How to Make Lombok a Sustainable Destination

Version 2.0 (June 2019)
Dear teacher,

This manual has been customised for you so that you can deliver six modules on environmental sustainability to your students at the Poltekpar Lombok. Except the first and the last modules which focus on introduction and eco-labels respectively- each module encapsulates relevant information about specific environmental issues that are happening in your beloved island. You will notice that there are a wide range of new concepts, so make sure that you fully understand them and start incorporating them when addressing the issue of environmental sustainability. Furthermore, you will also learn good practices from many local/regional case studies.

As you probably know by now, sustainability is very much used by many stakeholders in the tourism industry, but it is a concept that can become quite problematic since it does not mean the same to everybody, so let's jump right in and get started!

First, you will find an introductory module which will provide you with an overall picture of this training and will delve into some key sustainability-related concepts. In Module 2 you will learn about climate change adaptation, Module 3 is about water management, and this is followed by Module 4 which revolves around solid-waste reduction. You might find the last two modules slightly more challenging. Module 5 is about eco-efficiency and Module 6 is entitled eco-labels and certification. At the end you will find a glossary section that you can consult to expand your knowledge.

We really hope that this manual is useful for you and gets you excited about environmental sustainability. Most importantly, remember that sustainability is a journey and therefore it does not happen overnight.

Good luck with the manual and please provide feedback at the end of the training, so we can improve the manual for future generations of Poltekpar Lombok students.

Thank you and all the best,
PRELIMINARY REMARKS

The topics chosen for each module are the result of an exploratory mission followed by a careful assessment taken by a consultant during ten days at the end of February 2019 in Lombok. The initial findings were consulted and validated by the STED team on 5 March. From that moment onwards, the consultant started elaborating the training materials for the teachers, the student workbook, lesson plans as well as this manual.

In an attempt to keep consistency and homogeneity, all six modules follow the same structure. In other words, they all start with the learning objectives specifically for each module, followed by the agenda of items that will be taught, then follows a foreword message to set the stage, then come the chapters and finally, each module ends with a set of questions or practical exercise.

As a GSTC-certified trainer, the consultant wishes to express that the contents included in this manual have been cautiously aligned with GSTC criteria, however it may contain comments and remarks that are the result of his own interpretations and personal background, therefore GSTC cannot be held reliable for any of the consultant’s persona views.

METHODOLOGY

From 1-2 April 2019, the consultant who developed the above-mentioned training materials spent two days conducting an intense ToT to a selected group of 14 Poltekpar Lombok staff1 at the Santika Hotel in Lombok. On 4 and 5 April these teachers were asked to prepare and then deliver a specific module to a reduced class of Poltekpar Lombok students at the premises of the Poltekpar Lombok Campus in Praya, as a pilot. A wide range of teaching skills were assessed by the consultant during their oral presentations and as a result, the consultant provided one-on-one feedback. On 5 April, the teachers took an exam in order to evaluate their knowledge. On 9 April, all the teachers were gathered for a debriefing session and the results of both, the oral and written tests, were disclosed. The initial plan is that these teachers use this manual and the additional supporting material developed by the consultant to start delivering these modules on Environmental Sustainability to Poltekpar Lombok students from the second semester of 2019 onwards.

1 Four were teachers from the Travel Management department, three were teachers from the Food & Beverage Service department, three were teachers from Rooms Division, two were teachers from the Culinary Arts department and last but not least, one was a staff from the quality assurance department and the other one from Community Service department.
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MODULE 1: INTRODUCTION
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**Learning Objectives**

- You will acquire enough basic knowledge on Environmental Sustainability, including GSTC criteria, in order to train Poltekpar Lombok students
- You will be familiar with the main ecological issues in Lombok and will realise why sustainability matters
- You will be able to update and improve these training materials with additional local/regional case studies

**Agenda**

1.1 Key concepts:
   - Sustainability and Environmental Sustainability
   - Sustainable tourism
   - Triple Bottom Line
   - Circular Economy
   - Sustainable Development Goals (SDGs)
1.2 Global Sustainable Tourism Council (GSTC)
   - Mission and GSTC criteria and indicators
1.3 Tourism Matters
1.4 Questions

**Foreword**

“There was a time when the world was big, people were few, and resources were plentiful. We could send our resources “away” as waste, and go dig, cut, fish, or otherwise harvest more. That time is gone.

Today the world is small, people are many, and resources are scarce. This necessitates a very different approach to business. We know that operating in the “take, make, waste” mode no longer works, but market dictates have largely continued to pull us down the same path.2

2 These paragraphs were said by Chris Oestereich, a sustainable business expert specialised in zero waste management.
Now that you have gone through this initial section, it is time to dive into the real contents of the Introduction. So, make sure that you make the lesson fun and interactive, as much as possible. Encourage your students to take notes and to think out of the box. Ask them to come with examples and invite them to make questions. Remember that if you do not know how/what to reply, you do not need to invent the answer. Just tell them that you will do some research and will get back to you later.

**About Sustainability**

There are many ways to start, but perhaps a good way to do so is by asking the students to tell you what they see on the slide for a minute or two. Then you can explain the slide with your own words and provide the translation of sustainability into Bahasa Indonesia (*Berkelanjutan*). You can then continue saying that everybody talks about this concept, not only in tourism, but in many other sectors/industries (buzzword, used/missused, gained momentum). At the same time, it is multi-faceted, problematic, sometimes ambiguous and abstract, and not everyone has the same understanding. Emphasize that sustainability is a long journey/process. In essence, it is a tool for a more holistic and responsible development model. It’s about thinking differently (Taking tourism to another dimension, change of mindset). It cannot be fully understood if we do not acknowledge that we live in ONE PLANET with LIMITED resources. To end this slide, you can mention that sustainability is often associated with terms like ‘green, eco, environmentally friendly, low-impact’ etc.

**Key Definitions**

It is always nice to ask one or two students to read out loud and then, go through the two most widely accepted definitions on Environmental Sustainability and Sustainable Tourism. If the students are not very clear with the first definition you can also try with this one:

**Environmental Sustainability:**

*Using our limited natural resources wisely so that these resources have the time to regenerate and therefore, available in the long-term for next generations.*

**Sustainable Tourism:**

*‘Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities’ United Nations World Tourism Organisation (UNWTO)*

handle. If this helps, although there are some slight nuances, you can inform the students that very often, sustainable is used with or even replaced with the adjective ‘responsible’.
Triple Bottom Line
Making a link with the previous definition of sustainable tourism, ask the students to establish a correlation with the diagram. Then, inform them that this type of tourism looks after social equity, economic prosperity and environmental preservation. It is also referred as 3P: ‘People, Planet and Profit’. You can use the following sentence as an example of how this concept is used: ‘Nowadays shareholders, investors, employees, customers, environmental and ethical groups - and the general public - expect companies to be exemplary across the ‘triple bottom line’ of economic, social and environmental management’.

Then, you can mention to the students that if they plan to work in a hotel one day, what they can do is to integrate responsible/sustainable practices into the operations. In return, they will see how this will add value to the business in many ways. For example, if you get the respect and the admiration of your customers, you will see straight away that you will also attract other investors, your guests will become more loyal, and those who work for you will remain longer. Ultimately, the triple bottom line approach might also help to position a business and get a specific market segment.

Circular Economy
Take a marker and write a long line on the whiteboard and explain that this is an example of what type of economy/production model we have been having until now: Take – Make – Waste – Dispose. Then make a big circle and explain that this is what we should be aiming for, since we live in a world of limited resources. Circular Economy is a regenerative system in which resource input and waste, emission and energy leakage are minimised by slowing, closing, and narrowing energy and material loops. In other words, it’s ensuring that the lifespan of products is maximised and that the use of energy needed to produce these products is kept to minimal levels. An easy example for the students is to apply the Reduce, Reuse and Recycle in their daily lives to contribute to a C.E. We need to stop extracting, stop wasting, optimize what we have already and cycle more and better. Our world economy is only 9.1% circular, leaving a massive ‘Circularity Gap’. More info: https://www.circularity-gap.world/
Ways to Contribute

Explain to the students the following six things that can be done to make C.E. a reality. After the explanation, you can ask them for examples. Follow numbers 1-6. 1) Prioritize regenerative resources: ensure renewable, reusable (like solar energy) non-toxic resources are utilised as materials and energy in an efficient way. 2) Preserve and extend what is already made: maintain, repair and upgrade resources in use to maximize their lifetime and give them a second life. 3) Use waste as a resource: utilize waste streams as a source of secondary resources and recover waste for reuse and recycling. 4) Design for the future (be creative!): Adopt a systemic perspective during the design process, to employ the right materials for appropriate lifetime and extended future use. 5) Incorporate digital technology: track and optimize resource use and strengthen connections between supply-chain actors through digital, online platforms and technologies. 6) Collaborate to create joint value: work together throughout the supply chain, internally within organizations and with the public sector to increase transparency and create shared value.

