anggota subak yang disebut Krama Subak.

[Subak is social organization which exists in Bali and as one of Balinese culture. The structure of Subak organization is; 1) the Head of the farmer group called the Kelian Subak, 2) The vice called the Kelian Tempek, 3) The Petajuh who manages the water, and 4) The members of Subak who are called the Krama Subak.]

They went on to talk about the benefits of the subak and told me that there are many. These include what was discussed before, there are many members and they can exchange ideas and information with other farmers. It also helps to be a part of the subak because they get more help and more funds from the government. Other benefits include the distribution of labor. Because all requirements are calculated by how much land a household has, this means the more land you have, the more work you have to do.

How it Works

In the interview with Pak Nyoman and Pak Kadek, they also told me how the process of planting and harvesting works. First, before the farmer can even start planting, they have to clean the river to make sure the water and irrigation is clean and good to use. Once that is done, they have to prepare the seeds to plant. This process typically takes about twenty days. After the twenty days, the farmer can then start plowing the field and planting the seeds. After fifteen days, the farmers usually clean the grass and weeds that grow in the middle of the seed. Twenty-five days later, the farmers will fertilize. Pak Nyoman told me that there are two different types of fertilizers and one is called Urea. This is an inexpensive

---

form of nitrogen fertilizer. At 45 days the farmers will fertilize again so that between 105 and 115 days they are able to harvest.

During these important times of planting and harvesting there are ceremonies that are done to bless the plant. The first is done before starting to plant and it is called Nuasen. The last one is called Biu Kukung and that is done during the harvest, it serves to ask the Goddess of rice, Dewi Sri, to provide a successful crop. Both of these are done on auspicious days.4

16 Homeguides.sfgate.com
17 Pak Kadek and Pak Nyoman, Personal Communication, April 28, 2019
Green Revolution

One of the major factors in the issues we see with subak today is the consequences of what happened during the Green Revolution. Taking place in the late 1960’s this movement was put in place by President Soeharto. It was supposed to be an international campaign to increase productivity of the land by means of western science based technology. The goal was national self-sufficiency in grains. They introduced multiple technology’s including HYV (High Yielding Varieties): rice, corn and wheat Varieties which were made genetically. As proven through other movements like this, scholars were cautioning this on the basis that just because you adopt a high productivity package, it does not always mean that it will improve productivity.  

Like the HYV’s other things were introduced including pesticides and chemicals of all kinds. Because of this, the Bali Rice Ecosystem Simulation Model said that the Green Revolution led to an increase in insect resistance to these pesticides. This means that new mutations of bugs were appearing and they were unable to be killed by the pesticides because they had built up an immunity to it. Also, these pesticides were killing the ecosystems of the terraced rice fields. Not only do people benefit from the rice in the fields, they also provide homes for fish, eels and other wet land creatures that could survive in that environment. These animals were being killed and the pesticides were also hurting the farmers. Because of this, the HYVs didn’t work and there was a decrease in the rice yields. In the article, “A Translation Analysis of the Green Revolution in Bali” by Thierry Bardini, she ends her discussion on the Green Revolution by saying, “…The Green Revolution failed in Bali because the introduction of Western technologies neglected the social organization of irrigation before the Green Revolution.”

---

19 ^ Page 160, Bardini
instead of taking into consideration the centuries old methods of how subak works, Western products were pushed and while they may have had the best interest at heart, it is another example of westerners pushing their technological agenda.

**Today**

Even with the Green Revolution changing the subak and making a giant leap back in its ability to produce quality food, the one thing that can be said for the system is that it is resilient. It has the power to adapt and change which is why it is still around today with even more factors threatening its life. The issues surrounding tourism are the biggest threat and they are doubling in harm every day. Plus, with the lingering effects of the Green Revolution it is just making it that much harder because they have to make the land suitable again. These are just some of the many struggles facing its survival. Add in the issues of land prices and the movement of younger generations seeking a life that does not include them wanting to be rice farmer, subak seems to have the odds stacked against it. Even with this though, many anthropologists and authors of articles in the Human Ecology Journal about rice farming have said that they think subaks will prosper if members care about movements that are outside the traditional ways of doing things. The survival lies in a combination of strategies that include switching to alternative method of farming and the inevitable switch to organic farming. This means facilitating the adoption of organic farming which thereby creates a niche for organic produce in a market dominated by agriculture business. In the next sections, I will go more in depth about the impact of tourism on farming and subak both positive and negative
Tourism

History

Around the same time as the Green Revolution, tourism was also on the rise. In 1963, President Sukarno built the Bali Beach Hotel in Sanur. Before this there were only three major tourist attractions on the island. After this construction, it sparked more hotels and restaurants to be built. In 1970 Ngurah Rai International Airport was opened and tourism further increased. From the 1960s until today, there has been a steady rise of people visiting the island but about 25-30 years ago was when the numbers started picking up quickly and tourism moved from being exclusive tourism to the mass tourism it still is today. Another factor that played into Bali’s attraction was because of some pop culture influence. In 2010, the film *Eat, Pray, Love* based off the author Elizabeth Gilberts book in which she traveled to Bali, was released. The book had already promoted an increase in tourism to the Ubud\(^{20}\) area and the movie sparked it once again\(^{21}\). Along with this, many other celebrities have visited the island making it even more appealing.

