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Abbreviations

B&Bs	Bed and breakfast places
BPS	Badan Pusat Statistik Kabupaten Manggarai Barat
GRDP	Gross Regional Domestic Product
MSE	Micro and small enterprises
PLN	Perusahaan Listrik Negara
VAT	Value added tax
WWF	World Wildlife Fund for Nature

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Executive Summary

Like so many other places before it, Labuan Bajo on the Indonesian island of Flores is undergoing the metamorphosis from a quiet harbour and fishing town to a bustling tourism destination. Vastly growing numbers of tourists travel to Labuan Bajo in order to hop on a boat and take a trip to Komodo National Park. Indonesia's central government has recognised the potential of the destination and is determined to boost its development. It wants "10 new Balis" to rise until 2020 and Labuan Bajo is supposed to be one of them. To reach this goal visitor numbers are targeted to grow to 500,000, which is a fivefold increase within four years. The intense plan of the central government is based on a common conception of tourism as a driver for development and poverty reduction. However, experience over decades of tourism growth all over the world has proven that the expected 'trickle-down-effect' does not actualise. Undeniably tourism development is a double-edged sword. This impact assessment therefore aims to put the governmental development plans for Labuan Bajo in perspective by describing the current state of development and emerging trends as well as existing benefits and pitfalls along the triple bottom line of sustainability.

Labuan Bajo is at a tipping point. Judging by the profitability of businesses and mostly relaxed competitive environment the industry has been on an economically sustainable growth path until now. There clearly are economic benefits being created, in which the local population is partaking on more than just one level. Locals are among the business man, the majority of jobs goes to people from Flores, and local entrepreneurs find income opportunities in MSE and the informal sector. However, linkages to other economic sectors, such as agriculture are weak and present a foregone opportunity to create and spread income opportunities further. The existing benefits are very appreciated by the local population and result in high tourism acceptance among the people.

However, there are also negative trends. The promising future of Labuan Bajo attracts growing numbers of investors and results in land sell-out, rising prices for land and skyrocketing rent prices. Due to the low skill level and high competition among the local labour force the industry shows a very low wage level. The income is enough to live, but not enough to accumulate wealth. The dominance of small and medium sized businesses creates a diverse business environment on the one hand. On the other hand it comes along with a high degree of non-compliance with Indonesian labour regulations. The staff is in many cases dependent on employers' goodwill, which is not sufficient to guarantee decent working conditions and social security. Beyond that, negative environmental impacts are clearly the downside of the economic benefits. Tourism in Labuan Bajo contributes to water shortage, land conversion, greenhouse gas emissions, waste and sewage. These are all issues which are in unfavourable condition, need to be addressed and cannot be outbalanced by the environmental protection achieved in Komodo National Park.

Two clear bottlenecks challenge a beneficial management of the aforementioned negative impacts both in the employment as well as environmental context. First, the local government needs substantially more support, capacity building and resources to study and monitor current developments as well as develop and implement suitable measures to improve the status quo. Right now the local authorities are reactive rather than proactive and not able to keep up with the rapid development. Second, the tourism businesses of Labuan Bajo show only a small positive impact besides their immediate presence, i.e. jobs and tax payments. Wages are barely higher than the minimum wage and in many cases only increase in connection with living wage regulations. Still not all employees are registered with social security. There are very little efforts to formally train the work force, build purchasing relationships with local providers, engage with the communities, or manage the businesses' environmental impacts in a systematic and zealous way.

Current positive and negative trends are likely to be aggravated by the central government rapid expansion plans for Labuan Bajo. Land sell-out and speculation already start to reduce opportunities for local business

people, because they have less experience and capital to deploy than their competitors from other places in Indonesia and foreign countries. Not only non-Florenese ownership, but also larger and by tendency vertically integrated investment projects will increase leakage. Local entrepreneurs, who are active in the industry now and learning the business, could be squeezed out rather than having the opportunity to grow with the industry. The capacities of the vocational schools will not be growing proportionately to the demand by businesses. The high share of locals in the labour force will consequently decrease and employment induced migration increase. With decreasing opportunities for the local population tourism acceptance among the local people is likely to drop. The magnitude of the negative environmental impacts will grow.

All these potential problems will have a noticeable effect on the local level. On the national level, however, the growth can create significant economic benefits. As long as the investors in Labuan Bajo are to the majority Indonesian, and foreign direct investors do not transfer taxable profits out of the country the investment benefits remain positive from central government perspective. The situation for employment and value chain linkages is similar. This creates incentives for the central government to push a development that is opposing the best interest of the people of Labuan Bajo and the environment. There is a large role to play for the central government. Hopefully it will not simply focus on extending bed capacity and infrastructure. Much can be done in local capacity building among local government authorities, the educational sector and local entrepreneurs. MSE and the informal sector can be protected and assisted in professionalising and expanding. Similarly small tour operators and budget hotels have the potential to grow and become successful businesses with high standards. The establishment of intersectoral linkages needs planning and assistance. Regulation and financial support for greener construction and renewable energies are a possible measure. The community groups and NGO's who are tackling the waste problem and trying to educate about responsible behaviour in the corals need resources and flanking with educational programs and awareness-raising by the government. More funds and capacity building must go to the national park in order to enable it to fulfil its mission. The list goes on and hopefully one bullet point after another will soon be crossed, so that Labuan Bajo will not become another Bali but something better.

1. Introduction

Like so many other places before it, Labuan Bajo on the Indonesian island of Flores is undergoing the metamorphosis from a quiet harbour and fishing town to a bustling tourism destination. Vastly growing numbers of tourists travel to Labuan Bajo in order to hop on a boat and take a trip to Komodo National Park. Not Labuan Bajo, but the park is the actual tourism magnet, famous for its lethal giant dragons and unique beauty under the sea.

Indonesia's central government has recognised the tourism potential of Labuan Bajo and is determined to boost its development. It wants "10 new Balis" to rise until 2020 and Labuan Bajo is supposed to be one of them. To reach this goal visitor numbers are targeted to grow to 500,000, which is a fivefold increase within four years.

The intense plan of the central government is based on a common conception of tourism as a driver for development and poverty reduction. Supporting arguments exist for these considerations. Tourism is a labour-intensive, steadily and fast growing industry, in which the customer comes to the producer and entry barriers are comparatively low. Therefore tourism development is a potential strategy to achieve growth and export earnings. Beyond that the industry is particularly well suited to create employment for low-skilled workers, youth and women, thereby creating opportunities for disadvantaged members of the society. It can also facilitate entrepreneurship and the creation of micro and small enterprises (MSE), which are seen as an important driver for inclusive growth (de Kadt, 1979; Bennett, et al., 1999; Meyer, 2010; Mitchell & Ashley, 2010).

Theoretically the opportunities tourism offers are promising. However, experience over decades of tourism growth all over the world has proven that the expected 'trickle-down-effect' does not actualise. In many places tourism has not brought about higher living standards and welfare for a large number of people (Scheyvens & Russell, 2012; Spenceley & Meyer, 2012). In fact, tourism has been criticised for mostly benefitting transnational corporations from the Global North and local elites in the Global South (Meyer, 2010). Some even take tourism development for a display of neo-colonialism that causes a host of problems. These include the displacement of communities, conflicts over scarce resources, exploitation of the local workforce, risky livelihood changes, increasing urban poverty, and environmental destruction. Tourism is accused of increasing inequalities between 'guests' and 'hosts' and between the people of the host country itself (UNESCO, 1976; de Kadt, 1979; Meyer, 2010; Mitchell & Ashley, 2010; Pleumarom, 2012; Spenceley & Meyer, 2012).

Undeniably tourism development is a double-edged sword. This impact assessment therefore aims to put the governmental development plans for Labuan Bajo in perspective by describing the current state of development and emerging trends as well as existing benefits and pitfalls along the triple bottom line of sustainability.

2. Methodology

2.1. Study site: Labuan Bajo

2.1.1. Tourism

Being the access point to the marine and terrestrial protected areas of Komodo National Park, Labuan Bajo holds a unique touristic potential that is attracting vastly growing numbers of visitors. How many guests exactly are coming is difficult to tell, because various sources suggest different numbers.

In 2015 the number of guests reported by hotels sums up to roughly **85,000** (BPS Kabupaten Manggarai Barat, 2016 (1)). The number, however, is likely to include multiple visits of the same guests (before and after trips). In addition, the list only includes 56 accommodations, while there currently are 72 hotels, hostels and guesthouses, an additional seven diving resorts and accommodations, three AirBnB's as well as uncounted Phinisi boats¹ and yachts.

According to the visitor statistics of Komodo National Park slightly more than **95,000** tourists visited in 2015 (BPS Kabupaten Manggarai Barat, 2016 (1)). By 2016 this number has increased by 12 per cent to **107,000** (Komodo National Park Office, 2017). However, the statistics are most likely not adjusted for multiple-time entries. It is also not clear if they only include visitors to the terrestrial part of the national park or also divers and snorkelers who only visit the marine part.

The number of arrivals at the airport was **113,180** in 2015. The harbour recorded **78,363** passengers the same year (BPS Kabupaten Manggarai Barat, 2016 (1)). These statistics include travellers, who are not tourists, and they do not account for multiple arrivals of the same passengers.

Nature, sun and beach as well as diving tourism are the main types of tourism in the area. Most visitors come to Labuan Bajo to see the Komodo dragons on the eponymous island of Komodo or the neighbouring island of Rinca. In default of clean and easily accessible city beaches, island hopping with small boats is the second most popular activity. A visit of the Komodo dragons is often included in such packages. The richness of marine life, relatively healthy reefs and the presence of manta rays is attracting a growing number of divers and snorkelers. Diving is currently the third most sought-after activity in Labuan Bajo and it is growing in popularity. Diving could soon outstrip the Komodo dragon as Labuan Bajo's primary visitor magnet (Swisscontact, 2015a). Travellers with comparably more time or smaller budgets can go on hikes to waterfalls and nearby communities in Labuan Bajo's vicinity or book trips of varying length to visit traditional villages and picturesque rice fields in other parts of Eastern Flores (Manggarai regencies). Tour operators also offer transfers and overland tours to touristic attractions in Central- and East-Flores.

In 2015 Europeans made up the largest group of foreign visitors with France, the United Kingdom, Spain and Italy as the primary source markets. Almost all these tourists are first time visitors and about three quarters of them organize the trip themselves. The remainder makes use of local, Bali- or Lombok-based as well as international tour operators (each to relatively equal extends). The visitors' distribution along age groups is very even with one third being 18 to 29 years old, another third being 30 to 39 years old and the last third being 40 years and older. The latter group splits half between visitors of 40 to 49 years and visitors 50 years and older. Slightly less than 20 per cent of the visitors are individual travellers, hardly 40 per cent travel as couple, another third are part of a small group and slightly more than ten per cent are families (see Figure 1). The average length of stay is 5.5 days, which represents a fifth of the overall average length of stay in Indonesia. Most often visitors stay four days in Labuan Bajo (Swisscontact, 2015a).

¹ Phinisi Boats are traditional boats used for several day trips offering complete accommodation.

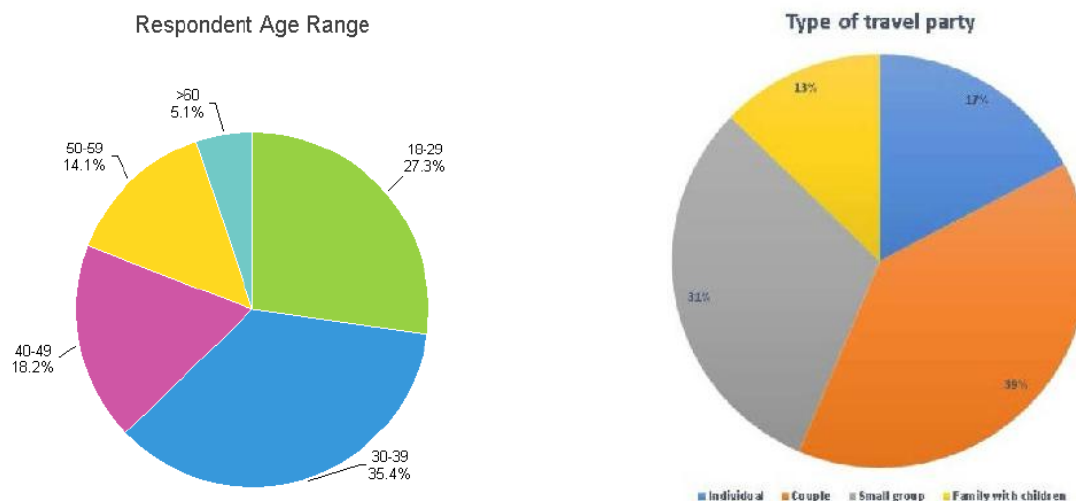


Figure 1: Age and type of travel parties of Labuan Bajo visitors (Swisscontact, 2015a)

According to Labuan Bajo's Tour Operators the number of Indonesian tourists is growing noticeably since the central government declared Labuan Bajo one of the new priority destinations in the country. This is also reflected by the visitor statistics of Komodo National Park, which shows that in 2016 roughly 30 per cent of the guests were domestic (Komodo National Park Office, 2017).