Sustainable Development Goals (SDGs)

Explain the meaning of the SDGs in a simple and clear way and do not forget to mention that 2017 was the International Year of Sustainable Tourism for Development (inner logo).

World’s citizens, to a greater or lesser extent, have not been doing things very well in the past years and therefore, a number of objectives have been agreed upon between the United Nations’ members to improve things. The UN is playing a key role in this regard and is committed to provide tools and recommendations to meet these objectives. The SDGs were built upon the Millennium Development Goals. They set ambitious targets to halve key global issues in a short time. Two years ago the year of Sustainable Tourism was celebrated, this year we celebrate the Indigenous Languages worldwide.

1- No Poverty; 2-Zero Hunger; 3- Good Health and wellbeing; 4- Quality Education; 5- Gender Equality; 6- Clean Water and Sanitation; 7- Affordable and Clean Energy; 8- Decent Work and Economic Growth; 9- Industry, Innovation and Infrastructure; 10- Reduce Inequalities; 11- Sustainable Cities and Communities; 12- Responsible Production and Consumption; 13- Climate Action; 14- Life Below Water; 15- Life on Land; 16- Peace, Justice and Strong Institutions; 17- Partnerships for the Goals. More info: https://sustainabledevelopment.un.org/?menu=1300
Tourism and the SDGs

You should explain that tourism is a critical enabler, facilitator and supporter of the SDGs.

The tourism sector strategically contributes to Goals 8, 12 and 14 on inclusive and sustainable economic growth, sustainable consumption and production and sustainable use of oceans and marine resources. Specifically, SDG 8 is about promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all; SDG 12 is about ensuring sustainable consumption and production patterns; and SDG 14 is about conserving and making a sustainable use of the oceans, seas and marine resources for sustainable development. At this point, ask your students to come up with examples of how these SDGs can be translated into their real life. More info: http://tourism4sdgs.org/

Hotel Chains and the SDGs

First, you can ask the students if any of them has ever heard the international hotel chain called Hilton (?) Later on, you can explain this diagram which illustrates what Hilton International is planning to achieve by 2030. In short, they are on a mission to cut their environmental footprint in half and double their social impact by 2030. To do this, they are driving change across their operations, supply chain and their communities. You can then continue explaining a couple of clear examples so that the students fully understand: Reducing CO₂ emissions by 61%; Reducing water usage by 50%; Making sure that no guest soap bars end up in landfills etc. At the end, remember to emphasize that these companies do not do these things only because they ‘love’ nature, but also because their reputation grows and it makes business sense (!). More info: https://cr.hilton.com/
Global Sustainable Tourism Council

The teacher asks the students whether any of them has ever seen this logo or heard about this Council before (?) Later on, the teacher asks them to describe the four pictures. After a couple of minutes, the teacher starts explaining some basic characteristics about this Council. GSTC is the leading global authority in setting and managing standards for sustainable travel and tourism. It was born in 2007. It was created as a coalition of 32 partners, three UN entities and the Rainforest Alliance. It is an independent NGO, registered in the US. Over 6,000 inputs from private sector, public sector, Academia and NGOs were analysed before creating the criteria and indicators. Referring to the four pictures of the slide, the teacher can explain that these criteria are classified into four themes, or working areas: A) Effective sustainability management (14 Criteria/43 Indicators; B) Maximizing social and economic benefits for the local community (9 Criteria/21 Indicators); C) Enhancing cultural heritage (6 Criteria/13 Indicators); and D) Reducing negative impacts to the environment (12 Criteria/28 Indicators). More info: https://www.gstcouncil.org/

Types of Criteria

First of all, the teacher explains very briefly what a criterion and an indicator are. Then the teacher explains that two sets of GSTC Criteria have been developed. One Criteria for Industry, which includes Hotels & Tour Operators (created in 2008 and revised twice: 2012 and 2016) and the Criteria for Destinations (created in 2013). There are 42 Industry Criteria (Indicators: 167 Hotels/182 Tour operators); and 41 Destinations Criteria with 105 Indicators in total. The teacher can hold in his/her hand the hard copy of the GSTC criteria so that the students see in the flesh what they really look like and then he says that the criteria are available in 23 different languages, including Bahasa Indonesia. More info: https://www.gstcouncil.org/gstc-criteria/criteria-translations/
Indonesia’s Efforts on Sustainability

The teacher explains that Indonesia has made significant steps towards sustainability in the field of tourism in the past years. It is good that the students learn who the characters on the picture are and what milestones have been achieved until present. In 2015, the Ministry of Tourism approached GSTC seeking guidance on the development of national destination standards, from there Ministry’s destination standards have been formally GSTC-Recognised, GSTC has trained several auditors (ongoing), as well as destination managers in 20 ‘emerging destinations’. In addition, GSTC has supported each other in back-to-back events (2017: Ministry’s two-days Sustainable Tourism conference and Emerging Destinations workshop).

Tourism Matters

The teacher informs the students about the enormous impact that tourism-related activities have at a global scale. The teacher goes through each of the five colourful rectangles and briefly explains the details. It is recommended that pays special attention to the green, blue and orange rectangles. However, despite these impacts, the teacher highlights that -as with many other economic sectors- there are always two sides of the story or in other words, two sides of the coin. More info: [http://media.unwto.org/content/infographics](http://media.unwto.org/content/infographics)

The Other Side of the Coin

The teacher will show two slides to the students so that they understand how equally important is the negative side of tourism. First though, the teacher asks the students whether they know of any possible negative socio-cultural impacts of tourism (both domestic and international) in Lombok and takes note of them, if any. Then depending on the answers of the students, the teacher can list some of the following impacts: 1) Loss of local identity and values through commodification of cultures and unwanted changes to meet tourist demands; 2) Host community may develop negative attitude when tourism is not carefully managed, leading to friction and irritation. Later on, the teacher focuses on the environmental side of these negative effects: 3) Resource-intensive, which can degrade local ecosystems, reduce the environmental
resources in a fragile area, promote illegal hunting; 4) Pollution and excessive (food) waste generation etc.

Questions

The teacher divides the students in 2 groups and provides them with the same two questions: 1) What would you say are the main environmental issues happening in Lombok? and 2) What could be done to prevent some of them?

Students are given 10 minutes to discuss, to take notes and at the end, each group will have only 3 minutes to present the conclusions. Once the time is over the teacher will show them what were the results of the 2016 GIZ/GSTC destination evaluation report.

1. Climate Change Adaptation
2. Access for all
3. Visitor Management
4. Visitor Behaviour
5. Energy Conservation
6. Water Management
7. Water Quality
8. Solid Waste Reduction

The teacher explains that three years ago a German organization called GIZ conducted a destination evaluation report of Lombok. The report identified a number of issues and gave priority to 8 of them (see list). The five issues that are highlighted in red mean that they are related to Environmental Sustainability.

Before the end of the module, the teacher has the option to do a summary/wrap up session with the students (optional).

*** END OF THE INTRODUCTORY MODULE***
MODULE 2: CLIMATE CHANGE ADAPTATION
MODULE 2: CLIMATE CHANGE ADAPTATION

Learning Objectives

• You will learn a few key concepts associated to Climate Change Adaptation, and the GSTC criteria which are related to this topic
• You will get a deeper understanding of the current and future threats that affect -or might affect- Lombok
• You will learn some tips on how to reduce Greenhouse Gas emissions (GHG) for hotels and destinations

Agenda

2.1 Key concepts:
  • Risk, Hazard Mitigation, Resilience and Adaptation
  • IPCC
  • Carbon Footprint

2.2 Main threats for islands like Lombok

2.3 How can you make a difference? Tips for destinations

2.4 Review of GSTC Criteria (A5, D1, D4)

2.5 Questions

Foreword

'We have to remember that we, humans, share the same planet, and there is only ONE, so we should look after it well. The actions of some people in one side of the world do affect the people living in more vulnerable places on another part of the planet. We are interconnected and therefore we should be mindful more than ever about the ‘cause and effect’.