In general, the number of tourists rises gradually every year. Starting from 2013, one can see that the numbers start from about 3,278,600 and rise to about 5,697,800 in 2017\(^{22}\). The number in 2017 was about 1 million more than the number of tourists that came in 2016. By the end of 2018, the number of tourists was a 10% increase from 2017 and beat the target goal of 6,500,000 by just over 11,000 people. Because of this, the target goal for 2019 is 6,800,000 tourists. The countries providing the most tourists for 2018 was Australia, China, India, 

\(^{20}\) Town of Ubud, in the uplands of Bali, Indonesia  
\(^{21}\) Adrian Vickers: Bali. A Paradise Created, Periplus 1989, p. 252,  
\(^{22}\) Subadra, I Nengah PhD, “International Tourist Visit to Bali”, balitourismdirectory.com
Malaysia, and Singapore in that order with Australia taking over as the largest tourist provider, the spot that China had previously held in 2017\(^23\).

With the number of tourists increasing, this means that more hotels, restaurants and other tourist attractions are being built. Job opportunities from this industry are quickly being taken which means there is a clear movement from agriculture work to work in the tourism industry. In the article, “Changing Realities— Perspectives on Balinese Rice Cultivation” , authors Rachel P. and Stephen Lorenzan state,

> In Bali, there is a clear shift of the labor force from agriculture to non-agricultural industries: while the agricultural labor force decreased from 61% in 1976 to 36% in 2008, the trade industry, which includes part of the tourism industry, increased its labor share from 12% in 1976 to 24% in 2008. \(^24\)

Seeing that this statistic ends in 2008, we can infer that these numbers have changed even more to create a greater gap between the labor force in the tourism industry and in agriculture. When asking why, it is also important to take into consideration the impact of the younger generation moving away from wanting to work in the *sawah*. The reason for this movement is because of the many stereotypes surrounding this work. This includes not only the stigma of the rice farmer being “dirty and uneducated” but also the stereotype of what beautiful is\(^25\). This means that if you are working in the sun all day you will become tan, when being white is more desirable. This statistic is seen in the young people who I have talked to about this. For IHDN Student Dede, he says that he would rather study tourism because of the fact that it provides a better salary\(^26\).

There are also the less problematic reasons for moving towards the tourism industry and that is

---

\(^{23}\)“Bali’s tourism numbers exceed targets in 2018”, gapurabali.com
\(^{24}\)“Changing Realities— Perspectives on Balinese Rice Cultivation”, *Human Ecology*, www-jstor-org.library.smcvt.edu
\(^{25}\) pg. 30, Lorenzen & Lorenzen
\(^{26}\) Dede, personal communication, March 19, 2019
that working in the hotels or restaurant provides better working conditions with fixed wages which is the biggest appeal to those who need to provide for a family.

**Negative Impacts**

With the amount of labor moving into the tourist industry, this represents one of the negative impacts that tourism has on subak. When the amount of labor decreases, then either the amount of work for less people increases or those who own the land are forced to hire more outsourced workers. This means that subak could be giving more to its members than it is receiving. This change to hiring more outsourced labor actually weakens the traditional institution of subak and it becomes superseded by contemporary agriculture. According to the anthropologist Claude Lévi-Strauss, the downfall of subak will come from the issue of people not being keen on farming which means there will be an increase in arable land being transferred to nonagricultural use and the loss of water rights. Water rights is very important for subaks survival because of the water lost due to many factors. The first factor is because of intrusion from the ocean. Intrusion means that salt water is being brought inland and contaminating the fresh water supply which in turn affects the crops who are getting water from the supply. The second factor is from the pollution of rivers which then pollutes the crop. The third factor, and most importantly, is the redirection of water from subak to hotels and restaurants to be used for tourists.

Tourists are responsible for 65% of all water used in Bali. This is a problem because not only does it create issues for farming but it also puts Bali in a critical situation and is one of

---


28 IDEP, personal communication, April 26, 2019

the causes as to why Bali is in a water crisis. When the water is used by the hotels and restaurants it is redirected away from the farm that needs it and it is this redirection of the water that can create conflict. This conflict happens where the water resources run across more than one district. It also creates conflict in villages between those who manage the water, the subak, and the villages that allow the tourism to develop. According to Stroma Cole and Mia Browne, authors of the article “Tourism and Water Inequity in Bali: A Social-Ecological Systems Analysis”, they say incorporate the issues with water and pollution and say;
Generally speaking, farming is now difficult and unprofitable as a result of several factors. Water is increasingly limited due to diversion for tourism and rainfall has become unpredictable in recent years. Pollution in paddy fields requires that farmers allocate much more labor to clearing fields and they also increasingly suffer from skin ailments from contact with contaminated water. Farmers also reported that the overall reduction in farmland has translated to greater numbers of birds feeding on fewer fields, requiring more time dedicated to bird scaring.  