Labuan Bajo is 1,460 km away from the capital city of Jakarta, 520 km away from Bali and 400 km away from Lombok (linear distance). The latter two serve as main transport connections to Labuan Bajo. From Bali (hardly 70 percent of arrivals; Swisscontact, 2015a) five national airlines (Garuda Indonesia, Lion Air, Kal Sta Aviation, Wings Air and TransNusa) operate several flights a day to Labuan Bajo with a flight time of 1.5 hours. From Lombok (15 percent of arrivals; Swisscontact, 2015a) the preferred mode of transport are 4-day live-aboard tours which combine the transfer service with leisure activities. The package usually includes snorkelling and a visit to the Komodo dragons. In addition to such tours a few tour operators offer fast boat transfers and the national shipping company Pelni operates a ferry from Lombok to Labuan Bajo. The latter arrives twice a month.

2.1.2. People and government

Labuan Bajo is the capital of Kabupaten² West Manggarai and belongs to the Kecamatan³ Komodo. Five Kelurahan⁴ make up the urban agglomeration which can be referred to as the city of Labuan Bajo (see Figure 2). In 2015 the city had a population of roughly 30,000 people (BPS Kabupaten Manggarai Barat, 2016 (1)).

Kelurahan Labuan Bajo is the most populous part of the city (7,485 residents) and constitutes the city centre. It is the location of the harbour, fish market and food night market (pasar malam). The majority of touristic businesses is situated along Labuan Bajo's main street (Jl. Soekarno Hatta). North of the city centre a road leads to Wae Cicu Beach, which is also part of Kelurahan Labuan Bajo and along which a number of resort type hotels have been built.

Kelurahan Goron Talo stretches to the South of Kelurahan Labuan Bajo along the coast and is the location of further resort type hotels which have been built at Pede Beach. It is the second most populated

² Regency

³ Sub-district

⁴ Sub-level within a sub-district

residential area with only slightly less residents than Kelurahan Labuan Bajo (7,464 residents) and the location of one of the two farmers' markets of the city (pasar baru).

Kelurahan Batu Cermin lies east of Kelurahan Labuan Bajo and includes the airport. It is another major residential area (5,099 residents) and the location of the second of the two farmers' markets of the city (pasar Batu Cermin).

Kelurahan Wae Kelambu stretches east and south of Kelurahan Batu Cermin. The largest part of the area is made up of woodland. However, a smaller part in the South-West is another residential area that can be considered part of the city. In its entirety Wae Kelambu is comparable to Batu Cermin in population size (5,478 residents).

Kelurahan Golo Bilas closes the gap between Kelurahan Goron Talo and Kelurahan Wae Kelambu and includes another residential area (4,137 residents).

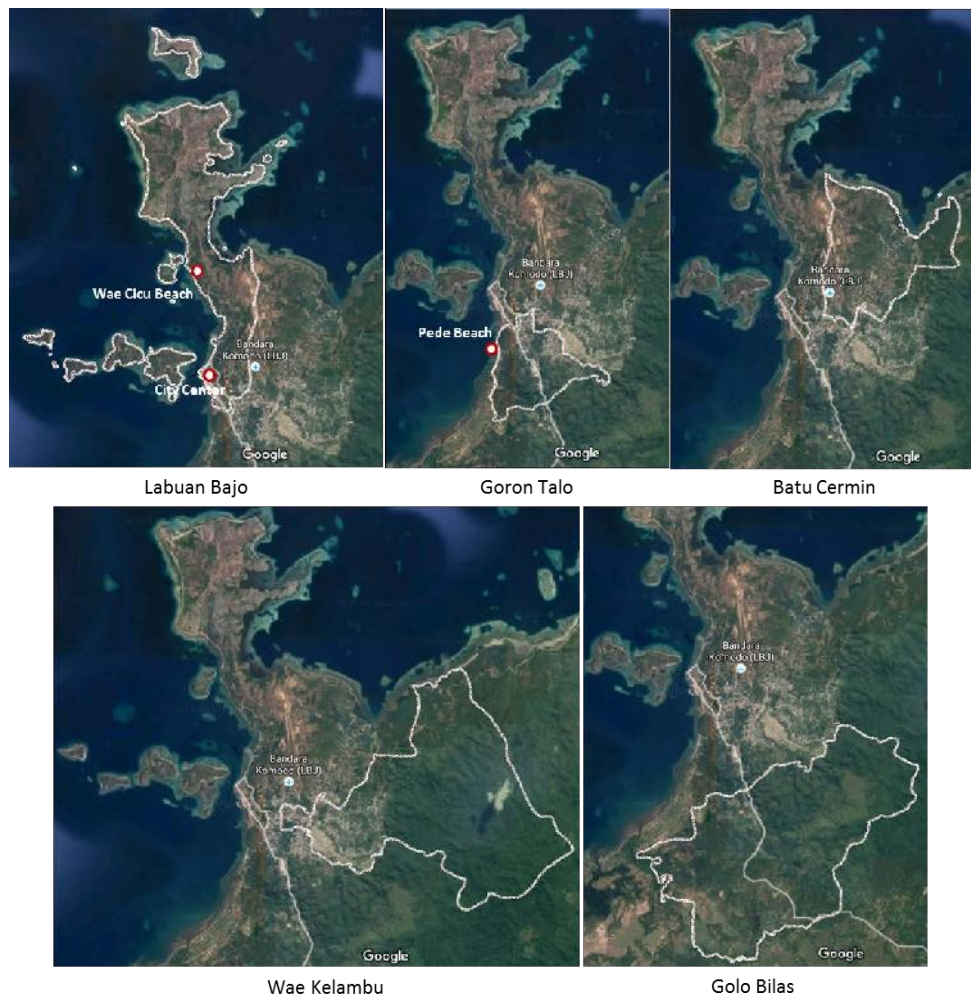


Figure 2: Urban agglomeration of Labuan Bajo

2.2. Research method

The impact assessment uses a choice of impact Indicators which have been compiled based on publications from academics (mostly social, development, and tourism studies) as well as practitioners (in the context of NGO-work and/or development cooperation in tourism). Indicators have been selected in consideration of the project context (NGO-work and development cooperation in tourism) as well as the available human and timely resources (two staff members, 3 month of time).

Primary data have been collected through survey-based interviews mostly including closed and a few open questions. The data collection was focused on Kelurahan Labuan Bajo and Pede Beach (Kelurahan Goron Talo). Business-specific questionnaires were used for the formal sector (accommodation, gastronomy, dive centres, tour operators, and shops). Further specific questionnaires were developed for MSE as well as entrepreneurs in the informal sector, which are potentially benefitting from tourism development. Last a simple poll among Labuan Bajo residents about their opinion of the tourism development was conducted. Secondary data were collected from project documents, public and informally provided governmental data as well as academic research on Flores. Triangulation was possible through observation, discussion with former and current Swisscontact staff and informal discussions with local stakeholders.

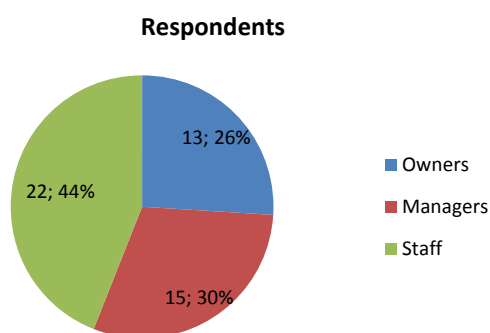
2.3. Research implementation

50 interviews were conducted with formal sector businesses. These account to roughly a quarter of the sector (see Figure 3).



Figure 3: Formal sector interviews

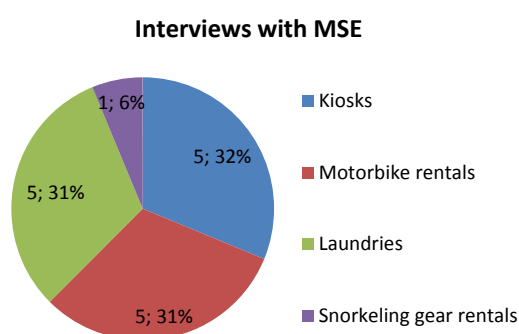
The formal sector interviews were conducted either with owners and managers or members of the staff depending on availability (see Figure 4). Interviews with owners and managers tended to provide good business related information, but possibly “window-dressed” information about working conditions. Interviews with members of the staff seldom provided good business related information, but most likely truthful data on the working conditions.



	Owners	Managers	Staff
Accommodation	2	6	6
Gastronomy	4	2	2
Dive Centres	2	3	4
Tour Operators	1	4	6
Shops	4	0	4
TOTAL	13	15	22

Figure 4: Type of business interview respondents

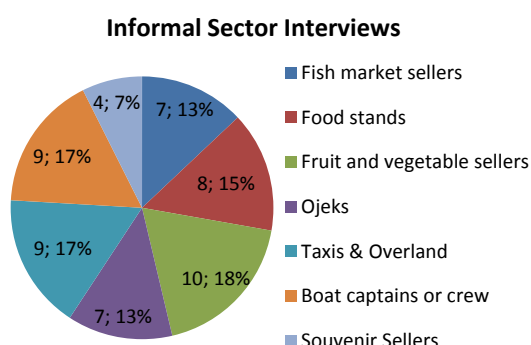
16 MSE participated in the survey (see Figure 5).



	Interviews as estimated % of total
Kiosks	small
Motor bike rentals	close to 100 %
Laundries	close to 100 %
Snorkelling gear equipment	close to 100 %

Figure 5: Interviews with MSE

54 interviews were conducted with informal sector entrepreneurs (see Figure 6).



	Estimate of total	Interviews as % of total
Fish market sellers	50 - 100	7-14 %
Food stands	30	27 %
Fruit and vegetable sellers	?	?
Ojeks ⁵	100-200	3,5-7 %
Taxis and Overland ⁶	50-100	9-18 %
Boat captains or crew	360-720	1-3 %
Souvenir sellers	15	27 %

Figure 6: Informal sector interviews

29 people participated in the poll among Labuan Bajo's residents. However, only 16 of them were not directly or indirectly receiving an income from tourism. The participants were mostly male and young to middle aged. The poll is therefore neither not statistically representative, nor by tendency a good approximation. Unfortunately, there was not enough time to improve the data.

⁵ Motorbike taxis

⁶ Car and driver for longer distances and time, drivers are often also freelance guides

3. Profits – Economic Impacts

Tourism development promises economic progress and a prosperous future in the destination. Ideally investments and stable industry growth create private and public profits, jobs, entrepreneurship, income and possibly other benefits, such as a better overall infrastructure. Standard economic measures such as industry growth, gross domestic product or numbers of jobs tell if a destination is developing economically. If one wants to know whether it is developing sustainably, further question about the distribution of benefits and the conditions under which they are created have to be asked. The following chapter therefore looks at investments and asks where the resulting private profits are going. It looks at the number of jobs created and asks about working conditions. Wages will be assessed on the basis whether they allow for a decent living. It will be examined if tourism development creates opportunities for disadvantaged people. It asks, whether the government is receiving income from tourism, which then could be deployed to improve essential public services.

3.1. Investments

Investments and the development of an economically sustainable industry are the prerequisite for job creation and the extension of opportunities in other economic sectors. Industry growth, bed capacity and price segments as well as the current situation regarding business profitability and competition, describe the scale and scope of Labuan Bajo's tourism development and its economic sustainability.

Investments, however, can also cause leakage. This refers to the "share of tourist spending that does not reach, or does not remain in the destination" (Mitchell & Ashley, 2010, p. 80). Leakage does not only decrease the benefits to the local population, but also potentially increases economic inequalities within and between countries. Another critical effect, that can occur, is land grabbing. It strips locals off their most valuable asset and excludes them from participating in and benefitting from the tourism development.

3.1.1. Industry Growth

There are currently at least 212 businesses operating in Labuan Bajo's tourism sector. The start of operation is known for 70 per cent of these businesses and can be utilized to describe the industry growth (see Table 1).