Adverse natural disasters are happening more and more often. The emission of a large amount of Green House Gas emissions into the atmosphere is accelerating global warming. These disasters are having an impact on food security and are a big threat for the lives of millions of people who live in precarious conditions.'
From Risk to Adaptation

The teacher goes slowly through all the shapes/concepts starting from the pink area, yellow area and then moving into the blue areas. This diagram explains the relationships between risk, hazard mitigation, resilience, and adaptation.

The teacher can start explaining that there are three types of hazards (pink section), then mentioning those weather-related disasters that are more common in Lombok (yellow section), and later on, the teacher can summarise in his/her own words the definitions of hazard mitigation, resilience and end with climate change adaptation (blue shapes). To make sure that the students have understood the differences, the teacher can ask one or two of them to find examples related to Lombok.

Source: [https://en.wikipedia.org/wiki/Climate_change_adaptation#/media/File:Figure_1_Relationships_among_Risks,_Resilience,_Hazard_Mitigation,_and_Climate_Change_Adaptation_(27242486244).jpg](https://en.wikipedia.org/wiki/Climate_change_adaptation#/media/File:Figure_1_Relationships_among_Risks,_Resilience,_Hazard_Mitigation,_and_Climate_Change_Adaptation_(27242486244).jpg)

IPCC

The teacher explains that the Intergovernmental Panel on Climate Change (IPCC) was created to provide policymakers with regular scientific assessments on climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation options.

This Panel was created by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) back in 1988. The IPCC has 195 members (countries). Through its assessments, the IPCC determines the state of knowledge on climate change. It identifies where there is agreement in the scientific community on topics related to climate change, and where further research is needed. The reports that the Panel elaborate are objective, have good reputation, have transparency and are a key input into the international negotiations to tackle climate change. More info: [https://www.ipcc.ch/](https://www.ipcc.ch/)
Footprints

The teacher asks the students to reflect upon the things that we, as humans, leave behind, and what is our footprint in the planet, in comparison to many other species that live together with us.

Later on, the teacher introduces the concept of ‘Earth Overshoot Day’, which in essence, is the day whereby humans have used up their allowance of natural resources that Earth can replenish in one year. These resources are specifically, clean water, soil, clean air, carbon sequestration, etc. The teacher can highlight the fact that every year we are ‘going back’ by one day (as per the dates below), and if we do not do anything to stop that, we will soon have a serious issue. For 2016, it was on 3 Aug, for 2017 it was on 2 Aug, for 2018 it was on 1 Aug and for this year…(?) In other words, by Earth Overshoot Day 2019, we will have used more from nature than our Planet can renew in the whole year. More info: https://www.overshootday.org/

Carbon Footprint

The teacher explains that there is another type of footprint that we should be careful with. The teacher defines that carbon footprint is the total emissions caused by an individual, event, organization, or product, expressed as carbon dioxide equivalent. The teacher outlines that the activities related to transportation in tourism play a very important role globally in terms of carbon footprint, especially road and air transport (red columns).

The teacher mentions that carbon dioxide ($\text{CO}_2$) is a colourless gas that is very much present in our atmosphere and explains briefly the biogeochemical cycle (exchange) of carbon thanks to the plants and oceans. Carbon dioxide levels today are higher than at any point in at least the past 800,000 years.

The chart shows the carbon footprint of individual purchased commodities related to tourism in 2013 (metric tons). Bottom-line, the teacher should explain here that some commodities have clearly more impact than others, and could focus perhaps on those related to hospitality/tourism (e.g. accommodation and Food & Beverage serving). The teacher recalls in the end that tourism’s carbon footprint makes up 8% of all global carbon emissions. Source: https://theecologist.org/2018/may/22/hidden-climate-change-impacts-tourism-industry
CO₂ Emissions

The teacher explains that not all the continents send the same amount of CO₂ emissions into the atmosphere, and that there are sectors that emit more CO₂ than others (as per the diagram).

The teacher can say that transportation is a key contributor of GHG emissions at a global level, but if we focus on the Asian continent, we can observe that the sector that emits more CO₂ is the sector related to the electricity and heating, followed by Industry and then transportation. The teacher can ask the students what are the causes behind this distributed (?) and take some notes on the whiteboard. Then the teacher can argue that Asia is clearly the most populated continent and thus, there is a clear correlation with the amount of CO₂ emissions. This graph dates back to 2016. Source: [https://www.iea.org](https://www.iea.org)

Carbon Offseting

The teacher recalls to the students that the very moment we use a mean of transport that functions with fossil fuel, we are making a negative impact to the environment. This gets worse when we take long-haul flights and we stay very few days in a far destination. The teacher asks the students to consider the millions of international tourists that take flights every year.

In order to reduce the negative effects, one can consider offsetting the carbon footprint by either supporting carbon taxes or actively engaging in carbon-trading schemes. Here, the teacher can explain the case of ‘My Climate.org’. The following example can be used - or you can find another one. For instance, almost 5 tons of CO₂ rare produced by one person who takes a return flight from Barcelona to Lombok in economy class. Then the teacher can explain what is the monetary value of these tons and the different compensation projects that can be supported. The teacher explains that once GHG emissions have been calculated and reduced where possible, a number of schemes exist to offset what cannot be reduced, through the purchase of certified emission reductions. The offsets are credits for reductions in greenhouse gas emissions made at another location, such as a wind farm or a clean cook stove project, and each credit represents one ton of emissions avoided or captured. More info: [https://www.myclimate.org/](https://www.myclimate.org/)
Threats

The teacher recalls the first slide of Module 2 ‘From risk to Adaptation’ and asks the students to come up with a few examples of possible threats related to climate change. Then she/he refers to the tragic event of last year by showing a piece of news published on 1 August, 2018. The teacher can ask how many of the students felt the 6.4 magnitude earthquake and how many were affected by it (?). Then, the teacher informs that more than 500 hikers were trapped on the slopes of Mount Rinjani after the earthquake, he mentions that fortunately the number of casualties was below 20, but it could have been much worse. At the end, he emphasizes the importance of risk preparedness.

Erosion and Ocean Level rise

The teacher explains that climate change adaptation is of special importance on coastal areas, where the threat of ocean/sea level rise is a major concern. The impacts of climate change and global warming are seen across the world, not only in one country or continent. The picture that introduces Module 2 is a good example of the risks of living in houses on stilts. The teacher can mention that in some Pacific and Indian Ocean island states there are eco-refugees who are suffering the consequences very seriously.

This picture was taken near Sheraton Hotel viewpoint on February 2019 and shows the erosion of the slope and the rubbish accumulated. If no action is taken here, the road can be affected and this will constitute a major hazard for the people.
The teacher explains what will be the consequences if the average oceans temperature would increase by as little as 0.5°C. There are five sections in this diagram (classified by colours) and clearly the examples that have to be highlighted are the ones of the permafrost (38% worse) and the coral reefs (up to 29% worse), but talking about Lombok, one or two comments regarding fisheries and species loss are also relevant.

What Planet do you want?
The teacher asks the students to carefully think about all the information that they have learnt so far. The teacher recalls that we are all potential changemakers, therefore we should all try to contribute positively to the Planet’s wellbeing. Then, he asks them what kind of world they want to live in and what type of world they want to leave to the future generations (?) Later on, the teacher asks them for tips on how to fight climate change so that Lombok becomes a better place for the locals and for the tourists.

Green Tips for Destinations
The teacher explains that the first step to reduce greenhouse gas emissions is measuring them. In a hotel, this task is clearly easier than in a destination, since you can measure the emissions from energy use, gas, diesel, electricity, but in the case of a destination, this might be more difficult. The following examples illustrate ways for a destination to become ‘greener’. In regards to transportation /mobility solutions: Consider introducing more bicycles or, depending on the specific characteristics of the part of the island, electric vehicles, such as e-bikes; Develop and maintain bike paths in towns and at cultural and natural sites; Promote regular shuttle buses; Improve and incentivize public transport system; Create pedestrian zones.
In addition, more efforts can be done when it comes to reducing Food Waste, but that is a subject that will be addressed on Module 4. If time allows, it would be good to hear other students’ ideas/recommendations.

**GSTC Criteria**

The teacher refreshes the student’s memory about the GSTC criteria from Module 1. Then she/he informs the students that in regards to Climate Change Adaptation we can find at least three criteria that refer directly to this subject, namely A5, D1 and D4. Block A refers to ‘efficient sustainability management’ and block D refers to ‘reducing negative impacts to the environment’.

The teacher asks different students to read the criteria and argues whether they have been met or not in the case of Lombok.