The issue of water gets scarier when we, again, look at the numbers of how many tourists are coming to the island. Bali is a unique case because of certain economic and cultural conditions but all in all, the increase in tourism, increases the prosperity but it also increases the cost of living. This makes the average farmer comparably poorer and even more culturally marginalized. This can be seen when a large upscale hotel is built in a poorer village, the cost of land goes up until the farmer can no longer afford it and has to sell their plot of land. More corporate companies buy the land and build more hotels and restaurants on the land. It is a cycle that keeps repeating itself. This building on land that shouldn’t be built on can be seen in the issues surrounding the building of a hotel, condominium and golf course on Tanah Lot Temple.

The case took place from 1993 to 1994 and it was an issue because the land facing the temple was considered the most productive rice terraces in Bali at the time, and the district of Tabanan in which it existed, was known as the “rice bowl”. There were debates about not only should they be allowed to build near these terraces but also because the land was considered sacred. These concerns came to stand for other issues including ones that were political, social.

---

30 ^445 Cole, Brown
31 “Sustainable Agricultural Development in Bali: Is the Subak an Obstacle, an Agent or Subject?”, Human Ecology, www-jstor-org.library.smcvt.edu
32 Tanah Lot Temple located on an offshore rock formation in Tabanan- literally translated to “Land (in the) Sea”
and economic. There were protests and at the height of them the *Bhisama Kesucian Pura*\(^{33}\) was issued by the national Hindu organization PHDI\(^{34}\). This converted the space around the temples into explicit measures. They were divided into three categories:

1. *Apeneleng*- as far as the eye can see  
2. *Apenimpug*- an object can be thrown  
3. *Apenyengkar*- a fence can enclose

![Tanah Lot Temple, Feb 5th, 2019](image)

*Figure 3: Tanah Lot Temple, Feb 5th, 2019, Photo by: Reiley Adelson*

---

\(^{33}\) Official Order on Temple Sanctity  
\(^{34}\) Parisada Hindu Dharma Indonesia
After these measures were put in place an official statement was released that said that Tanah Lot would be placed under the *apeneleng* category so a green belt would screen the Temple from sight of the golf course and hotel, and the condominiums would be deleted from the construction plans. In the end, neither of these commitments were honored\(^\text{35}\) and eventually Tanah Lot became considered lost land to tourism.

There are many stories of commitments like these not being honored. In an interview with previous Hotel and Restaurant Association secretary Odeck Ariawan, he told me the story about proposing plans for the city of Ubud. In 1996, the H&R assoc.\(^\text{36}\) decided that they wanted the town of Ubud to be the center of culture and tourism, but only selective tourism. The idea was to not allow mass corporations of hotels and restaurants to build there. Instead there would be boutique hotels that would be expensive and then homestays would be cheap, this way there would be no competition between them. The association also wanted to have cars park outside of Ubud and have people be transported in by electric cars, and bikes. The plan was proposed, they signed to get a loan and then the local government shut it down. Because of this, we have the Ubud we have today. It is now the center of tourism, culture, banks, schools, sports and more. Because of the lack of planning, its creating problems. The topography alone is not suitable for the city it is because every 100 meters there is a river. No one would notice this because roads are built over them. Within the growth of mass tourism, it has proven that Ubud is too small for the amount of people that visit it every day, and, again, this could have been avoided with the planning the H&R assoc. previously had. The market is one of the smallest in Bali but the irony has become that it is now one of the most expensive. Again this plays into the issue of cost of

\(^{35}\) "Risk and the Sacred: Environment, Media and Public Opinion in Bali", *Oceania*, www-jstor-org-library.smcvt.edu

\(^{36}\) Hotel and Restaurant Association
living increasing, this means that the local people can no longer afford this market. In Odecks opinion he thinks that Bali’s biggest problem is that 25-30 years ago we didn’t decide what we wanted to do with the island and, even now, we still don’t know what we want and we are reaping the consequences of our leadership problems.

These leadership problems are represented in the ways the regencies are run. All regencies in Bali allow three outside investors and according to Odeck, even having one is an issue. Because of this, and because of other economic factors including the surge in imports and the 1% decrease in exports, there is an income deficit. In terms of sawah and subak, in Odecks opinion, he thinks that subak was destroyed during the Green Revolution. He says that it is a good system but getting it back to where it was, is economically challenging. Even converting to all organic is more expensive unless we can convert all subaks. Odeck says that it is all about having good PR to implement organic for all.

Because of Odecks background, his work with foundations, his work on the H&R assoc., and also owning a business with his wife, he says that even he has seen changes. “It’s gotten so overwhelming.” said Odeck, “We used to know when stores and things were opening. They would even consult me about it. Now, we don’t even know what’s here and we haven’t even heard of some places.” The saddest part for him is talking about the land surrounding his house. A resort was built next to the house and even more hotels are down the road. Hearing his friends and neighbors telling him about how they can’t afford their land anymore is hard. Odeck sees this and feels bad that farming has become a lot less profitable and that people are leaving agriculture, but he is also a business man and sees that the easiest way for his neighbors to make

---

37 tradingeconomics.com/Indonesia
38 Public Relations
money is to renovate their house so they can rent them out to tourists. When I asked him about the rice fields surrounding their house he said that most of them are not being used anymore.\footnote{Odeck Ariawan Personal Communication, April 22\textsuperscript{nd}, 2019}