	Total	Data available for	%
Accommodation	72	53	74
Gastronomy	46	24	52
Diving Centres	27	25	93
Tour Operators	50	31	62
Souvenir shops and boutiques	13	12	92
Spas and Salons	4	4	100
TOTAL	212	149	70

Table 1: Data on industry growth

There has been slow development throughout the 90s and early 2000s, the growth picked up around the mid-2000s and then again just before Komodo Sail 2013. Since then the industry is growing at a relatively linear rate. The average growth rate since 2005 has been 18 per cent. In recent years the industry has started to diversify with boutiques and spas adding to the overall tourist offer (see Figure 7).

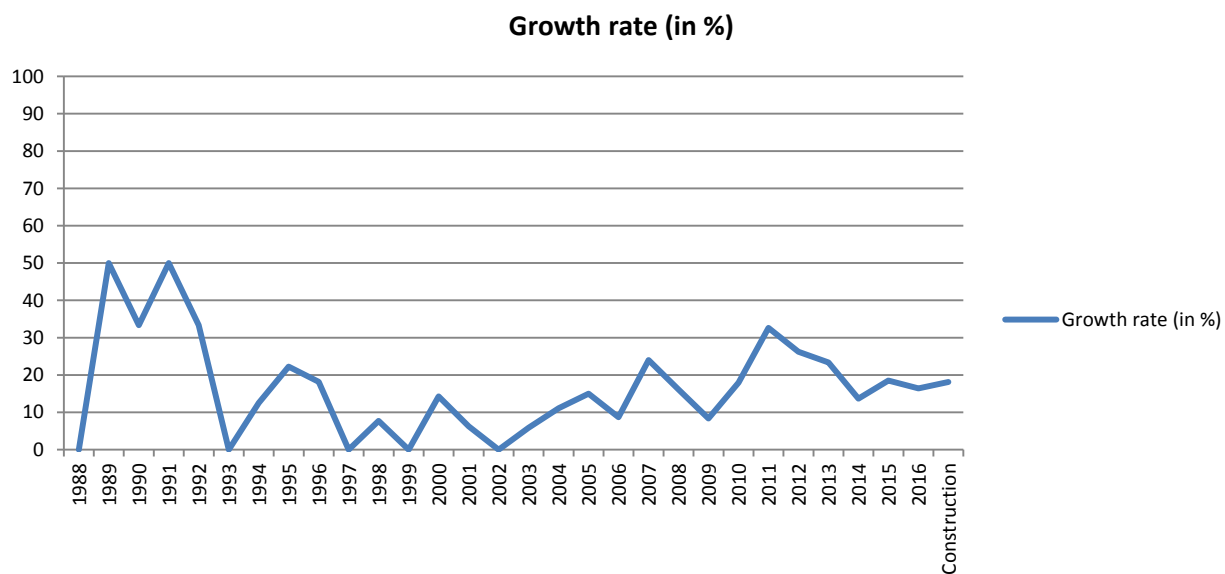
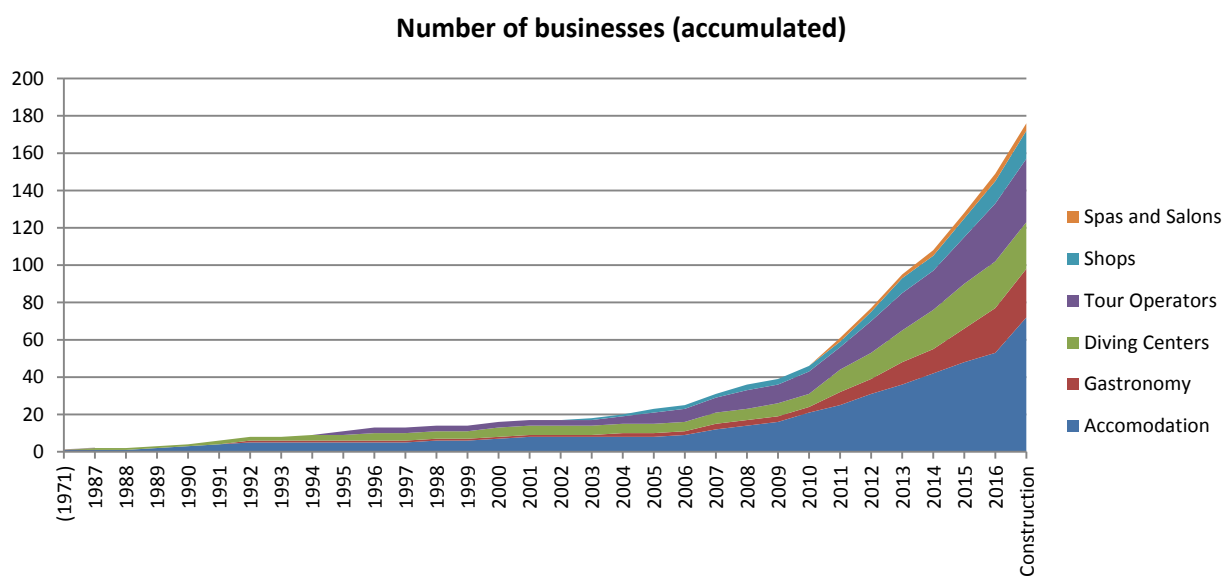
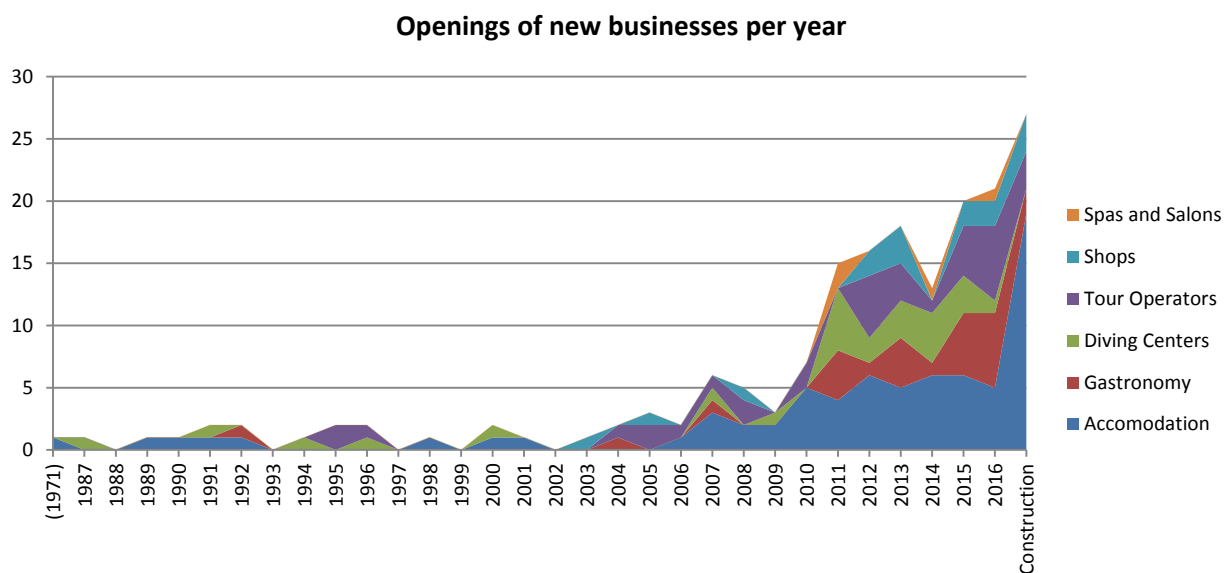


Figure 7: Tourism industry growth in Labuan Bajo

In addition to new businesses existing businesses are investing in their capacities. Half of the accommodations interviewed for this impact assessment had extended their capacities since the start of operation. Barely three quarters of them did so in the last two years (2015 and 2016). About another third of the accommodations was planning to invest in the near future (see Figure 8).

Investments of existing accommodations

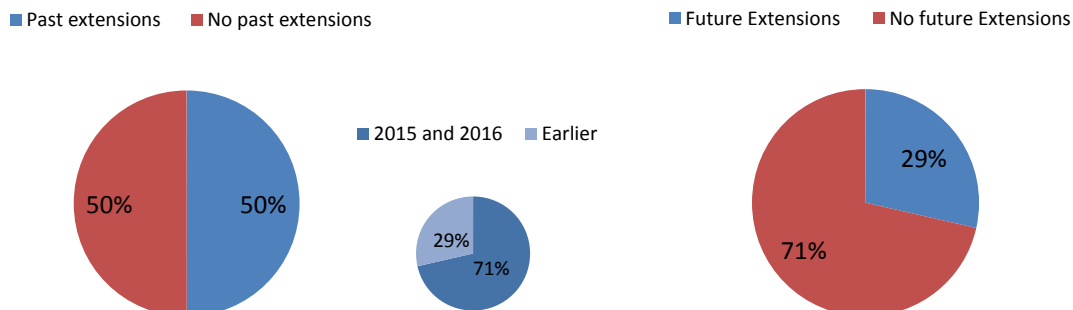


Figure 8: Industry Growth – Extensions of existing businesses

It is difficult to quantify the economic impact these investments have. The majority of the interviewed businesses was not able or willing to share information on sales and revenues. Conclusion can therefore only be drawn from official statistics. For example data is available on the gross regional domestic product (GRDP) of the eight regencies of Flores Island. If the data is correct - it has been annotated that the numbers for 2014 and 2015 are (very) preliminary - the results suggest that despite the massive industry development in Labuan Bajo its regency West Manggarai is not better off than Flores's other regencies in terms of both total GRDP as well as GRDP growth. Unfortunately, the data is only available for the period of 2012 to 2015, because potentially, West Manggarai sees a much stronger improvement in GRDP growth than the other regencies. There has been stronger growth between 2012 and 2013 right before Komodo Sail. The growth significantly dropped in the year after the event, but increased again in 2015. If the growth rate made similar jumps every year, West Manggarai would quickly leave the other regencies behind (see Figure 9).

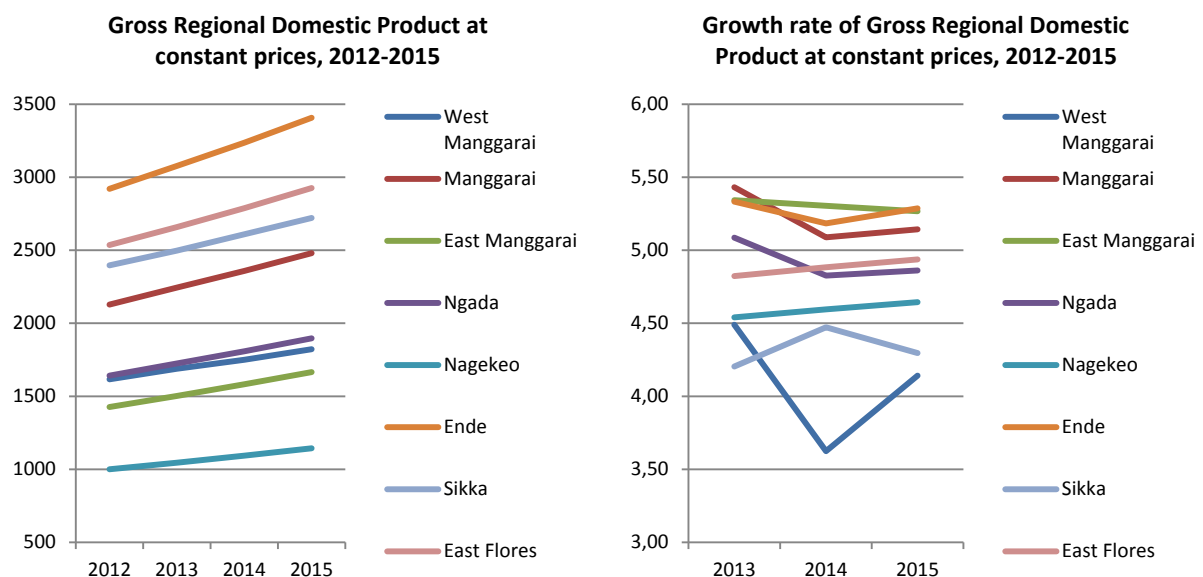


Figure 9: GRDP of West Manggarai
(BPS Provinsi Nusa Tenggara Timur, n.a. (1))

3.1.2. Bed capacities and price segments

Accommodations play a key role in destination development. Their capacity determines the number of tourists and therefore the customer base for all other touristic businesses. The total bed capacity of Labuan Bajo in 2016 exceeded 2,250 beds (data on the bed capacity was available for slightly more than 85 per cent of the accommodations and includes island resorts). There is additional capacity on live-aboard boats and yachts. However the situation regarding overnight stays on boats is very untransparent. Of the 50 businesses which were interviewed for the purpose of this study 17 owned live-aboard boats. This alone accounts to 31 extra accommodations with an approximate bed capacity of 4 to 30 beds (see Figure 10). Labuan Bajo is now also increasingly visited by cruise ships. Alarming, the local authorities have no overview of the current situation regarding the cruises. Neither the harbour, nor the transport or the tourism department could provide any statistics on arrival numbers and passenger capacities.