**Questions**

It is time for another group discussion activity. The teacher divides the students in 2 groups and provides them with the same two questions:

1) What challenges does your destination face, and how can the destination become more climate resilient? 2) If your destination currently lacks a system to reduce GHG emissions, what do you think are the necessary steps to get started?

Students are given 10 minutes to discuss, to take notes and at the end, each group will have only 3 minutes to present the conclusions.

Before the end of the module, the teacher has the option to do a summary/wrap up session with the students (optional).

*** END OF MODULE 2 ***
MODULE 3: WATER MANAGEMENT

Learning Objectives

- You will learn a few key terms such as water management, water security, water quality, water pollution and wastewater and you will get familiar with the GSTC related criteria
- You will realise why water is an indispensable and limited resource for human survival, which sometimes confront peoples’ interests
- You will get a deeper understanding of the current and future threats that affect -or might affect- Lombok

Agenda

3.1 Key concepts:
   - Water management, water security, water quality and wastewater

3.2 Main threats for islands like Lombok

3.3 Water use in hotels. Tips to make a difference

3.4 Review of GSTC Criteria (D6, D7, D8, D9)

3.5 Questions

Foreword

‘Water is Life and therefore, we need water to survive.

Did you know that the average adult human body is 60% water? And were you also aware that a human can go for more than three weeks without food, but cannot last more than 4, 5 days without water (liquid)?

If the world’s population continues growing, from current 7.3 to 8.5 billion in 2030 and the same management of this resource continues being the same, there will be a clear competition for this precious resource and the water quality will be also at stake.’

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Water Management

As introduction, the teacher starts explaining that humans are able to do many things with water. We consume a lot of it for our daily consumption, for hygiene reasons, but we also need it for our crops, for producing goods (manufacturing), but also for our enjoyment and for traditions/rituals.

The teacher asks whether everybody is aware about the term ‘Subak’, and then she/he explains that in neighbouring Bali, Subak, is the water management system for paddy fields that represents the main values of Balinese culture, Tri Hita Karana (Three Causes of Happiness and Welfare). The elements consist of Pura or temple (the harmony between people and God), paddy fields and water (the harmony between people and nature), and farmer & village management system (the harmony among people). In this particular module, we will focus on the relationship between people and nature.

Water Usage

The teacher explains that, as with many other resources, we should make a diligent use of water. Fresh water, as the air we breathe, are resources that have to be shared. We all need them for survival and therefore we should be respectful with them so that future generations also enjoy them.

Putting in place a sound water management system is mandatory if we want to ensure that we will not run out of water and that water that we will use will have the adequate quality for consumption. To this end, we should try to monitor the amount of water we consume, and try to reduce consumption as much as possible. Humans play/use water, so do enterprises. Each tourism destination, like Lombok, must have a system to encourage enterprises to measure, monitor as well as reduce water usage.
Water Security

The teacher explains that water doesn’t like to be too long in the same place. Its movement is very much affected by gravity, temperature and other factors. The teacher asks the students in what states we can find water, and later on she/he explains that generally speaking, water has the capacity to transform itself in three different states. Condensation, deposition, and freezing are processes that occur as a result of a decrease in the heat energy of water particles. Hence, producing an ice cube can be seen as a way to store water in a solid way, but we also have to bear in mind that a significant energy input is also needed. Humans have invented the ways to keep water in reservoirs. In Lombok, there are five dams that ensure that an optimal level of water is guaranteed for local consumption throughout the year. If the rainfall has exceeded the capacity of the dam, the water will be utilized to create some energy and then it will be released so that it can flow in the river, water the crops and then end in the ocean - or for other consumption reasons. The teacher emphasizes that water is precious and it is very much needed by a wide range of groups, from animals to plants, including local communities and enterprises. Therefore, the destination must establish a system to monitor its water resources to ensure that the use by enterprises is compatible with the water requirements of the host community.

Water Quality

The teacher reminds the students that we can have a lot of water saved, but this is pointless if the quality of the water does not meet a certain standard for human/animal consumption. Many tourism-congested destinations suffer water scarcity, and besides they may also suffer poor water quality. The effects of having bad water quality has a strong effect on the environment and ultimately on people’s health. When rubbish or toxic substances are disposed in the wrong place, it is very likely that this unwanted matter ends up being disintegrated in small particles, which end up in river flows or water reservoirs. Many animals, in particular those who live in water habitats, end up eating unwanted micro particles, which in turn, through the food
chain, they will finally become part of our diet. The teacher concludes that having adequate water quality levels is crucial for humans, animals and plants’ wellbeing.

**Wastewater**

The teacher informs the students that they are about to watch a one-minute long video. He requests silence and to take notes, if necessary. After watching the video, she/he explains that water can be consumed, transformed and sometimes simply used and then returned to the environment. However, we have to be mindful about the amount of wastewater and what use we make of it. As explained before, when water gets in contact with certain substances, it may very well change its nature/quality. The teacher throws a question in the air: Do you know what a septic tank is? And according to their answers, then she/he explains that septic tanks are a place/container created to contain this wastewater that we generate. Ideally, this water needs to be channeled through the usage of pipes -so that there are no spill offs- into designated areas where the water can be treated and/or recycled for successive use, for example to water the plants in the garden.

Wastewater can be classified into black water (from WC) and gray water (from showers, toilet and kitchen basins). Sometimes, because of the lack of knowledge, lack of will, or simply, due to the lack of means/infrastructure, the procedures on how to discharge and manage this wastewater is not clear and thus, correct measures are not properly enforced. Once more the teacher explains that we all have a role to play. In the first place, homes should be provided with the right facilities to correctly store wastewater so that it doesn’t end up affecting human health and the surrounding natural environment (crops, animals…). In the second place, factories and any other enterprises that use water for their production processes should ensure that they effectively treat and reuse wastewater. As a conclusion, the teacher recalls that the final goal is to try to optimize the use of wastewater and to minimize the adverse effects that this may have to the local population and the environment.

Source: [https://www.youtube.com/watch?v=oH6OW9Y5X40](https://www.youtube.com/watch?v=oH6OW9Y5X40)
Main Threats

The teacher starts asking a question to the students: Do you think that the annual rainfall in Lombok is above or below 1,000mm? The answer is a little bit above 1,000 mm (nearly 90 mm per month). However, this doesn’t mean that there are no water shortages. In fact, according to the Batujai dam keepers, the water levels are decreasing year after year. Indeed, there are probably more than one reason that explains this situation. When septic tanks are not properly managed or when there is a stagnated pond of water with an accumulation of uncontrolled rubbish in non-designated areas, oftentimes this can attract mice, rats, pigeons, street dogs, crows and other animals that are well known for spreading diseases, not to mention the multiplication of mosquitoes and other insects that can bring along malaria, dengue etc.

Water Use in Hotels

The teacher explains that the hotel industry is clearly a ‘thirsty’ sector. In a hotel, there is a close connection between water and electricity consumption (i.e. laundry department, kitchen, AC, minibars – they all use water and electricity simultaneously).

The teacher refers to the pie and highlights the main percentages, namely AC or cooling towers (30%), guestrooms (25%) as well as kitchen and public areas (20%). The teacher clarifies that these are average percentages which apply to upper scale resorts in Asia. The teacher notes that by implementing a few actions in a hotel, there can be a cut between 5-10% on water costs. This makes not only sense for the pocket, but also for the environment, and the students who will end up working in hotels/restaurants or businesses alike can also, within their means and possibilities, push the management to be environmentally friendly and therefore, promote best practices. The following suggestions can be made by future hotel staff:

1) Suggest the General Manager to conduct an energy/water audit (with the assistance of one of the hotel engineers/technicians); 2) Start focusing on those actions that the hotel can do – which entail little effort, but which will bring significant positive impact – and then prioritize them;
3) Recommend to install meters for each department and for specific items of equipment that are high energy and water users;

4) Tell the engineering department to regularly monitor air conditioners, heat pumps, refrigerators, freezers and kitchen cooling equipment to detect and eliminate leakage of ozone; 5) Two low-cost measures are, for example, informing hotel staff that they can start saving water through changes in routine (e.g. reducing washing/rinsing cycles in laundry), and the other measure is to check regularly for leaks from cisterns, taps and pipes and that plugs in basins fit properly; 6) The last recommendation is to raise awareness among the staff on how to minimize water usage (especially housekeeping and kitchen). This can be done with information sessions.