**Positive Impacts**

While yes, there are a lot of negative factors, there are still some positive ones. When talking about the positive it is very weird to hear it come straight from the rice farmers mouth. When talking with Pak Nyoman and Pak Kadek, I asked them about the impacts of tourism on subak and if they thought it was positive or negative and why. Their answers shocked me. They both said that the only impact from the tourist was positive. They said that without the tourists coming to Bali, then Bali would be bankrupt. They also said that many tourists come to see the rice fields and it is their support that they are able to stay productive. This relates to the conversation I had with Kadek, one of the managers of Titi Batu sports club in Mas, Ubud. He was telling me that the placement of the club was something the owners thought a lot about. The owners are from the village where the club was built and they did this because they wanted to put their village on the map. The other reason is they wanted to support the local community and give the artists and dancers a place to show and preform which in turn makes tourists more aware of their culture. When I asked Kadek about the building itself, he told me that the environment was important to the owners as well and that all of the wood that was used is recycled and they make an effort to try and use ecofriendly materials in their business, for example all the straws are bamboo and takeaway boxes are all decomposable. The promoting of culture relates to my interview with IHDN student Dede. Because he is a tourism major, he knows that one of the main reasons that people come to Bali is for the culture. He says that it is something that you
can’t see anywhere else and along with this, the rice fields are also something that are unique to Bali.40

The other thing that Pak Nyoman and Pak Kadek told me was that they couldn’t see any negatives. The issue with this is that Pak Nyoman finished our conversation off by telling me that he moved from his original village because too many hotels and restaurants were being built there. Both Pak Nyoman and Pak Kadek also told me that pollution and plastic is not a huge problem yet for Bali. This is confusing to me for multiple reasons. One is that if tourism is taking over your home village then why are you able to say the tourism has only positive impacts. The other is that they are certain that pollution is not a big problem yet and while islands like Java and Sumatra produce more pollution in comparison, Bali still produces about 130,000 tons of plastic and solid waste a day.41 It seems that there is a definite disconnect of information that is provided to the everyday Balinese local and those who are actively digging and wanting to create change.

Although, this is discussed in the article, “Risk and the Sacred: Environment, Media and Public Opinion in Bali” by Carol Warren. She argues that the media has played a big role in forming a group consensus on hot button issues. She says this consensus includes the following issues,

- environmental problems arising from unregulated capitalist development have reached breaking point;
- that these environmental issues are intimately connected with cultural and social challenges facing the Balinese population;
- that the economic asymmetries wrought by globalization and heavy capital investment have been largely responsible for parallel cultural and environmental displacements;
- that Balinese political elites have colluded with private interests in the subversion of the island's culture and environment; and,

40 Dede, Personal Communication
41 “Plastic pollution threatens tourism dependent Bali”, Menon, Ramesh, Downtoearth.com
that a revitalization of customary and religious values on the one hand, and political reform addressing corruption and law enforcement on the other, must be promoted in order to reverse these deleterious social and environmental trends.

These points represent a positive because it shows that the media cares what is happening and they want to see a change but on the other hand, from the information I have gathered, it seems that this is not getting to those who are being affected the most.

From this though, the government has put more policies in place including the plastic ban. This is a positive impact because it makes people more aware of how plastic is harming the environment and along with it there are other new policies that will tax tourists if they contribute anymore to the pollution.
What Can We Do?

With so much negativity on this situation, I did not want to only focus on the bad. I also wanted to turn my attention to who and what those people are doing to help fix these issues. There are many ways everyday tourists can help but there is also a lot of pressure to be placed on the government to make them create new policies to care more about the environment and the people of its country. I was lucky to speak with two staff members of IDEP42, and, again, Odeck Ariawan who was an early member of the Wisnu Foundation43 and who we know was a secretary for the Hotel and Restaurant Association.

42 Indonesian Development of Education and Permaculture established in 1999 with headquarters in Sukawati, Gianyar. In 2008 this acronym was dropped to give way for the meaning of the Balinese word idep which means to plan and think critically- idepfoundation.org
43 Environmental foundation aimed at fixing the problems put in place by tourism specifically working with waste management
IDEP (Indonesian Development of Education and Permaculture)

At IDEP, they are focused on many things. The first being how to keep farming sustainable and they do that through teaching permaculture and practicing it themselves. Founded in 1999, they spent the first 6 years focusing hard on permaculture alone. Then in 2005 they rebranded and turned their attention toward conservation, and waste management along with permaculture. They now use permaculture as a principle, a method and knowledge to support the community during any threats to conservation. This year IDEP will turn 20 and throughout these past 20 years they have had many successful projects ranging from natural disaster relief to one of their newest ones the Bali Water Protection Project. Within IDEP they have three main goals. These are:

1. To empower the community through training and education through: media, books, etc.
2. To have community resilience in times of disaster, and
3. To have community encouragement to have a sustainable culture.

According to IDEP, these all work to try to establish community resilience through not only times of disaster but through anything. An example of IDEP doing this is seen when I went to do my interview there. One of the staff members was unable to redo our interview because she was at a school helping with natural disaster preparedness by specifically teaching what to do in the event of an earthquake.