Figure 10: Live-aboard boats

The resident to bed ratio based on the known bed capacity in Labuan Bajo is 13 to 1. In comparison the same ratio for far developed European island destination such as the Balearic Islands (2:1), the Canaries (5:1) or Corsica (2:1) are much lower (eurostat, n.a.). In Denpasar, Bali's tourism centre, on the other hand the resident to bed ratio is much higher (55:1 in 2013; BPS Provinsi Bali, n.a. (1); n.a. (2); n.a. (3)). Denpasar is, however, far more urbanised than Labuan Bajo.

A closer look at the accommodations also allows a more detailed description of the type of tourism which is developing. Three quarters of the accommodations are rather small with a capacity of less than 40 beds. There are only 6 accommodations with 100 and more beds. With one exception the larger accommodations are located along the beaches of Pede and Wae Cicu (see Figure 11). The data shows that a massive development as it happened in many Mediterranean beach destinations or Bali has not occurred in Labuan Bajo yet.

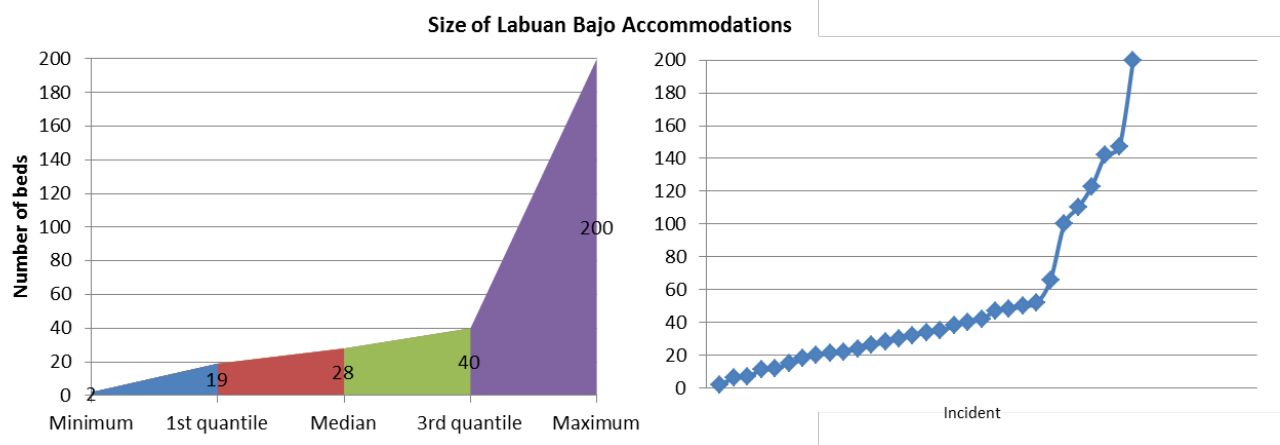


Figure 11: Size of Labuan Bajo accommodations

The type of accommodation is divers ranging from tents, hostels and budget hotels at the lower end, to guesthouses and star rated hotels in the middle range, and up to island and beach resorts at the upper end of the price scale. Bungalows vary in prices. (see Figure 12).

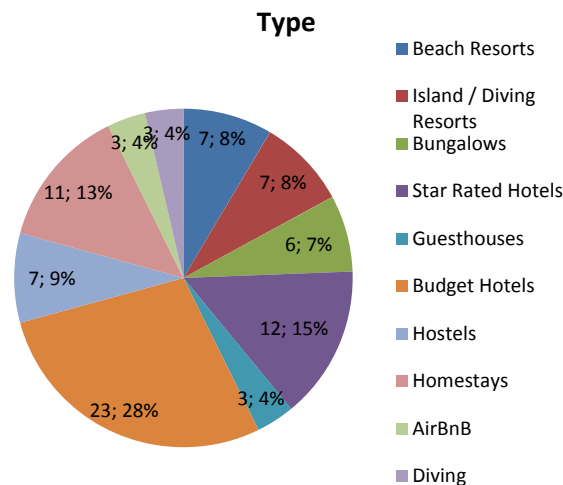


Figure 12: Accommodation types

The room rates range between 50,000 and 8,000,000 Rupiah per night (3.50 Euro – 570 Euro). A quarter of the rooms in Labuan Bajo sells for rates up to roughly 250,000 Rupiah (18 Euro) and half for up to 400,000 Rupiah (28 Euro). Three quarters of the rooms cost up to around 700,000 Rupiah (50 Euro). The more expensive rooms mostly cost up to 5,000,000 Rupiah (355 Euro). The most luxurious room in all of Labuan Bajo, however, sells for 8,000,000 Rupiah (570 Euro, see Figure 13).

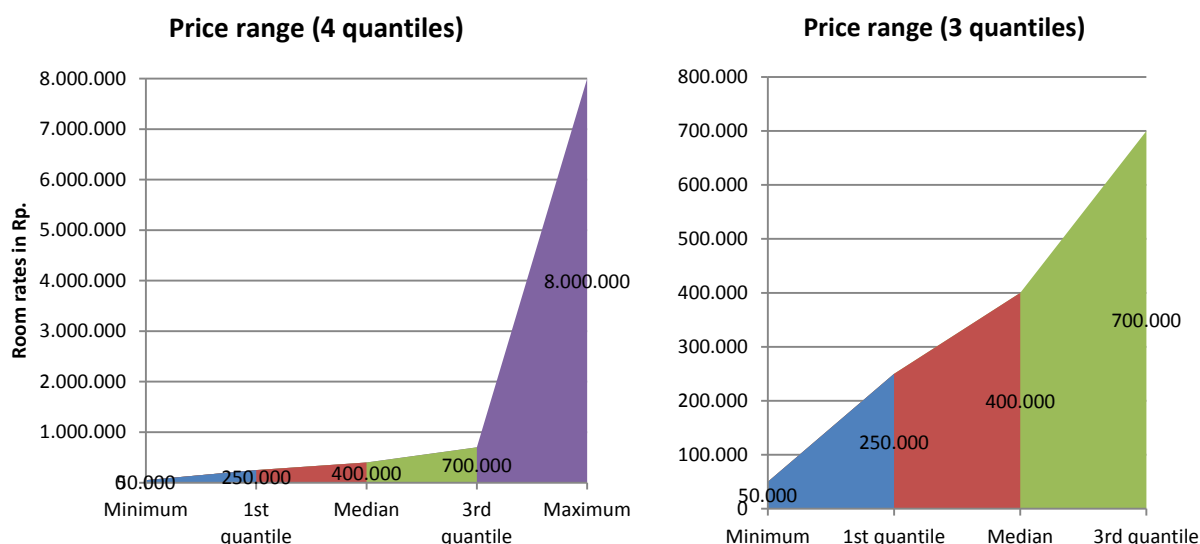


Figure 13: Type and price range of accommodations

In recent years the number of accommodations which offer rooms at the lower and middle range of the price scale has increased proportionately more than the number of high price accommodations (see Figure 14). A possible explanation is that the best properties for the higher segments along Pede and Wae Cicu beach have already been developed. However, according to the local stakeholders future plans exist to exploit the northern coast for further higher standard investments.

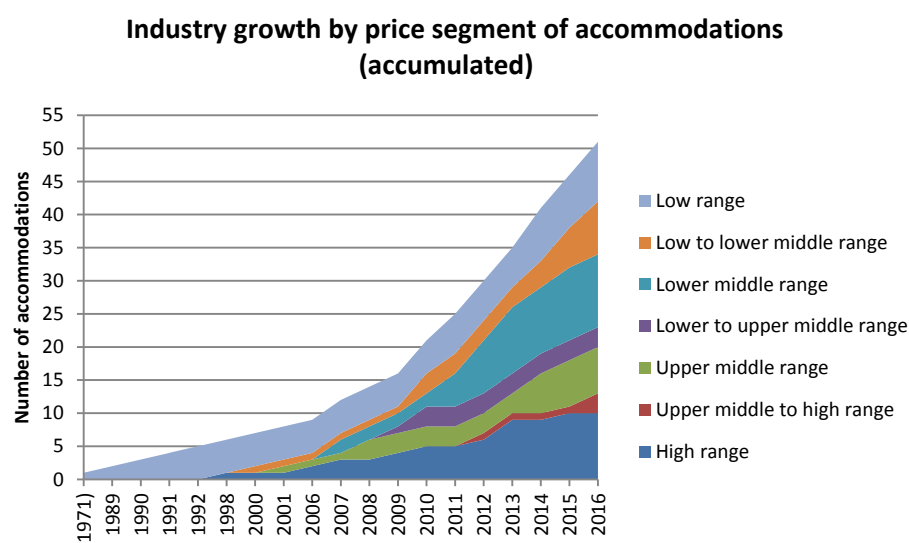


Figure 14: Industry growth by price segment of accommodations

3.1.3. Profitability and competition

Two thirds of the surveyed accommodations were able to give an occupancy rate. The average occupancy rate during high season was roughly 70 per cent. In low season this value was reported to go down to around 35 per cent. In comparison the occupancy rate in Bali is relatively stable at around 50 to 60 per cent all year long (BPS Provinsi Bali, n.a. (4))

For most businesses in Labuan Bajo the low season begins in October or November and lasts until March or April. Only 22 per cent of the interviewed businesses noticed an increase in tourist numbers during Christmas and to a lesser extend during Easter (see Figure 15).

Shoulder season

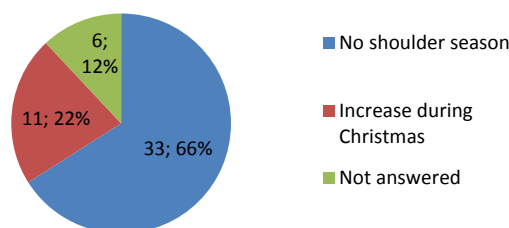


Figure 15: Seasonality in Labuan Bajo

Roughly two thirds of interviewed businesses saw no change or an improvement in their business between 2015 and 2016. Correspondingly, roughly two thirds of the interviewed businesses reported to have been profitable in 2016 (see Figure 16).

Business development 2015-2016

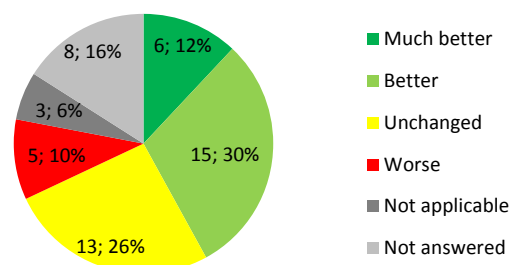
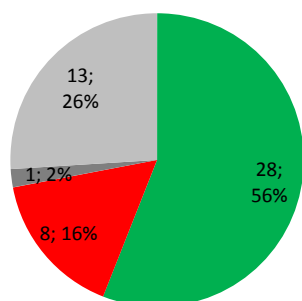


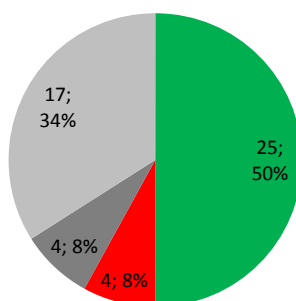
Figure 16: Business development from 2015 to 2016

A third of the business, which reported to have been unprofitable within the last five years (see Figure 17), explained that this situation only occurred shortly after the start of the business. In the case of another third of businesses, which reported unprofitability, the information was given by members of the staff, who might not have had reliable knowledge of the businesses' bookkeeping. Only for the last third of businesses, which were unprofitable at some point in the last five years, the unprofitability could be explained by rising competition.