The following section is optional. If the teacher thinks that the students want to know more tips, then she/he can introduce the following ones. Please note that some of these tips may require more budget than the above list:

a) Recycle gray water for gardening, washing floors, flushing toilets, etc; b) Divert and capture rainwater for reuse (garden); c) Install sensors, low-flow and other water-saving fittings in kitchens, guest bathrooms and public washrooms; d) Showerheads have high water flows, wasting both water and energy (restrict the maximum flow output to 10 liters/minute); e) Install aerators in the taps so that you can restrict the output of water to 6 l./min. in guest, public and employee bathrooms and 10 l./min. in all possible bar, kitchen and laundry sinks; f) Toilets: try to go for dual-flush toilets (short flush: up to 3 liters; long flush: up to 6 liters).


Example

The teacher can bring up this example, if she/he thinks that it will help to clarify this section.

In a 100-room hotel, there will be at least, 100 showers. If the hotel management install efficient showerheads (picture) and therefore, restricts the flow to 10 l./min., this will cost around US$ 700 as an investment. However, in less than three months the hotel can get the money back. The hotel saves water and saves money as well!
GSTC Criteria

The teacher refreshes the student’s memory about the GSTC criteria and asks the students whether they remember how many GSTC criteria appeared on the agenda of Module 3, related to water management (?). Then she/he informs the students that in regards to this subject we can find at least four criteria that make direct reference to this subject, namely D6, D7, D8 and D9. The teacher asks different students to read the criteria out loud and clarifies any difficult word or sentence that are unclear. Then she/he checks with the students whether they think that any of these criteria have been met or not in the case of Lombok, and allows for some minutes of debate.

Questions

The teacher can choose between making three groups and ask one of these questions to each group or, depending on the time available, can pick one of these questions and asks to the students directly:

1) Do you think that Lombok has enough water for human/animal consumption? 2) Would you say that, at present, there are issues and disputes with the usage of water? If yes, between whom? 3) What things could you do to improve the water quality in your community?

Before the end of the module, the teacher has the option to do a short summary/wrap up session with the students (optional).

*** END OF MODULE 3 ***
MODULE 4: SOLID WASTE REDUCTION
MODULE 4: SOLID WASTE REDUCTION

**Learning Objectives**

- You will learn how serious the issue of solid waste - particularly single-use plastic and food waste - are for the planet, and for Lombok itself.
- You will learn a few ways on how to reduce solid waste - especially within a hotel/destination context - so that you can also be able to address this global issue.
- You will get familiar with the GSTC criteria that are related.
- You will learn about a few regional case studies which have demonstrated that this issue can be tackled.

**Agenda**

4.1 Solid Waste Management:

- Single-use Plastic and Food Waste

4.2 Ways to Reduce Solid Waste

4.3 Review of GSTC Criteria (D10)

4.4 Regional case studies

- Videos: 'No trash town', 'The Flipflopi' and 'I am not plastic'
- Ecobali and Qlue
- Business case study: Niyama Resort

4.5 Questions

**Foreword**

‘Nobody wants to live in a dirty place, nobody.

Waste can take many shapes and forms and since humans are responsible for much of the waste that is generated in the planet, we all have the moral duty to act responsibly when it comes to consumption and waste.

Generating too much waste is definitely counterproductive. We are not only degrading the environment where we live in, but we are also putting in danger our health and the ones of future generations.’
Link between Plastic and Food

The teacher informs the students that solid waste is a broad term. Therefore, in this specific module, the focus will be only on two specific types of waste and the way these are managed. On the one hand, all the plastic items that we only use once, also called, single-use plastic will be analyzed and, on the other hand, the waste related to food, or food waste.

It is important to say that these two types of waste are generally interlinked. Plastic is still the material most widely used to contain and preserve food and Indonesia knows very well about it. The way this waste is disposed and managed constitutes the core of this module.

Plastic Addiction

The teacher tries to provoke a little bit the students and asks them whether they think that humans are addicted to plastic(?)

Recent scientific research shows that the Earth is struggling to absorb the large amount of plastic that humans have produced in the last decades. Most of the plastic containers and utensils that we use are washed away and end up in the rivers, lakes and ultimately in the sea/oceans. Satellite pictures confirm that there are two huge islands of plastic located in the Pacific Ocean moving constantly due to the currents. This is having a huge impact on the sea life and it is foreseen that this issue will get worse and worse in the coming years. Indonesia is, after China, considered the second most important consumer of single-used plastic on the Planet. Certain plastic items take more time to break down than others. For example, researchers say that single-use plastic glasses take from 20 to 30 years to break down, whereas common plastic bags can last around 1,000 years before they disintegrate. The teacher can refer to the slide and explain that this picture was taken on 8 April this year in Malang (East Java) and the person is holding a 19-year old plastic used to preserve instant noodles. This shows that lots of the plastic used years ago by humans still remain somewhere in the planet, they do not disappear easily. In conclusion, there is a big risk that if we continue with the same consumption patterns and the world’s population continues to grow, we will all face a serious and irreversible waste management issue.
An Inconvenient Truth

The teacher explains that food waste is defined as ‘any food that is not used for its intended purposes of feeding people’.

By looking at the picture, the teacher asks the students what is the percentage of food that is wasted in the world? As a matter of fact, it is estimated that one third of the food produced for feeding people ends up in the bin.

Unfortunately, in today’s world, there is a clear unbalance. On the one hand, it is said that there are around 850M of hungry people, whereas on the other hand, there are 2.2b of overweight people.

From Farm to Fork

The teacher explains that the bad news is not only the food that gets wasted, but also the amount of energy, time and resources that are used to produce food, which in the end is not used to be consumed.

This diagram is commonly known as ‘From Farm to Fork’. It shows the different elements of the value/supply chain that revolve around food production, distribution and consumption. The teacher enquires the students to think about a product that needs to be imported into Lombok. A specific vegetable or fruit which does not grow in the island and which needs to be grown somewhere else, for example, a kiwi. She/he uses this fruit to explain the stages from the moment this fruit is planted and watered, then picked up using human labour, which then needs to be refrigerated in cold chambers so that later on it can be nicely packaged, transported to an airport, flown miles away to another destination, distributed to a number of supermarkets so that customers can purchase that item and then transported home so that you can cook it and/or eat it raw.

Before moving onto the next slide, the teacher throws this remark in the air: During this complex process, please reflect upon the amount of people, energy, time and resources needed.
Plastic, Plastic, Plastic

The teacher explains that the hotel industry is responsible for a large volume of single-use plastic items that are catered for their customers.

As illustrated here, the Food and Beverage department is just one of the areas where single-use plastic items are given away. The bathroom amenities distributed by the Housekeeping department also constitute a serious burden. In this particular industry, the presentation of items is important, but quite often, the management does not think about more environmentally-friendly ways to preserve and display food. The teacher emphasizes here the importance of being creative.

Two additional aspects to bear in mind when it comes to waste are: 1) The conditions in which items are stored. Certain food is more delicate than other. If the storage is done in the wrong place or using the wrong temperature, then the food might get spoiled or rotten, which will have to be thrown away; 2) The other aspect is about the waste that is generated during the food preparation process. For example, when an inexperienced commis has not the right skills to peel a fruit, this may lead to throwing away parts of the fruit, than in reality, could have been perfectly used for consumption.

Time to Breakdown

The teacher picks two students and asks them the following questions: By looking at the screen, can you find what are the plastic items used in a hotel that take the least and the most time to break down in nature?

After looking at the lifespan of different items (see the items circled in red), the teacher asks to one of her/his students: Do you feel particularly surprised by any of them?

To finish this slide, the teacher picks up a student and asks him to sincerely reply to this question: What is the first feeling that come straight away after learning that some items will take more than a millennium to break down/disintegrate?
Bye Bye Straws!

The teacher outlines that according to the previous image, plastic straws and stirrers can have a lifespan of roughly 200 years.

In an attempt to reduce plastic waste, many hotels are joining initiatives in order to get rid of straws, like this one in Mataram. Many establishments in Kuta (Mandalika beach) are also using bamboo straws instead of plastic straws.

The teacher asks the questions after seeing this initiative, whether they can think of anything in their daily lives which could contribute to this cause and ask them to share it with the rest of the classmates. Hopefully, plastic straws as well as water bottles and other single-use plastic items will be part of the past soon!

Act Wisely

The teacher explains that when it comes to food waste, it is crucial that the hotel or restaurant staff that is in charge of making the food order should have a very good understanding of the current restaurant(s) outlet needs and future events (forecast).