When talking with Edward, the resource development officer and head of PR, and his co-worker who is a program officer and in charge of training, monitoring and programing the field, I wanted to know how they felt about the negative aspects of tourism and specifically what IDEP is doing to make sure agriculture is not being lost due to the growing tourism industry. One of
the big issues they focus on is water. They told me that people are never thinking seriously about our ground water and because of this, and the fact that tourism uses a lot of it, they wanted to come up with a way to counteract this and preserve our water. This is how they came up with BWPP\textsuperscript{44}. This is a project aimed at preserving ground water through a rainwater catcher that they have created and installed a prototype of at their headquarters. The idea behind this is that it is low cost and high performance. It is durable and will greatly increase the available supply for water\textsuperscript{45}. IDEP is successful with programs like this because instead of just giving the community the resources and then leaving, they work with them, teach them how to use the technologies and then will leave when they are in a self-sufficient state. Along with water, they are involved in the forest conservation, and waste management issues, specifically in the movement to ban single use plastic and implement alternative solutions.

In terms of tourism itself, they understand the positive elements. They first said that they noticed a shift when tourism became mass tourism. In the 70s and 80s tourism was more exclusive and then in the 90s it became mass tourism. It is a very powerful industry for the island because Bali is small and there isn’t anything else, like mining, that is profitable. But when this mass tourism started no one was thinking of the indigenous people and the environmental impact. This had a huge effect on locals. They saw the money they could make from this industry and wanted to benefit. They did this by selling their land to big investors, and packaging their culture to be a show. Because of this, IDEP thinks that if tourism is not controlled, it will become even more of a disaster. This is why they are working so hard on fixing the agriculture landscape. With understanding that if local Balinese left farming to work in tourism it is very difficult to bring them back they are focusing on the people who are still in farming first to show

\textsuperscript{44} Stands for Bali Water Protection Program
\textsuperscript{45} “Bali Water Protection Program Framework and Information”, idepfoundation.org
them how to be more sustainable in living and farming. After my interview with Odeck, he was very adamant that the hardest part of change is getting the local people to understand and want to change. To this IDEP says yes, it is really difficult to not only explain the change they want them to make, but also to explain why they should do this. IDEP says they have to show the locals how they will profit economically and what benefits they will obtain from changing their ways of life. The one thing that IDEP prides themselves in doing though is, again, not giving them the resources and then leaving, they help them get used to the change, and return to agriculture work, and then help them to find a new market for their goods.

Something that Balinese Hinduism, and Bali in general, is known for is called *Tri Hita Karana (THK)*.\(^{46}\) Put simply this is the relationship between yourself and nature, god and others. The idea is that when carrying out all three in your life, they will bring happiness. Something that I have had a hard time understanding is why Balinese are able to treat nature the way they do when THK\(^{47}\) is about living harmoniously with nature. I posed this question to Edward and his co-worker and they told me, “THK is just a way of living.” Balinese just have it in them without having to think too much about how to use it in real life. For this reason, IDEP has made THK basically one of their taglines. With every project they create and carry out there is a model and throughout the whole project IDEP and the locals are being reminded of THK while also being taught and inspired on how to start permaculture.

**Wisnu Foundation**

In 1993, the Wisnu foundation was created in response to the environment problems in Bali, specifically the waste issues caused by tourism. Today, this foundation is focused on

---

\(^{46}\) literally translated to the three happiness causes, 1. Living harmoniously with god, 2. Living harmoniously with nature, and 3. Living harmoniously with other humans.

\(^{47}\) *Tri Hita Karena*
research, environment and information management of community resources, and community empowerment. From 1993 to 1999, they had a focus on waste management and from this they were able to create a functional system for use by hotels and they were able to create functional recycling programs. Today, they have worked on programs for developing ecological tourism villages for a more sustainable tourism industry.\textsuperscript{48}

In my interview with Odeck Ariawan, who was on the board of the Wisnu Foundation at the age of 24. He told me how they made it economically feasible to dispose of garbage. One of the biggest issues that Odeck expressed that they had was that they knew how to solve the issues they were trying to fix, but they had problems when going into the community and trying to put this change into their hands. Odeck thinks that the issue was also that the community had no reason to trust them. The foundation hadn’t proved that they were creating real change yet. Odeck says that the local Balinese are more worried about how they can make a living and provide for their families. If that means leaving the farming industry to work in a hotel, then that is what they are going to do. The other part of this is that the community doesn’t know what they want. They want the government to fix what they spend privately on and when they are working in the rice fields, they are thinking about surviving and not the environment.

I also posed the question of THK to Odeck as well and his response was that THK is a PR scheme. He says that people just do what they want. He thinks that this stems from when Hinduism in Bali went through ramifications to fit the mold for Pancasila\textsuperscript{49}. “It is non-analytical”, Odeck says. Odeck continued to say that Balinese people don’t live to understand structure, they live by visuals. This makes sense when examining the ways of local people just

\textsuperscript{48} About Us, wisnu.or.id
\textsuperscript{49} The basic ideology or life in Indonesia, translated as Panca-five and Sila- principles. 1. Belief in one god, 2. Just and civilized humanity, 3. Unity for all of Indonesia, 4. Democracy for all, and 5. Social Justice for all
throwing garbage into the streets. In the past all of the waste was organic so throwing it wherever wasn’t a big issue but slowly it started to become more non-organic but people are still throwing it on the ground because that is what has been done for ages.