Profitability in 2016



Profitability in 2015



Profitability five years ago

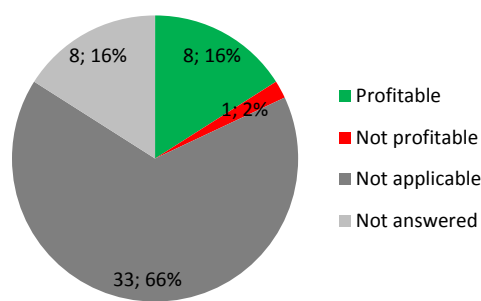


Figure 17: Profitability over five year period

Dive centres and accommodations have been particularly positive about the business development. Tour operators on the other hand felt pressure from raising competition. Especially long-established operators called for protective measures against "illegally" operating online businesses as well as local unregistered individual guides and small tour agencies. However, two of three unregistered small tour agencies

interviewed for the purpose of this impact assessment reported to have a government permit (Surat Ijin Tanda Usaha-SITU). Some respondents from this group in turn called for more government support in obtaining an official corporate title, and in turn criticised diving centres for intensifying competition by offering snorkelling and Komodo trekking tours. All of the tour operators in Labuan Bajo were concerned about raising competition from tour operators from Bali and Lombok.

The only accommodation feeling pressure from increasing competition was a long established low budget hotel. The owners felt affected by the opening of many other low budget options catering to backpackers. This corresponds with the data showing that low and lower middle range accommodations are growing over-proportionately. In turn other low budget accommodations were very positive about their business development and even planning to extend their operations. This shows that low budget accommodations have to professionalize and invest in ambience, facilities and/or service in order to stay competitive

3.1.4. Ownership

The large majority of tourism businesses in Labuan is profitable. Such profits constitute economic income to investors and business owners. They also present a potential source of leakage.

The origin of Labuan Bajo's business owners is known for roughly three quarters of the enterprises (see Table 2).

	Total	Data available for	%
Accommodation	72	54	75
Gastronomy	46	28	61
Diving Centres	27	24	89
Tour Operators	50	37	74
Souvenir shops and boutiques	13	10	77
Spas and Salons	4	3	75
TOTAL	212	156	74

Table 2: Data on business ownership

Around two thirds of Labuan Bajo's businesses are owned by individuals or companies, which do not originate from Flores. Their profits potentially drain off to other parts of Indonesia or foreign countries. On a positive note, large scale hotel developments by transnational tour operators or hotel consortia from abroad have not occurred yet. This means that there are no structures in place which otherwise guarantee large scale leakage of profits to corporate headquarters in foreign countries. The dominance of small to middle-sized and owner-run (see 3.2.5) businesses in Labuan Bajo contributes to limiting leakage. However, for many of the Indonesian but also Western owners this does not hold true. They reside and spend their wealth in Bali and Java. In addition, business owners from outside Flores might only live in Labuan Bajo temporarily and eventually leave with their accumulated wealth. Overall there is the large proportion of ownership by outsiders presents a significant source for leakage.

While the high proportion of Indonesian business ownership (40 per cent) ensures that a large part of the created economic value stays at least within Indonesia, it also reinforces the already existing economic imbalance between the well-developed centre and the lesser developed periphery of the country. Additionally, Florenese ownerships is less common in higher value industry segments such as upper middle and high range accommodations or diving centres. Instead the largest part of Florenese ownership is found among budget accommodations and tour operators, which are facing the strongest competition and are often small businesses with low margins (see Figure 18).

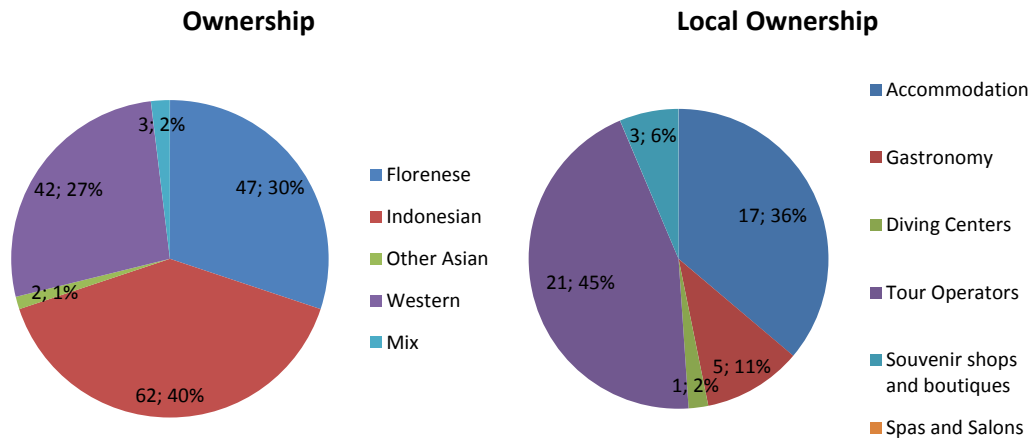


Figure 18: Ownership of tourism businesses in Labuan Bajo

Leakage increases if one person or company owns several individual businesses in the same destination. The majority of the owners of the interviewed businesses did only own one enterprise in the city. A few of them were currently planning or already constructing additional properties. A quarter of the study participants already owned a second or more businesses and there are at least three investors (see Figure 19) which have accumulated a significant portfolio of several touristic business or speculative land.

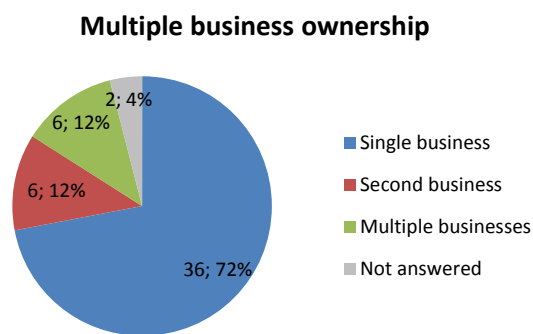


Figure 19: Multiple business ownership

3.1.5. Vertical business integration

Leakage is intensified by high vertical value chain integration, because tourist spending is bundled and directed towards a single recipient. Accommodations, dive centres and tour operators have the highest degrees of possible vertical value chain integration in Labuan Bajo (see Figure 20).

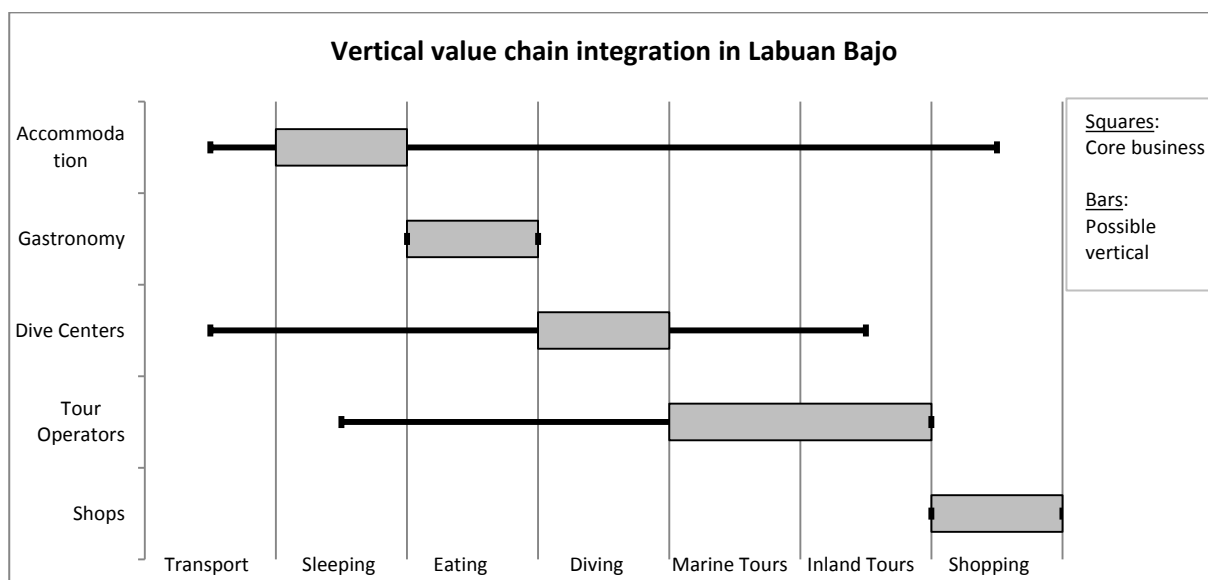


Figure 20: Vertical value chain integration

Among the interviewed accommodations 29 per cent were highly integrated. The most luxurious hotel was 100 per cent integrated. The other businesses in this group offered airport-pick-ups with their own cars instead of passing this opportunity on to freelance taxi drivers, provided food in their own restaurants and souvenirs in their own shops. They also organized marine tours for their guest with their own boats instead of cooperating with outside tour operators or independent captains. They rarely organized inland tours. However, by far more tourists book marine tours as compared to inland tours. So the marine tours offered by the accommodations present relevant competition for the tour operators of Labuan Bajo. Roughly 20 per cent of the interviewed accommodations offered their guests food in their own restaurant, a souvenir shop and/or airport pick-up. They can be considered medium integrated. The other half of the interviewed accommodations was barely integrated at all. Three of the seven lesser integrated accommodations offered tour services in cooperation with outside tour operators (Figure 21).

All interviewed dive operators included the opportunity to do snorkelling and/or visit islands with Komodo dragons (low integration). While this does not make the dive centres particularly vertically integrated it does present a major problem for the independent tour operators. Only one dive centre offered such tours explicitly in cooperation with local independent partners. In addition, the other half of interviewed dive operators offered airport pick-ups with their own car and/or housing in their own accommodation. One of these accommodations also included a restaurant. The concerned diving operator, in turn, did not take snorkelers on their boats. Otherwise the business could have been considered highly integrated. There are three dive camps on islands off the coast of Labuan Bajo, which have not been interviewed, whose sheer concept qualifies them as highly integrated dive centres. Among the interviewed diving businesses none engaged in inland tours. However half of them passed their guests on to cooperation partners among the independent tour operators (Figure 21).

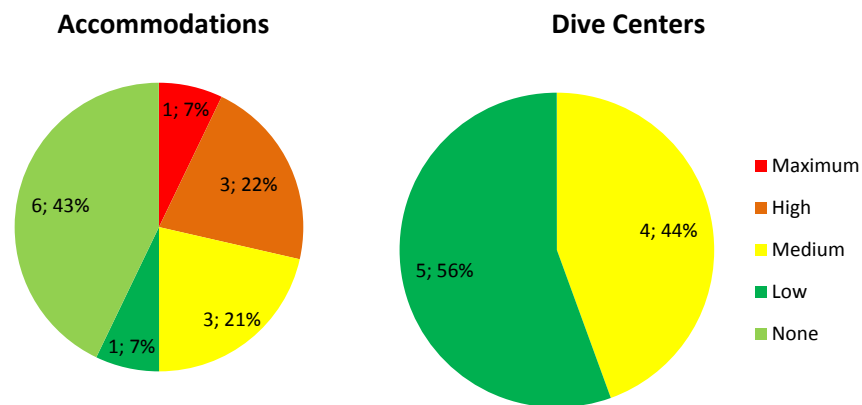


Figure 21: Value chain integration among accommodations and dive centres

Live-aboard tours constitute another form of business integration as accommodation, food, marine tours and/or diving are packaged in one product. 20 per cent of the accommodations, 100 per cent of the diving centres and 55 per cent of the tour operators, which were interviewed for the impact assessment, own their own live-aboard boats. In total 17 businesses owned 31 of these vessels. While tour operators are impacted by vertical value chain integration of accommodations and diving centres, those of them who own live-aboard boats in turn capture a lot of tourist spending themselves. This is particularly true for tour operators with head or partner offices in Bali or Lombok. While 65 per cent of the customers of other tour operators stay overnight in Labuan Bajo (potentially using the services of transport providers, accommodations, restaurants, spas and shops), this proportion is significantly lower for those with partner offices on other islands. 81 per cent of their customers are taken straight from the airport onto the live-aboard boats.

Additionally, tour operators play an important role as intermediaries between the formal tourism sector and the informal sectors. Highly integrated tour operators use their own boats, vehicles and guides to offer airport pick-up services as well as marine and inland tours. Other tour operators cooperate with independent drivers, captains and guides to offer such services. Just above 80 per cent of the tour operators interviewed for this impact assessment could be described as cooperative indicating working relationships with the informal sector and a possibly wide spread distribution of income earning opportunities (see Figure 22). However, during primary data collection respondents among the boat captains and crews complained about the imbalanced division of the tourist spending between the tour operators and the informal sector service providers. Information about mark-ups provided by the interviewed tour operators indicates a range of 0 per cent (airport pick-ups) to 350 to 500 per cent (tours). In average tour operators earned slightly more than 1.5 times to twice as much as their cooperation partners.