This inverted pyramid shows the best and the worst options that you have to deal with food waste. The teacher explains these five actions from the top to the bottom:

1) The most encouraging thing to do is to clearly reduce the volume of surplus food generated. Reduce is key and re-use and recycle come later; 2) As a second best option, you can donate extra food to food banks, soup kitchens and shelters. I am sure that you can check around your community/neighborhood and you will get some good contacts; 3) As a third best option, you are encouraged to divert food scraps to animal feed. You can consider any chicken or fish farms not too far from your home/business. (Remember that steps 2 and 3 require following strict health and safety control measures, so that there are no surprises later on), 4) If any of the previous three measures are not convenient for you, then you can consider providing waste oils for rendering and fuel conversion and food scraps for digestion to recover energy, this is what is summarised as ‘transform’ in the diagram; 5) Last, if you run out of choices, then make sure that you discard your food waste in a landfill. This should be your last resort to disposal.
Clean Plate Competition

An innovative, fun and easy-to-do activity that you can suggest if you ever work in a hotel/restaurant/hospital or any other enterprise, is to organise a ‘clean plate competition’. This activity targets the staff with whom you work, but some hotels and businesses really committed with this endeavor, also kindly request their customers to be very responsible when picking food from the buffet or ordering food.

As a golden rule, the teacher reminds the students not to order or pick more food than they can eat. At the end, the teacher tells the students to think out of the box and to think about any other similar competition that they could organize (?)

GSTC Criteria

As with modules 2 and 3, the teacher refreshes the student’s memory about the GSTC criteria. Then she/he informs the students that in regards to solid waste prevention we can find criterion D10. The teacher asks one students to read the criterion out loud and double checks that it is understood by the entire class. Then, she/he enquires whether they think that Lombok can tick this criterion off the list or not. She/he opens the floor for a few minutes of discussion.
Regional Case Studies (3 videos)

The teacher explains that six case studies have been selected to better show the student what actions have been taken by other countries and what impacts have these case studies have on the environment. Three of them have a video and the other three do not. The video links can be found in the Power Point Presentation and it is important that they are prepared before Module 4 starts (audio, image...). The first one is about 100% organic bags made from cassava in Bali, the second one is about a zero waste village in Japan and the third one is about a boat made of recycled flip flops in Kenya. The teacher separates the class in three groups and asks each group to explain the impact of the measure shown in the video.

ecoBali

The teacher explains that ecoBali, for instance, was established in 2006 in response to the urgency of waste management problems in the island of Bali. The following are some key milestones that this organization has achieved until now: a) Up to 70-80% waste reduction through recycling and composting; b) 5,000+ tons of waste collected and processed, reducing its impact on the environment; c) 300+ education sessions in schools for more than 15,000 students and 1,000 teachers; d) 2,500+ eco training sessions to households and businesses. At the end the teacher asks the students what Poltekpar Lombok can do in this regard? More info: http://eco-bali.com/
Qlue, the App that helps

The teacher brings up another case study, but this time is a mobile phone application that is being used in places like Jakarta and Manado.

Qlue is a social reporting app that lets its citizens to connect with the government officials in real-time and gives the government the ability to monitor issues, nuisances regarding trash, traffic congestion and other possible hazards that can put the safety of the citizens at stake. More info: https://qlue.co.id/?lang=en

Niyama Resort

This island resort located in the Maldives set up eight food waste recording points across two canteens and six restaurant outlets. After a year, the resort reduced 78 tons of edible waste and this represented a saving of USD 151,168. In the case of the Maldives, where almost the totality of the goods/commodities have to be imported from far away locations by boat/air, this is very important since the island state is reducing its ecological footprint. More info: https://www.lightblueconsulting.com/

Questions

The teacher can choose between making two groups and ask one of these questions to each group or, depending on the time available, can pick one of these questions and asks to the students directly: 1) Do you think your island and its inhabitants are doing enough to tackle this issue? 2) What cost-effective raising awareness activities could be done in order to get the buy in from Lombok inhabitants, including Poltekpar Lombok students and management? Before the end of the module, the teacher has the option to do a short summary/wrap up session with the students (optional).

*** END OF MODULE 4 ***
MODULE 5: ECO-EFFICIENCY
MODULE 5: ECO-EFFICIENCY

Learning Objectives

• You will understand the concept of green growth and eco-efficiency and will be familiar with the GSTC criteria that are related

• You will learn the difference between green/renewable energy and fossil fuels

• You will see what actions can be taken in a hotel/destination in order to become more eco-efficient

Agenda

5.1 ‘Grow now, clean up later…’

5.2 Defining Eco-efficiency and Green Growth Economy

5.3. Types of Energy Sources

5.4 Review of GSTC Criteria (D5)

5.5 Bringing Eco-efficiency into a Hotel / Destination

5.6 Practical Exercise

Foreword

‘In essence, all revolves around the same thing: we are trying to live better, making sure that we don’t overuse the existing limited resources that we have been given, and ultimately, that we leave this Planet in a better shape than we found it for our children and for our children’s children.

Unfortunately, the way things are evolving in the planet are not letting us achieve this goal. For this reason, we must be mindful and before it is too late, we should analyze the real impact of our actions. In regards to energy conservation, and the use of natural resources, we should do our best to use the strictly necessary and think more often about others, and those who still need to come.’
Grow now, clean up later

The teacher warns the students that the first two slides of Module 5 are meant to be quite self-critical and thought-provoking.

The teacher explains that tourism-related activities are generally quite energy, labour and water-intensive (from transportation, accommodation to leisure). If we focus on global international arrivals, it has been confirmed that the number of people crossing international borders in 2018 reached 1.4b, according to the UNWTO. Consequently, this figure means a significant increase in the use of resources, compared to the previous year, and the tendency is that this will keep on growing in the years to come. Given this scenario, we should seriously look at the environmental footprint that tourists (both domestic and international) contribute to, and most importantly, we should all make sure that we minimize the negative impacts. How, and most importantly, from where we extract the energy to cater for tourists -and no tourists- is of paramount importance.

After these insights, the teacher picks two volunteers and asks these questions to them and hear their reactions:

1) Do you think that when we grow, we then buy and try to accumulate more? Why is that?
2) Do you think that humans have limits? Do we understand what ‘self-contentment’ is?

After setting the stage, the teacher goes to the next slide and explains that it should not be about ‘I have more means, therefore I can use more resources, pollute more and care less about the environment’, rather it should be more about ‘if I have more means, I am in the position of giving back more, of making a positive impact, of helping others and ultimately helping to improve the current situation of my community, area and the world. It is a change of mind-set.

Humans have to bear in mind how important it is to consume responsibly (SDG 12), to making a compromise, to be careful with the limited resources we have available and not to take things for granted. We should never forget that the only way to go is to leave this world in a better shape than we found it.

The teacher picks three volunteers and asks these sensitive questions to them and hear their reactions:

1) Is it possible that when we have more we tend to think less about the environment and the others? Do we become cleaner, dirtier? (or more selfish);
2) Having more, consuming more, makes us happier? Are we trying to find happiness in material things?;
3) Do you think that this situation is something that can be sustained in the long run or we will pay the consequences soon?
The concept of eco-efficiency is not new. It can be traced back to 1970s as the concept of ‘environmental efficiency’. Eco-efficiency has been proposed as one of the main tools to promote a transformation from unsustainable development to one of sustainable development. It is based on the concept of creating goods and services while using fewer resources and creating less waste and pollution. After providing these details, the teacher points out at the formula and clarifies that eco-efficiency is measured as the ratio between the value of what has been produced (e.g. GDP) and the environment impacts of the product or service (e.g. CO₂ emissions). Eco-efficiency was endorsed as a new business concept and means for companies to implement Agenda 21 in the private sector.

In conclusion, the term has become synonymous with a management philosophy geared toward sustainability combining ecological and economic efficiency. More info about: https://sustainabledevelopment.un.org/outcomedocuments/agenda21

Green Growth

The teacher explains that green growth is what can be achieved as a result of applying eco-efficiency in our ways of producing goods and services. It is a concept very much related to circular economy (refer to Module 1).

In simple terms, green growth is the means by which the current economy can make the transition to a sustainable economy while reducing pollution and greenhouse gas emissions, minimizing waste and inefficient use of natural resources, maintaining biodiversity, and strengthening energy security. In other words, it’s about growing, but making sure that the growth is sustained in the long run and does not compromise the availability and quality of resources in the mid/long-run.

We have to be aware that some people might use the term ‘green’ to make it sound nice or better, but in reality, they are doing things the same way as before… (cosmetic change/greenwashing).
Overlaps

The teacher explains that there are overlaps between the terms Green Growth and Sustainable Development, so this slide aims at providing some further light to the student in this regard.