While I support the issues the Wisnu foundation is trying to fix, some of the resolutions need to be revisited. The separation of recycle and non-recycled goods should be looked at again because while yes it has been put in place, people still don’t understand what is what and where everything should go. I also don’t agree with Odecks view that THK is a PR scheme because IDEP has been using it in all of their projects which have been very successful. I think the scheme happens more when THK is used in the tourism industry. For example, the rice terraces and subak, and the ones in Tegallalang specifically, have been placed on the UNESCO World

Figure 5: Tegallalang Rice Terraces, April 29, 2019, Photo by: Reiley Adelson

Tegallalang Rice terraces located in Tegallalang, Gianyar
Heritage Site\textsuperscript{51} list. This list includes other places in Indonesia including Borobudur Temple in Java\textsuperscript{52}. The reason the subak is on this list is because they say that the system is a manifestation of the THK philosophy. While yes, it definitely can be seen this way, the stamp of a world heritage site on a place also comes with a down side. One of these down sides is the accusation that the UNESCO list is imposing a western vision on countries in the global south, along with this there is also the issue that it is being used to promote tourism or for political and economic reasons. Anthropologist David Berliner says that this comes with a negative impact and states, “One of the unintended contradictory consequences of UNESCO protection is intense tourism development”\textsuperscript{53}. With this comes customs and traditions being exploited and the displacement of local people to make way for hotels, restaurants and villas that serve the rich foreigner. While this is happening though, UNESCO can be commended on its ability to preserve would heritage but on the flip side it shows the imbalance and reflects the economic, social and cultural inequalities of the East and West divide.\textsuperscript{54}

\textbf{Zoning}

Along with working on the board of the Wisnu foundation and using that as a way to solve these issues, Odeck also has ideas of his own that he has been curating for a while. When asked what he would do to fix the issues of big industries building on farm land, he said that the first thing we need to do is fix our zoning. He again brought up the story of Ubud and how the proposed plans didn’t make it through and that is part of the problem of why buildings are being

\begin{footnotesize}
\textsuperscript{51} United National Education, Science and Cultural Organization
\textsuperscript{52} Largest Buddhist Temple on the island of Java, Indonesia
\textsuperscript{53} “The unintended consequences of UNESCO world heritage listing”, theconversation.com
\textsuperscript{54} theconversation.com
\end{footnotesize}
built on these areas of farming and not anywhere else. This issue of zoning also needs to be taken seriously in the government. Odeck says that there is a lot of talk about caring about the environment but no one actually does anything and again because the local community doesn’t know what they want, they won’t question the policies that are being put in place. Although, those who do care are proving it by being out there doing activist work and protests. With this, Odeck has a strong opinion and says that if we want to get something done then, “we need to go for the head of the dragon, not the tail.” Meaning, we need to go straight to those who are making the policies to create significant change and we need to do a better job of making sure that change is carried out by the local people. While protesting does do some things, Odeck says that it is tiring and costs a lot of money to do it all the time. To do things right we need to get younger people to step up and bridge the gap between the government and the local people.55

55 Odeck Ariawan, Personal Communication, April 22, 2019
The Future?

So what does the future have in store for subak, sawah and tourism? This is something that I was very interested in hearing from the different people that I interviewed because all of them come from different backgrounds and have different jobs that are important for the island of Bali.

**IDEP**

For IDEP, they don’t work directly with subak but I was still interested in what their opinions would be. When I asked Edward and his co-worker what they see for the future I added in Odecks opinion that subak has been destroyed to get their response. For Edwards co-worker, he says no, the subak is not destroyed and that is because of its traditions and its history of being resilient. While the Green Revolution may have put a damper on the whole situation rice farmers were able to bring it back. While it is definitely not back to how it was before, with the help of foundations like IDEP and the Wisnu foundation, it will be. Other than just the farming part, subak is more than that, it is a community. Edwards co-worker is a part of a subak even though he doesn’t own any rice fields or land. For him, it is all about the traditions and ceremonies and those are still alive and well.

When we talk about the number of farmers, most of them are quite old, the average age is 40 and up\(^{56}\). So there are not a lot of young people. When Edwards co-worker was in college, he was an agriculture major and that was not very popular because most people were not interested in that subject. But positively, in the last year, the number of agriculture majors is going up. He thinks that this is a sign that younger people are becoming more interested and he is optimistic

---

\(^{56}\) IDEP, personal communication, April 26, 2019
for the farming era in Bali. For Edward, he is optimistic although he says that the situation is becoming even more complex. He says yes, the big hotels are now only purchasing organic foods which benefits organic farmers, but it’s not only about farmers anymore. The future is related to social trends, politics and policies. While the number of students in agriculture is going up, the moment they graduate and move back home they would rather do anything else. There is also the issues of migration from rural areas to urban areas. But still, they remained positive and said maybe there will be a shift to urban agriculture. We ended our conversation by Edward saying, “If there is still a market for agriculture then yes we can say agriculture will still be alive, but in a different way like urban agriculture.”