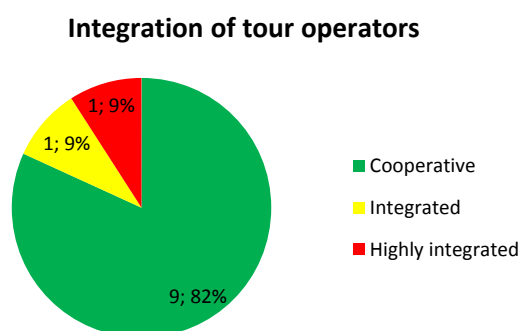


Figure 22: Vertical business integration of Labuan Bajo's tour operators

3.1.6. Land grabbing

Stakeholders in Labuan Bajo are concerned with land grabbing. They argue that a large proportion of land in Labuan Bajo which could be developed in the future has been bought up by outside investors. These were currently either in the process of developing projects⁷ or speculating on raising land prices. In fact, one interview respondent who had rented business premises in the beginning of 2016 and intended to rent additional space found that prices had tripled within the year. It can be assumed that land prices are increasing similarly quickly.

Local authorities were unable to provide detailed information on the current state of land purchases and speculations. They confirmed that there is no zoning, which is an important tool for managing land usage and developments. They also voiced concerns that buyers could purchase land under varying names thereby circumventing regulations which would otherwise help avoid land grabbing. They did not yet consider this a pressing issue though. Given the potentially severe consequences of land grabbing as well as the much differing perception of the current situation by the local authorities and other stakeholders, it is alarming that there is so little information and governmental concern with the issue.

3.1.7. Conclusion

Labuan Bajo is a fast growing tourism destination, in which new and existing investors open and extend businesses. Monotonous, large concrete tourism development is not an issue yet. Instead a diverse variety of accommodations and many hotels, hostels and guesthouses in the lower to middle size and price range shape the town's tourism sector. Nevertheless Labuan Bajo is clearly on a mass tourism rather than a "high value and low impact" path.

The destination is evidently in the development stage and saturation does not have to be expected soon. Businesses are profitable besides a long low season. Nevertheless first businesses are starting to feel pressure from increasing competition. So far this affects the tour operators and budget accommodation, which are segments with comparatively low entry barriers. In addition, tour operators are confronted with competition from other tour operators and live-aboard boats from Bali and Lombok.

While the general industry development looks promising, the ownership situation suggests potentially high leakage to Indonesia's economic centre and to a lesser extent to foreign countries. This increases the already existing gap between Indonesia's far developed centre and its lesser developed periphery. This needs to be considered against the background, that the central government wants to push tourism development in Eastern Indonesia with the very intention to reduce the inequality.

Additionally, half of the interviewed accommodations, dive centres and tour operators are medium to highly vertically integrated or at least own live-aboard boats. This further increases the risk of leakage and puts particular pressure on small, non-integrated businesses, which get excluded from the value creation. These businesses are more likely to be owned by locals. The vertical integration therefore limits the benefit potential for the people of Flores.

Land grabbing is clearly an issue caused by the rapid growth in Labuan Bajo. Local entrepreneurs and small business do not yet have the financial and professional capacities to partake in the industry growth. The sell-out of land decreases the chances that they will be able to do so in the future. Local land owners are at risk to sell their land for short-term profits possibly undervalue and to the detriment of livelihood security in the long run.

⁷ In addition to the 24 construction sites in and close to the city center, respondents mentioned several project in planning along the beaches of Pede and Wae Cicu.

3.2. Decent jobs

A major argument for fostering tourism development is its potential to generate large scale employment. However, judging tourism only by the number of new jobs is short sighted. Many jobs can be created, but they are not necessarily decent. If the jobs do not go to the locals, are seasonal, exhibit bad working conditions, and do not open perspectives for careers they can barely be considered a positive impact.

3.2.1. Job creation

According to the data of three thirds of the touristic businesses in Labuan Bajo (see Table 3), there are currently more than 1,900 people employed in its tourism industry. This translates into a bed to job ratio that is almost 1:1.

	Total	Data available for	%
Accommodation	72	57	79
Gastronomy	46	28	61
Diving Centres	27	25	93
Tour Operators	50	34	68
Souvenir shops and boutiques	13	11	85
Spas and Salons	4	3	75
TOTAL	212	158	75

Table 3: Data on employment

By far the most people are employed in accommodations followed by diving centres and gastronomy. The largest number of jobs per business is created by diving centres, followed by spas and salons as well as accommodations (see Figure 23).

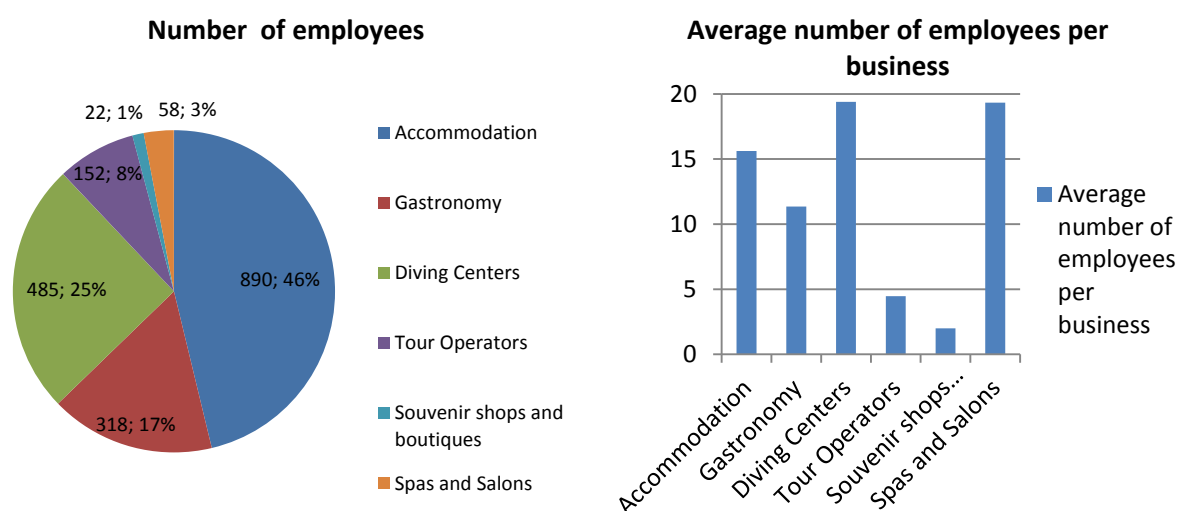


Figure 23: Number of employees in tourism (total and average per business type)

The number of employees can be expected to rise not only through the opening of new businesses (see chapter 3.1.1), but also through hiring of additional staff by existing businesses. Roughly a third of the interviewed businesses were planning to hire more staff (see Figure 24). In particular accommodations and dive centres required more staff and were planning to hire in average 5 new people. No interviewed business intended to lay off workers.

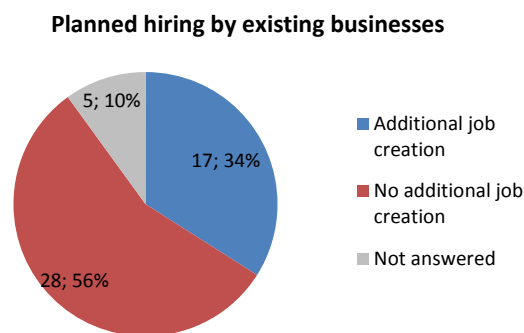


Figure 24: Job creation by existing businesses

3.2.2. Origin of employees

Most employees in Labuan Bajo's tourism industry originate from Flores (see Figure 25).

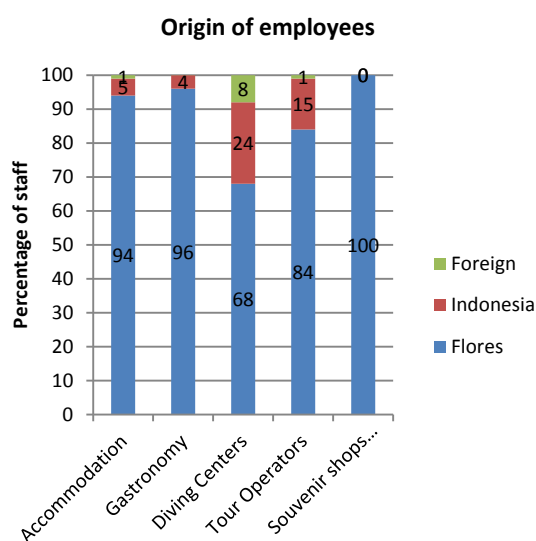


Figure 25: Local employment impact (Swisscontact, 2015b)

The large majority of the interviewed businesses was confident that they would be able to keep hiring staff from Flores in the future (see Figure 26). However, there is also little alternative to hiring locally as recruiting from other places in Indonesia can be difficult due to the relatively lower wage level and living quality in Labuan Bajo. In exceptional cases respondents raised concerns about a possible shortage of skilled local staff due to the growing demand in connection with constraints among the vocational schools, or because the business required a special skill (e.g. tailoring, diving instruction) that was not available among the local workforce.

Potential for future hiring from Flores

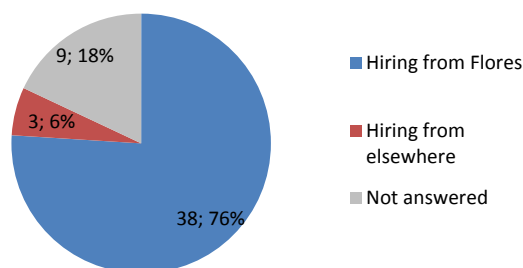


Figure 26: Potential for future hiring from Flores

3.2.3. Seasonality

Businesses claim to employ the majority of their staff full-time (see Figure 27). The large proportion of full-time staff is remarkable given the long stretched low season.

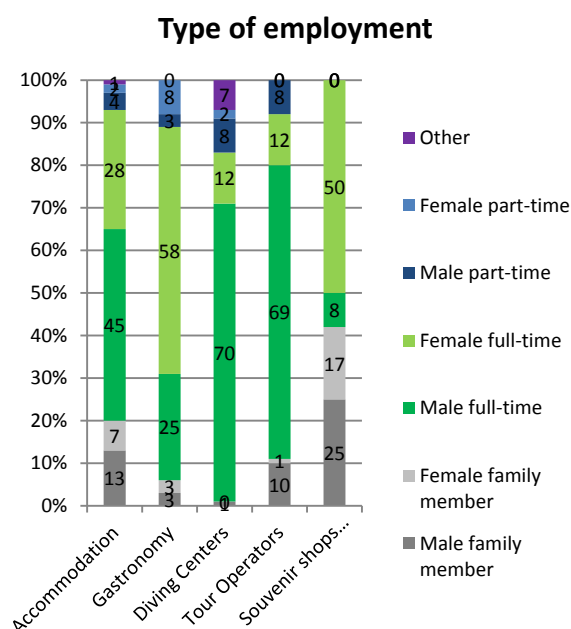


Figure 27: Seasonality (Swisscontact, 2015b)

3.2.4. Working conditions

Investments create a large number of jobs for the local population. This can be considered a significant positive impact. However, 60 per cent of the interviewed businesses did not fully comply with Indonesian labour laws. This includes businesses which do not pay the minimum wage. Other businesses most often do not provide written contracts or alternatively written job descriptions and/ or had their employees work seven days a week without a break. The primary data collection among the businesses did not cover overtime and overtime compensation, which is likely another relevant issue. 6 per cent of the non-compliant businesses had not yet registered their employees in the state social security system (BPJS Ketenagakerjaan), but otherwise complied with labour laws (see Figure 28).

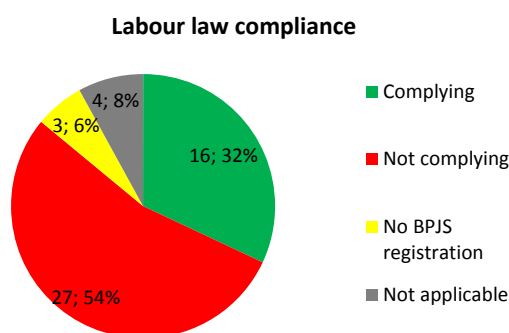


Figure 28: Labour law compliance

BPJS registration covers health and pension savings. Roughly 70 per cent of the interviewed businesses which had not yet registered their employees with BPJS informally paid for medical needs of their staff. However, barely 10 per cent voluntarily paid for pension benefits (see Figure 29). This demonstrates the importance of regulated working conditions, because goodwill of the employers is not sufficient to provide security for the workers.