As depicted in the diagram, the teacher can first read the five elements that constitute the main features of green growth (yellow circle) and then do the same with the blue circle (sustainable development). At the end, she/he can highlight that the two main overlaps between these concepts are about environmental quality of life and the natural capital.

Types of Energy Sources

The teacher explains that, in general terms, there are 12 types of energy sources. These can be classified in different ways, from conventional to renewable to Green (refer to the diagram).

The conventional power ones are the least beneficial, whereas the renewable and green power ones are the more and most beneficial, respectively. The teacher slowly goes through each symbol and checks that the students understand the different types. Perhaps, the students will be less familiar with the terms of biomass and biogas. Biomass is plant or animal material used for energy production, heat production, or in various industrial processes as raw material for a range of products. Biogas refers to a mixture of different gases produced by the breakdown of organic matter in the absence of oxygen. Biogas can be produced from raw materials such as agricultural waste, manure, sewage or food waste.

At the end of this explanation, the teacher asks a ‘brave’ student if she/he can guess what are the main types of energy sources used in Indonesia. The answer can be found in the next slide.

Source: [https://www.epa.gov/greenpower/what-green-power](https://www.epa.gov/greenpower/what-green-power)
Speaking of Indonesia

The teacher explains that this pie shows Indonesia’s total primary energy consumption in 2013 and then asks the students whether they were expecting something different or these results (?)

Source: Indonesia’s Ministry of Energy and Mineral Resources.

https://www.esdm.go.id/assets/media/content/content-handbook-of-energy-economic-statistics-of-indonesia-2017-.pdf

Renewable vs. Non-renewable

Here two slides have been assembled. The teacher draws the students’ attention to the fact that 78% of the energy consumed in Indonesia back in 2013 came from oil, coal and natural gas which are conventional power sources and not renewable.

The teacher asks to the students, is this the way to go?

The teacher explains that the remaining 22% of the energy consumed in Indonesia came from renewable/green energy sources.

On the second slide, which focuses on renewable energy and green projects that are already happening in the country, the teacher makes some comments on the wind energy project located on South Sulawesi. In this part of the island there is a 60MW wind farm which is seen as a key step towards helping the country achieve its ambitious target to increase renewable energy generation to 33% by 2025. The other example - related to solar energy, which in Indonesia are more popular than wind energy projects- the teacher can mention the pioneering work at Tanjung Puting National Park or the ‘Rimba – orangutan ecolodges Indonesia’ example. At the Kelimutu Ecolodge, a Swedish/Indonesian government carbon footprint study showed that this lodge had a 30 times lower carbon footprint than the average Indonesian city hotel.
GSTC Criteria

The teacher refreshes the student’s memory about the GSTC criteria from the previous modules. Then she/he informs the students that in regards to Eco-efficiency we can find criteria D5, which focuses on Energy Conservation. As previously, the teacher asks different students their opinion on whether Lombok has achieved or not this specific criterion.

Towards an Eco-efficient Hotel

The teacher explains that this picture provides ten recommendations on how to make the hotel operations greener and thus, more sustainable.

Following the order (from 1-10), the teacher asks ten different students to read one recommendation each and double checks that everybody in the classroom has the same understanding.

At the end, the teacher asks the students whether they have any additional recommendations/ideas (?)

Good Practices for Destinations

In this occasion, the teacher will go through three slides which showcase different actions undertaken by tourism destinations and enterprises in their quest for sustainability.

The teacher starts explaining a good practice at Novotel Lombok where they have built some large displays regarding the plants of their gardens. Apart from providing information about the local vegetation to the customers, they make sure their gardens are covered with indigenous species that easily adapt to the environment, that are highly resilient and most importantly, that do not require too much water for its survival. The other picture is a sticker that is used at STED offices to raise awareness about the importance of saving energy.
In regards to ‘Refill My Bottle’ initiative, the teacher explains that in certain locations spread across Gili Trawangan (e.g. shops, supermarkets, diving centers) you can find water stations so that you can refill your own bottle/container with drinking water. This service is not free though, you will be asked to pay about half the amount of a new plastic water bottle, so in the end, you are not only reducing plastic consumption, but you are also saving money.

The teacher explains that another way of making the destination more eco-efficient is about teaching this important topic to the visitors. In other Asian countries, for instance, they have published little booklets with the title ‘Do’s and Don’ts for tourists’, which basically give recommendations of correct/accepted behaviors to guests. On this picture, the students can see two specific examples in regards to the efficient use of resources, namely the reduction of waste and the correct use of water. At the end of the slide, the teacher enquires to the students whether this is something that it could also be done in Lombok (?)

Practical Exercise

The teacher shows two different slides to the students, one is Picture 1 and the other one, is Picture 2. Two very different buildings are portrayed, with different dimensions and purposes.

Recalling all the things the students have learned in this module, the teacher divides the class in two groups and asks one group to identify the positive and the negative features of Picture 1 -in regards to eco-efficiency- and the second group will do the same for the Picture 2. After 5 minutes of discussion, a representative for each group will have to briefly explain the main conclusions to the other group and vice versa.

Before the end of the module, the teacher has the option to do a short summary/wrap up session with the students (optional).

*** END OF MODULE 5 ***
MODULE 6: ECO-LABELS & CERTIFICATION
MODULE 6: ECO-LABELS & CERTIFICATION

Learning Objectives

• You will understand the concept of eco-label(-ing) and you will be able to distinguish between accreditation, certification and recognition.

• You will have some basic knowledge on the work done by GSCT and other Certification bodies.

• You will know what the main labels in the tourism / leisure industry are.

Agenda

6.1 Key concepts:

• Eco-labelling

• Differences between accreditation, certification and recognition + video

6.2 Many labels much confusion

• Accreditation Bodies

• Certification Bodies

• The Pledge (Food Waste certification)

6.3 GSTC criteria: the Framework

• Why use the GSTC criteria?

Foreword

‘How can I be 100% sure that the product or service that I am consuming has followed a rigorous process to comply with certain rules or standards? A straight forward answer is checking if that product or service has a little label that certifies what I am looking for. However, you must know that not only products and services are certified, destinations can also be.

Labels have mushroomed in the last decade and nowadays there is a wide range of labels in the market, which at the same time create much confusion. Increasingly though, customers pay attention to these things when purchasing.’
Eco-labelling

The teacher explains that eco-labelling is a voluntary method of environmental performance certification that is practised around the world. An eco-label identifies products or services proven environmentally preferable overall, within a specific product or service category.

It is very important to bear in mind that, in contrast to ‘green’ symbols, or claim statements developed by manufacturers and service providers, the most credible labels are awarded by an impartial third party for specific products or services that have been independently determined to meet transparent environmental criteria.

List of all eco-labels on tourism: [http://www.ecolabelindex.com/ecolabels/?st=category,tourism](http://www.ecolabelindex.com/ecolabels/?st=category,tourism)

Differences between... (+ video)

The teacher explains that, as public concern grows about the harmful effects and the positive impacts of travel and tourism, certification provides a credible solution to complex environmental and social issues.

Many people do not use the following three terms in the correct way. Some people even use them interchangeably, but in the field of certification schemes, it is primordial that you know the different nuances. A) Certification: a third-party assessment of a tourism enterprise or destination to a standard. B) Accreditation: an intensive verification of a process of certification. C) Recognition: verification by an organisation that the set of standards used by Certification Bodies comply with another organisation’s criteria.

Video: [https://www.gstcouncil.org/certification/accreditation-certification-recognition/](https://www.gstcouncil.org/certification/accreditation-certification-recognition/)
Many labels, much confusion

The teacher explains that many have created standards and certification schemes to give visibility to those that follow sustainability practices in the travel and tourism field. Then, the teacher asks the students whether anybody has a rough idea about how many certification schemes exist in the market nowadays? and whether they recognize any of the labels on the slide...

The answer is that there are currently more than 300 sustainability certification schemes globally – green hotel, eco certified, bio hotels, green star, green seal, green mark, and more. In front of such a wide choice, it is understandable that many people do feel a little bit lost...

Some of these labels focus on specific topics. For instance, some of them are specialised in cultural heritage, some others in nature-based tourism and some others in animal protection, to name but a few...

As explained before, a growing number of people do specifically look for these ‘stamps’ before they make a decision on what to buy...