57 Edward, Personal communication, April 26th, 2019

In the end, there will have to be a good relationship between tourism, which is the market, and agriculture, which is the supplier. But all in all if we want to really discuss the future, its, again, not just about agriculture, it’s about climate change, politics, and the relationship between globals, for example the owners of the large corporate businesses, and the locals.

**Odeck**

When talking with Odeck about the future of subak and sawah he again said that the most important people who need to take action are those in the government. The local governments can’t take any action as long as the major government stays silent on policies. Again the leadership roles need to be taken more seriously and the gap between those who want change and the government needs to be bridged. As for subak, Odeck says that if we want them to be

---

57 Edward, Personal communication, April 26th, 2019
58 Globals are those who see the world as limitless: De Blij, Harm, *The Power of Place: Geography, Destiny, and Globalization's Rough Landscape*, pg 3-30, 2009
59 Locals are the ones who will be most affected by the confines of place: De Blij, Harm, *The Power of Place: Geography, Destiny, and Globalization's Rough Landscape*, pg 3-30, 2009
preserved and for the future to be positive we need to, again, fix our zoning and find places for building, that are not on farm land.\textsuperscript{60}

\textbf{Dede and I Kadek}

For Dede, he is focused on making sure that the rice fields don’t disappear so that the tourists don’t disappear. For the future, since he is currently a student, he would like to see himself get a job in the tourism industry so that he can help spread and teach about Bali’s culture but at the same time help preserve that culture. He says that we are known for our culture and he doesn’t want to change that, but at the same time, there needs to be a way to preserve our environment and keep our rice fields. He thinks that there should be policies put in action that help find better areas to build instead of on rice fields\textsuperscript{61}.

As someone who has been working in the tourism industry for a long time, starting in the hotel business and then recently moving to the family club industry when it opened in December 2018, Kadek sees the future hopefully moving towards an eco-friendlier place. Because of his experience, he knows that the local investors and small business owners are very aware of what’s happening in the environment and he thinks that if they can make even the smallest changes then it will make all of the difference. The people who need the most change though are the big business owners who have many chain hotels or company’s all around. Kadek says that he knows how expensive it can be but it is obviously better in the long run. Overall, Kadek has a positive outlook on the future of tourism and its effect on the environment.

\textsuperscript{60} Odeck Ariawan, Personal Communication, April 22\textsuperscript{nd}, 2019
\textsuperscript{61} Dede, Personal Communication, March 19, 2019
Nyoman and Kadek

For the future of subak for rice farmers Pak Nyoman and Pak Kadek are positive. First they say they really want to maintain these fields so that they don’t turn into a hotel or villa because agriculture is also one of the reforestation movements and gives jobs to farmers and local Balinese. It is also important to them that they keep Bali from going bankrupt so they think that the policies related to apeneleng, apenimpug, and apenyengkar (as far as the eye can see, an object can be thrown, a fence can enclose) should be enforced so that you cannot build villas and resorts within a certain distance of rice fields.
Conclusion

In the final analysis of all of my collected data, we can see that the I had many questions going into this project. At the end, I can say that many of my questions have been answered but maybe not in as much depth as I would have liked to go. With my conversations with IDEP, Kadek, Odeck, Pak Nyoman, Pak Kadek, and Dede, and through all of the readings I have done, we can see how the effects of tourism are having a deep effect on the subaks. While they may have had different perspectives they came together to give me the basics of what I needed to know. In these interviews I learned about the shift of exclusive tourism to mass tourism in Bali and how that has shaped the movement of labor away from agriculture and to the tourism industry. I have also learned about the zoning problems and planning issues that have gone into making Ubud what it is now and how that has brought issues of corporations building wherever without consideration of local people and farm land. From the rice farmers themselves, they taught me more about the subak and how it actually works and how the local subak members benefit from it directly. They also taught me that the gap between who has information and who does not is a lot bigger than I thought. Over all, the negative impacts on subak that result for tourism boil down to issues with water consumption and the building on arable land and that the tourism industry has the pull of a stable salary which has a great appeal to those who need to provide for a family. For the positives, we see that the amount of money Bali makes from tourism is the main income provider for the island, and without it, Bali could suffer from going bankrupt. And tourism, when not exploiting, can preserve the culture that is important in Bali. As tourists, I think that they should be more involved in the environmental issues because many of them are not aware of the effects they are having. Movements towards this can be seen in the new policies like the banning of single use plastic and the taxing of tourists when they violate
some environmental rules. This shows that the future of the environment can be great if people start caring. With organizations and foundations like IDEP and Wisnu, they are helping bring more awareness of the situation to the local people and bringing people back to the farming scene. With this, we can infer that the results that they are having will continue and people will start returning to this type of work. Along with this, the business owners who understand the issues and make more of an effort to not use environmentally harmful materials and the government will help to make more zoning laws so people can’t just build anywhere they want.

I believe that this is a good starting point for further research into this topic. I think in the future, looking into and going into depth on one of these issues would be beneficial. This way, the questions are more to the point and the information is more consolidated to one point.

For more information on this subject and on how you can get involved to help save rice farming, subak, and farming in general in Bali, you can visit the websites of IDEP and the Wisnu Foundation at www.idepfoundation.com and www.wisnu.or.id.
Appendix 1:

Interview with Pak Nyoman and Pak Kadek:

Berapa umurnya?
How old are you?