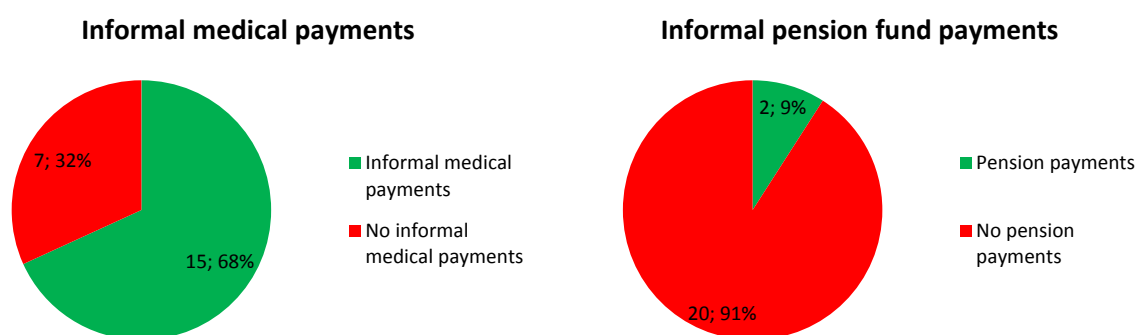


Figure 29: Informal medical and pension fund payments in case of missing BPJS registration

3.2.5. Career perspectives

Tourism development is considered particularly beneficial in situations where the local workforce is low-skilled, because many jobs in the industry do not require higher formal education or intensive training. However, low-skill-jobs are also likely to pay little and often the employers do not see the need to qualify their employees above the minimum requirements. Instead of being dead-end jobs, tourism employment should ideally become a stepping stone. Management training as well as dive training up to dive master and dive instructor level would help to increase the skill level among Labuan Bajo's workforce.

For a little bit more than half of Labuan Bajo's touristic businesses the origin of the general managers is known (see Table 4).

	Total	Available	%
Accommodation	72	36	50
Gastronomy	46	23	50
Diving Centres	27	16	59
Tour Operators	50	31	62
Souvenir shops and boutiques	13	9	69
Spas and Salons	4	0	0
TOTAL	212	115	54

Table 4: Data on the origin of general managers

Only half of the businesses were not managed by the owners but by general managers. Of these general managers the majority came from Flores. The rest was almost equally divided between other Indonesians and foreigners. Slightly more than a third of the interviewed businesses trained their staff to take over managerial positions. Mostly the training was in-house on the job. Upper class chain hotels were the only ones providing standardized management training (see Figure 30).

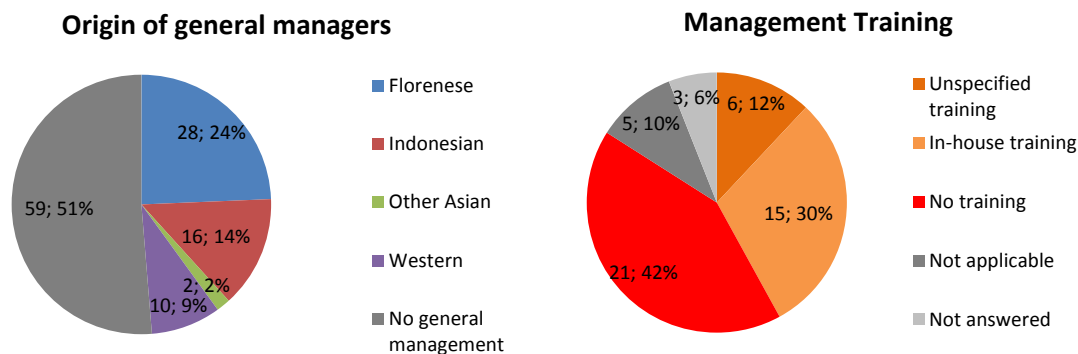


Figure 30: Management

Two thirds of the dive centres claimed to make active efforts to increase the proportion of local diving staff. 45 per cent did so by completely bearing the costs for the certification courses (one business reported this support was depending on available financial resources). Another third granted loans and/ or offered classes at lower prices. All of the dive centres recruited their diving staff among available staff, publicly or through word of mouth. No dive centre reported to actively approach Komodo people in an effort to create marine based livelihood alternatives (see Figure 31).

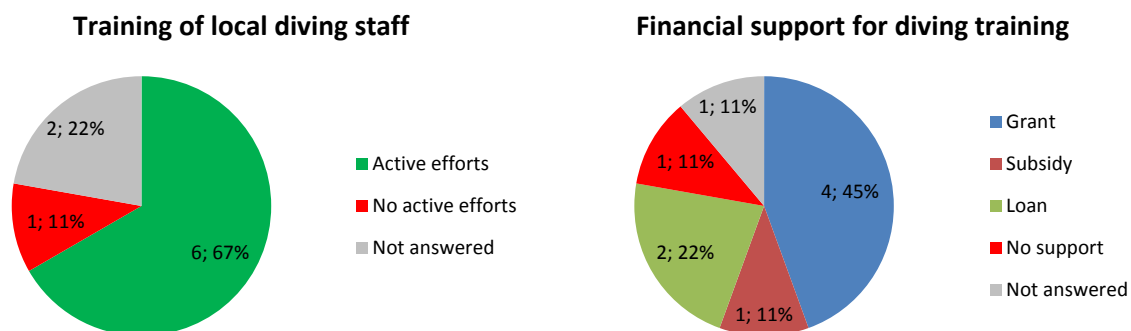


Figure 31: Diving staff and training

3.2.6. Conclusion

Job creation is undeniably a significant positive impact of the tourism development in Labuan Bajo. The destination benefits from the diving tourism, because the segment is as staff intensive as the accommodation sector. The resulting bed to job ratio of almost 1:1 for Labuan Bajo's tourism industry as a whole is very positive. Interestingly, spas and salons, which so far have not been given much attention in the destination management of the town, also employ a large number of staff per single business. The job impact in Labuan Bajo is also particularly positive, because the majority of employees comes from Flores and holds full-time positions.

However, there is a lack of compliance and enforcement of labour laws. This does not necessarily lead to exploitive working conditions. At times the employment conditions are merely not written down in a contract, but otherwise the businesses do not break any rules. Some respondents argued employees would not feel bound by contracts, so they did not see the use of providing them. However, working contracts and

the discussion of the written rules are a tool to educate employees about their rights and duties. For example, respondents explained they were never in the situation to apply regulations for maternity leave, because the women decided to leave the business unaware of the benefits they were entitled to. Without contracts and their enforcement employees are left dependent on the sheer goodwill of their employers. Especially if it comes to working hours, off-days and maternity leave, but also regarding the wage level and social security it is clear that goodwill is not enough to ensure fair working conditions.

3.3. Decent wages

The third criteria by which the employment impact of tourism development needs to be judged is the decency of wages. Unfortunately, tourism is generally speaking a low-wage sector. Research shows that the low-wage situation is intensified in destinations where the skill level of the workforce is particularly low and/ or competition among job seekers is high (Mitchell & Ashley, 2010).

3.3.1. Wage level

The basic salaries for **non**-managerial staff paid by the interviewed businesses ranged between 600,000 Rupiah and 25,000,000 Rupiah (approximately 43 to 1,780 Euros). Overall the basic salaries in Labuan Bajo's tourism industry are rather low. The average wages are oriented towards the legal minimum wage of 1,425,000 Rupiah (approximately 100 Euros; WageIndicator.org, 2016). The highest average salaries are paid by dive centres and tour operators (see Figure 32).

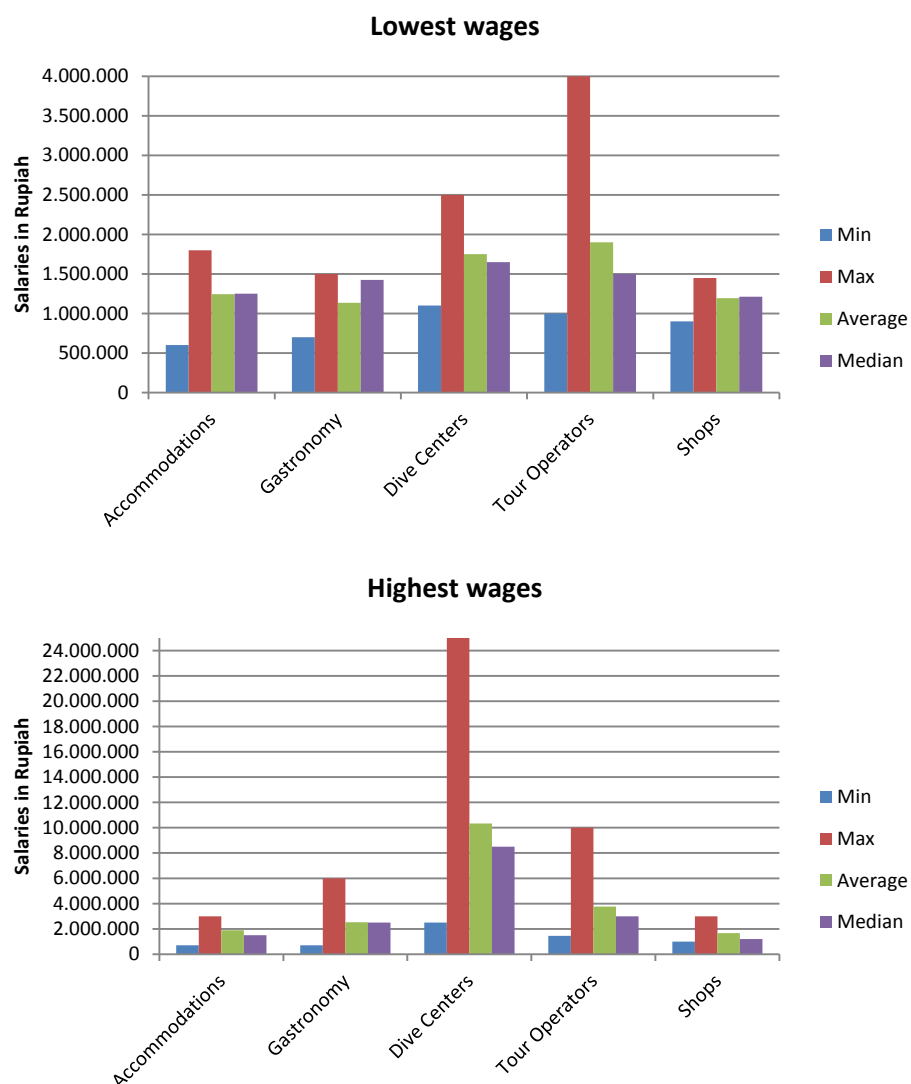


Figure 32: Wage levels by segment

Besides service charges and tips paid by tourists and distributed to the employees, slightly above 60 per cent of the interviewed businesses paid bonus payments (e.g. payments per trip for guides and boat crews, Christmas money), so the gross wage level is higher than the basic salaries (see Figure 33).

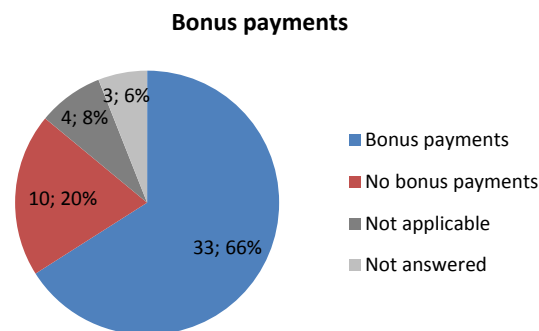


Figure 33: Bonus payments

3.3.2. Living wages

The legal minimum wage relevant for Labuan Bajo in 2016 was 1,425,000 Rupiah (100 Euros; WageIndicator.org, 2016). This is both above the official poverty and the “subjective poverty line”⁸ in Indonesia. It is also slightly higher than the living costs calculated for West Manggarai. According to the official statistics 1,250,000 Rupiah (approximately 90 Euro) should suffice to pay for food and drinks, clothing, housing, education, health expenditures, transportation, recreation and savings (BPS Provinsi Nusa Tenggara Timur, n.a.(2); Ministry of Labour and Transmigration of Indonesia, 2012). However, this number is highly aggregated for the whole province of East Nusa Tenggara and it is almost certain, that the living expenditure in Labuan Bajo is higher than that. It must be assumed, that the minimum wage allows workers in Labuan Bajo to lift or keep themselves out of poverty, but it does not allow them to accumulate savings and wealth.

Just below one third of the interviewed businesses did not pay the minimum wage for the lowest salaries. Still almost 20 per cent did not pay the minimum wage even for the highest salaries (see Figure 34).