Accreditation Bodies

The teacher explains that the accreditation bodies, such as GSTC, can be considered as the ‘experts’, or those who set the rules in a specific field. In the case of travel and tourism, GSTC is clearly the Council *par excellence*. In regards to ocean/sea-related matters, the reference organization that students should recall is Marine Stewardship Council (MSC). One of this Council’s mission is to end overfishing. As repeated several times, we have to ensure future generations can enjoy the existing planet resources, and fish is one of them. To this end, it is wise that when we buy fish products, these should be certified with the blue fish label.

Another example is the one of the Forestry Stewardship Council (FSC): This logo is used to indicate that products are certified under the FSC system. When you see the FSC logo on a label, you can buy forest products with confidence that you are helping to ensure forests are alive for generations to come.
Certification Bodies

The teacher shows six different types of GSTC Certification bodies. ControlUnion (far left), Green Destinations and Travelife’s head office are located in The Netherlands, whereas Earthcheck and Ecotourism Australia’s offices are both in Queensland (Australia). Last but not least, Rainforest Alliance is in New York (USA). As we have seen before, each one of them have some particularities and slightly different approaches. Thus, the best thing is to check a few things about these Certification bodies on the internet (see links below).

The teacher should clarify from the very beginning that GSTC does NOT certify anything. GSTC provides accreditation to Certification Bodies, and it is precisely these bodies the ones who in the end assess a destination, a tour operator or a hotel so that they can put their label. More info:

https://www.petersoncontrolunion.com/en
https://greendestinations.org/
https://earthcheck.org/
https://www.rainforest-alliance.org/

The Pledge on Food Waste

This label is a third-party audited certification designed to reduce food waste, foster collaboration with solution providers and get restaurants’ efforts recognised.

At present there are 95 criteria (78 compulsory + 17 bonus). There is a very small number of restaurateurs who have embarked on this new adventure to obtain this Certification in the world, but those who have succeeded, have managed to obtain a 20% reduction on food waste and the investment payback materialised in very few months. There are four categories, depending on the criteria met by the restaurant: Bronze (74%), Silver (86%), Gold (95%) and All Star (100%).

More info: www.thepledgeonfoodwaste.org
GSTC Criteria: The Framework

The teacher explains that GSTC’s mission is to encourage tourism destinations and industry stakeholders to do the right thing for sustainability’s sake. This is why GSTC has developed standards for destinations and industry stakeholders that are the guiding principles and minimum requirements that any tourism business or destination should aspire to reach in order to protect and sustain the world’s natural and cultural resources while ensuring tourism meets its potential as a tool for conservation and poverty alleviation. Cultural resources can be understood here, both as tangible and intangible, like for example the Ogoh-Ogoh Festival.

The GSTC Criteria provide the framework, not the solution. The Criteria indicate what should be done—not how to do it or whether the goal has been achieved.

Why use the GSTC Criteria?

In this last slide, the teacher explains five reasons that endorse the usage of the GSTC criteria. These are the following: 1) The Criteria are suitable for all types of countries. They are not a set of standards for developed countries or for academia only. It’s suitable for all types of countries, big countries like China, and small countries like the Seychelles or developing countries like Myanmar; 2) The Criteria are good for small businesses such as ecolodges or small guesthouses, as well the large companies, including the largest tourism operator in the world – TUI; 3) The Criteria are suitable for enterprises/destinations located in urban, rural, and natural area; 4) When elaborating the Criteria a wide range of stakeholders where considered, including traditional communities; and 5) By using the Criteria you/we are avoiding greenwashing (refer to the photo).

Before the end of the module, the teacher has the option to do a short summary/wrap up session with the students (optional).
# GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adverse</td>
<td>Hostile, rough, difficult</td>
</tr>
<tr>
<td>Buy in</td>
<td>Get the confirmation/acceptance</td>
</tr>
<tr>
<td>Carrying capacity</td>
<td>When the maximum capacity is reached</td>
</tr>
<tr>
<td>Changemaker</td>
<td>A person who has the power/capacity to make a meaningful change</td>
</tr>
<tr>
<td>Commodification of Culture</td>
<td>When a price tag is put on culture and later on, sold as a commodity</td>
</tr>
<tr>
<td>Dam</td>
<td>A man-made construction that keeps fresh water contained</td>
</tr>
<tr>
<td>Dual-flush toilet</td>
<td>A type of toilet that has two functions for discharging water</td>
</tr>
<tr>
<td>Eco refugees</td>
<td>Refugees that are forced to escape due to environmental problems</td>
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<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>EM</td>
<td>Efficient Microorganisms</td>
</tr>
<tr>
<td>Enabler</td>
<td>Facilitator</td>
</tr>
<tr>
<td>Eye-opener</td>
<td>Something that has the capacity to make you reflect upon/think</td>
</tr>
<tr>
<td>Facelift</td>
<td>Makeover, restoration, refurbishment</td>
</tr>
<tr>
<td>Flash flood</td>
<td>A dangerous large volume of water as a result of heavy rainfall</td>
</tr>
<tr>
<td>Food chain</td>
<td>Set of processes involved in the production and consumption of food</td>
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<tr>
<td>Fossil fuel</td>
<td>Combustible organic material derived from the remains of former life</td>
</tr>
<tr>
<td>Global Warming</td>
<td>The heating process that the Planet is currently going through</td>
</tr>
<tr>
<td>Greenhouse gas (GHG)</td>
<td>A group of gases that warm up the air of the atmosphere</td>
</tr>
<tr>
<td>Greenwashing</td>
<td>Making a false claim with a topic related to the environment</td>
</tr>
<tr>
<td>Holistic</td>
<td>Complete, whole, all-inclusive</td>
</tr>
<tr>
<td>Indispensable</td>
<td>Necessary, that you cannot dispense with</td>
</tr>
<tr>
<td>Mushromming</td>
<td>Something that multiplies very fast and appears everywhere</td>
</tr>
<tr>
<td>Offseting</td>
<td>Balancing, compensating</td>
</tr>
<tr>
<td>Paramount (importance)</td>
<td>Of great or fundamental significance/meaning</td>
</tr>
<tr>
<td>Precarious (conditions)</td>
<td>Delicate, fragile circumstances/settings</td>
</tr>
<tr>
<td>Rainfall</td>
<td>Amount of rain gathered due to the rain in a particular place</td>
</tr>
<tr>
<td>Resilience</td>
<td>The capacity to recover quickly from difficulties, toughness</td>
</tr>
<tr>
<td>Rigorous</td>
<td>Extremely thorough, exhaustive, or accurate.</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>Scarce</td>
<td>Insufficient for the demand</td>
</tr>
<tr>
<td>Self-contentment</td>
<td>Self-satisfaction, complacency</td>
</tr>
<tr>
<td>Self-critical</td>
<td>Being critical of oneself, one's abilities or one's actions</td>
</tr>
<tr>
<td>Sewage</td>
<td>Wastewater and excrement conveyed in sewers</td>
</tr>
<tr>
<td>Stagnated</td>
<td>Inactive, something that ceases to flow or move</td>
</tr>
<tr>
<td>Supply chain</td>
<td>Set of processes involved in the production/distribution of a good</td>
</tr>
<tr>
<td>Take things for granted</td>
<td>To underestimate the value of something</td>
</tr>
<tr>
<td>Third party</td>
<td>Relating to a person/group besides the two primarily involved</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Thought-provoking</td>
<td>Making people think seriously about a particular subject or issue</td>
</tr>
<tr>
<td>Threat</td>
<td>A risk, danger, menace, hazard…</td>
</tr>
<tr>
<td>Urban farming</td>
<td>Cultivating, processing and distributing food in or around urban areas</td>
</tr>
<tr>
<td>Vertical garden</td>
<td>A garden that grows upward (vertically) using a trellis or other support</td>
</tr>
<tr>
<td>Vulnerable</td>
<td>Weak, exposed, easy to manipulate</td>
</tr>
<tr>
<td>Well</td>
<td>A man-made construction built underground to get/store fresh water</td>
</tr>
<tr>
<td>Win-win (situation)</td>
<td>A situation that will end well for everyone involved in it</td>
</tr>
</tbody>
</table>

REFERENCES
In order to produce these training materials I have consulted a wide range of sources, mostly online. To this end, I have made sure that all internet links used have been added, when appropriate, to identify the source of information. I have also made use of reports, presentations and other manuals that I have been collecting for the past years in the field of sustainability. I can ensure that the wording on these materials are mine and when I have borrowed other peoples’ comments/ideas or insights, I have duly acknowledged or referenced them. Most of the pictures, illustrations and graphs used have been carefully selected respecting authors’ copyrights.

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