Nyoman (N)- 48
Kadek (K)- 56

Dari Mana?
Where are you from?

Both- Padang Lagi, the name of this organized subak.

Apa Pekerjaanmu?
What is your job?

N- Petani
Rice farmer

K- Works in the government for special rice field protection

Sudah berapa tahun kamu melakukan pekerjaan ini?
How many years have you done this job?

N- Sudah 1990

Tolong ceritakan tentang sawah dan subak.
Please tell me about sawah and subak.

K- Subak merupakan organisasi sosial yang ada di Bali yang sudah membudaya. Organisasi subak itu ada ketua kelompok tani (disebut Kelian Subak di Bali). Kelian tempek sebagai wakil, dan ada petugas yang mengatur air disebut Petajuh, kemudian ada anggota subak yang disebut Krama Subak.

Subak is social organization which exists in Bali and as one of Balinese culture. The structure of Subak organization is; 1) the Head of the farmer group called as Kelian Subak, 2) The vice called as Kelian Tempek, 3) Petajuh is someone who manage the water, 4) The members of Subak which called as Krama Subak.

N- Setiap bulan rapat membahas tentang dana bantuan yang di dapat dari pemerintah untuk memperbaiki irigasi air menjadi lebih baik.
Every month they do a meeting about the fund that they got from the government which use to improving the irrigation and make it better.

Apa pekerjaan spesifik di subak?
What are the specific jobs in the subak?

Di bali ada 2 jenis pupuk, yaitu Urea dan Ponstrat. Jika sudah 45 hari, petani memberi pupuk lagi. Lalu, jika umur padi sudah 110 hari, petani bisa memotong padi tersebut.

Before the farmer start to plant the paddy, the start cleaning the river to make a good irrigation and there’s preparation to make paddy seed with maximum time around 20 days, then the farmer start plowing. If the seed already 20 days, it means it can be planted. After 15 days planted, the farmers usually clean the grass that grows in the middle of the seed. Then, after 25 days, the farmers will give fertilizer. In Bali there 2 types of fertilizer; Urea and Ponstrat (not sure about the spelling). The farmers will give fertilizer again on the 45 days. And then, if the paddy already 110 days, the farmers could cut it.

Apa saja upacara sawah dan subak?

What are the ceremonies done for sawah and subak?


There are 2 ceremonies. The first ceremony is done before starting plant the seed which called as Nuasen ceremony by looking for a good day/date. During the harvest, there’s a ceremony called Biu Kukung.

Ada pekerjaan untuk perempuan dan laki-laki di sawah?

What are the jobs for women and men in the sawah?

N- In Bali, the work is done by men, the women just help. But mostly they are in the house, cooking.

K- Di bali lebih banyak laki- laki yang kerja disawah, perempuan hanya membantu saja.

Mostly in Bali, man working at the rice field and the woman only giving assistance.

Apa yang pak tahu tentang dampak pariwisata di subak dan sawah

What do you know about the impact of tourism on subak and sawah?

N- Tourists come to Bali to see the rice field and all Balinese people look after rice field because if no rice field then less tourists come to Bali because number one in Bali is rice field, they are very nice. All people like the rice fields.

Apakah menurut pak pariwisata mempunyai dampak negatif atau positif pada pertanian? Kenapa?

Do you think tourism has a negative or positive impact on rice farming? Why?

N- No, all good, No negative. All positive.

N- Sawah adalah pendukung pariwisata, karena banyak turis yang datang ke Bali untuk melihat sawah.

Rice field is tourism support because many tourists come to Bali to see the rice field.

K- Kalau tidak ada turis yang datang ke bali, maka Bali akan bangkrut. Di Bali ada aturan2 pariwisata, dekat pura tidak boleh membangun sekian meter.

If there’s no tourist come to Bali, it will make Bali become bankrupt. In Bali there are some rule for tourism, for example you cannot build hotel or villa within a certain distance.
**Apa manfaat dari subak?**

**What are the benefits of subak?**


*There are many benefits of subak. First, as an organization we can exchange ideas and information with other farmers. Second, this organization makes us easier to get help/fund from the government. Third, build a sense of kinship, because every month we will gather and do a meeting.*

**Apa pendapatmu tentang masa depan sawah dan subak?**

**What is your opinion on the future of sawah and subak?**

K- Pendapat saya selaku petani, sangat ingin mempertahankan sawah ini agar tidak berubah menjadi hotel, atau villa. Karena pertanian ini juga termasuk penghijauan, dan dapat memberi kami pekerjaan sebagai petani.

*My opinion as a farmer is really want to maintain this rice field so that it does not turn into a hotel or villa. Because this agriculture also one of the reforestation movement, and can give us jobs as farmers.*
Bibliography

Primary References

- Dede, Personal Communication, March 19, 2019
- Odeck Ariawan, Personal Communication, April 22, 2019
- I Kadek, Personal Communication, April 24, 2019
- Edward, Personal Communication, April 26, 2019
- Edward’s IDEP co-worker, Personal Communication, April 26, 2019
- I Kadek, Personal Communication, April 28, 2019
- I Nyoman, Personal Communication, April 28, 2019

Secondary References