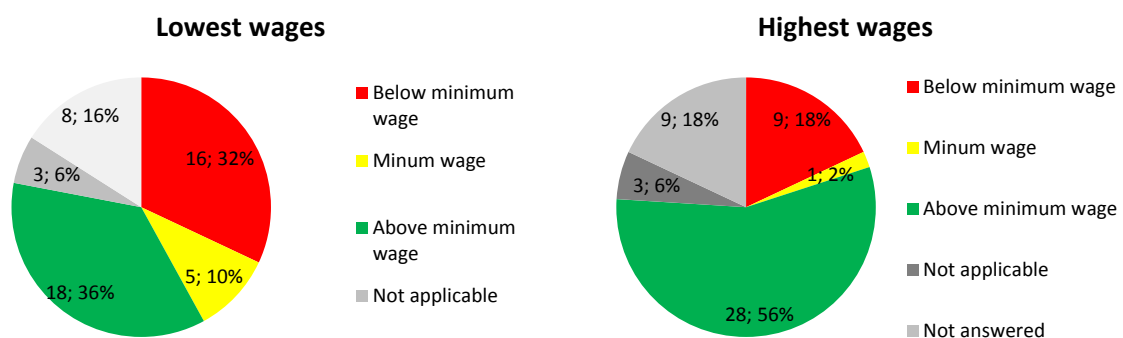


Figure 34: Compliance with minimum wage regulations

⁸ A 2014 study found that the „subjective poverty line“ in Indonesia is at 500,000 Rupiah per month as compared to the official poverty line of approximately 300,000 Rupiah per month (Firdausy, 2014; ; for poverty line in East Nusa Tenggara see also BPS Provinsi Nusa Tenggara Timur, n.a. (3)). Adjusted for inflation the 2016 subjective “poverty line” lies at 550,000 Rupiah per month.

However, more than 90 per cent of the businesses not complying with the minimum wage regulations did provide free accommodation and/or free food or paid extra food allowance. Among all interviewed businesses this number was at just above three thirds (see Figure 35).

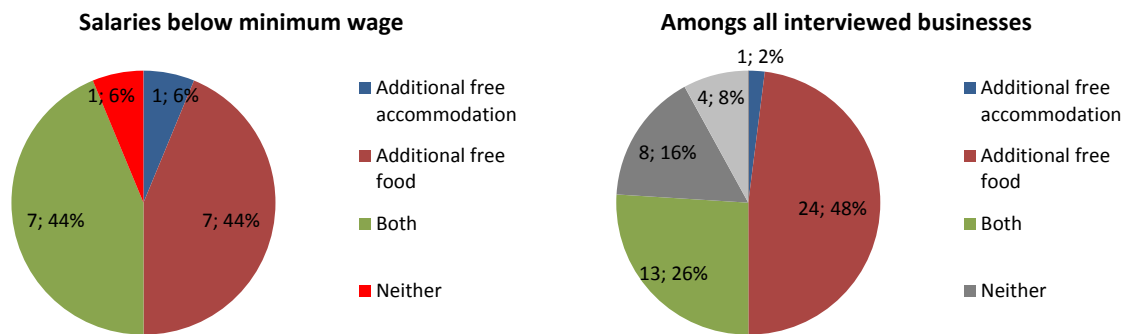


Figure 35: Additional employment benefits

Another aspect to be considered are pay rises. While living costs are constantly increasing, salaries might not. Slightly above 60 per cent of interviewed businesses reported to increase their employees' salaries regularly in a regulated manner. The majority of them did so by adjusting the payments to minimum wage legislation (see Figure 36).

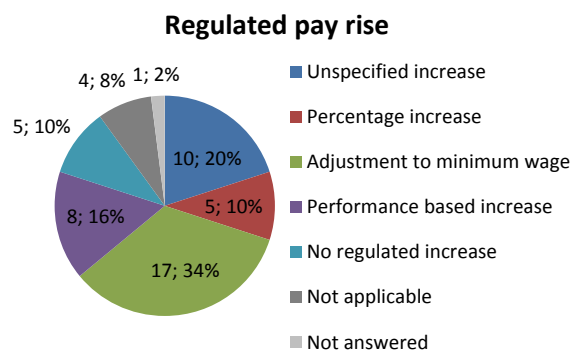


Figure 36: Regulated pay rises

3.3.3. Conclusion

As could be suspected from the low skill level of the work force and the high competition for jobs, Labuan Bajo's tourism industry has become a low-wage sector. Even dive centres, despite averagely paying higher wages than other businesses, make no exception from this rule. Their wage level is higher for more skilled employees (dive masters and instructors). However, low skilled staff (boat crew members) cannot expect to be paid much more than employees in other segments of the tourism industry. Still underlines again how important it would be to have systematic skill building among tourism staff in Labuan Bajo. Notably among accommodations the price range of the business is not corresponding with the wages paid, meaning that the higher spending by guests is not distributed to the workforce but increases the private profits of the owners.

While in quantity there are many jobs created, the actual economic impact of these jobs is amendable. The basic salaries are just enough to cover basic living costs. Accurate minimum wage calculations and the enforcement of according regulations are essential to ensure, that the wage level is not dropping even further.

3.4. Business Income

Other than direct income for business owners and their employees tourism development also creates income along the value chain. Some of it is captured by MSE and informal businesses providing products and services directly to tourism enterprises or tourists. In the informal sector there is a significant potential to contribute to poverty reduction, because entrepreneurs in this segment are more likely to come from a poor background. The rest of the indirect business income from tourism flows into the local economy via value chain linkages between tourism businesses and other economic sectors. . Agriculture, craft-production, services and construction are typical sectors which are targeted for inclusive business interventions to spread the benefits from tourism development.

3.4.1. Income of MSE and informal sector entrepreneurs

On order to assess the impact of tourism development on Labuan Bajo's MSE and informal sector primary data was collected among kiosks, motorbike rentals, laundries, snorkelling gear rentals, fish market sellers, food stands, fruit and vegetable sellers, ojets, taxis and overland drivers, boat captains or crew members as well as souvenir street vendors (see Figure 37).

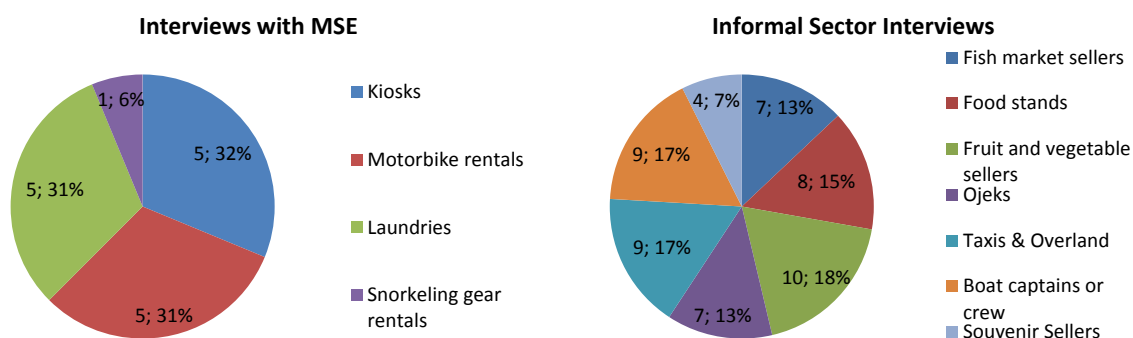


Figure 37: MSE and informal sector interviews

There are more individuals or businesses which belong to this group (e.g. local and overland buses or internet cafés), but weren't included in the research in order to keep the scope of the data collection manageable. Some of the MSE and informal sector entrepreneurs benefit from direct tourist spending, others from spending of tourism businesses, and yet others from induced spending by employees.

Around three quarters of the MSE and informal sector respondents interviewed for the impact assessment were from Labuan Bajo, from islands off the coast of Labuan Bajo or from Flores (see Figure 38). Local people were proportionately more often MSE owners as well as self-employed in the transport sector (on land and on the water) or souvenir street sellers. Migrants from other parts of Indonesia were more likely to work as traders on the fish and farmers markets as well as the food stands in the night market.

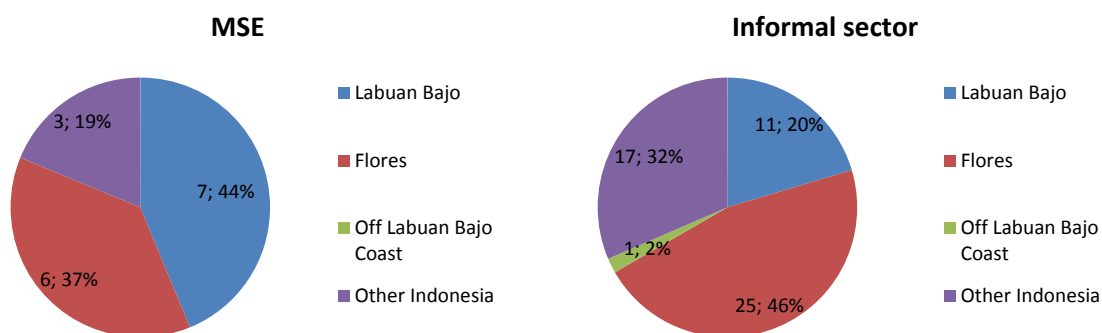


Figure 38: Origin of MSE and informal sector entrepreneurs

People of all age groups earn income in MSE and the informal sector of Labuan Bajo (see Figure 39). However, younger respondents were more likely to engage in low capital occupations such as ojek driving or working on boats, while older respondents were more likely to have invested in an MSE or other assets (such as a car). They also were more likely to have built trading networks enabling them to work as market sellers.

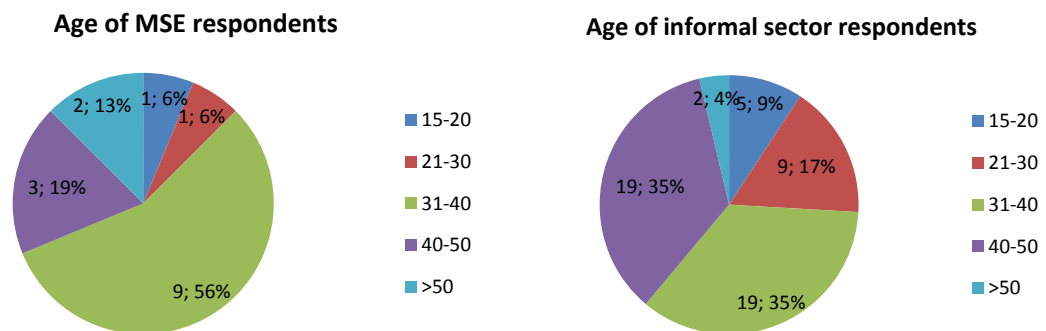


Figure 39: Age of MSE and informal sector respondents

Almost a third of the MSE and more than half of the informal sector respondents attended only primary or secondary school (see Figure 40). In comparison, in the formal sector, depending on the segment, only five to fifteen per cent of the employees have lower education than vocational schooling (Swisscontact, 2015b). The informal sector in Labuan Bajo therefore holds a significant income potential for people who might otherwise be marginalized.

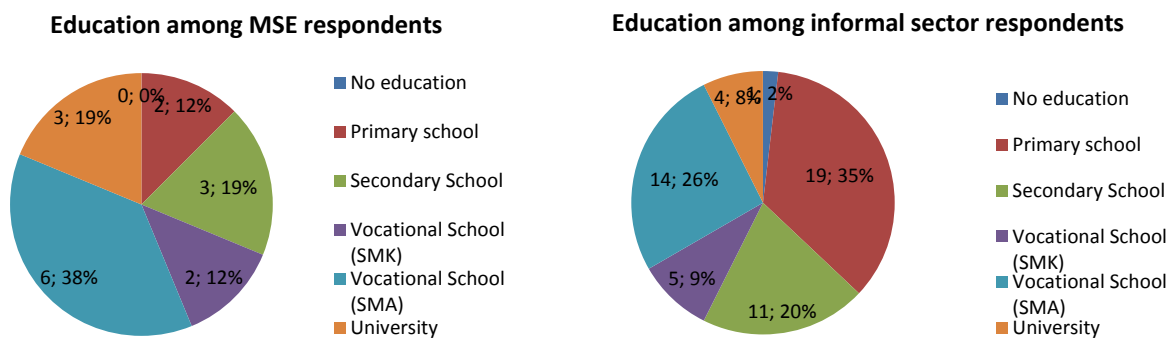


Figure 40: Educational level of MSE and informal sector respondents

The majority of respondents support families of varying size with their income. In average family size was larger among market and souvenir sellers (see Figure 41).

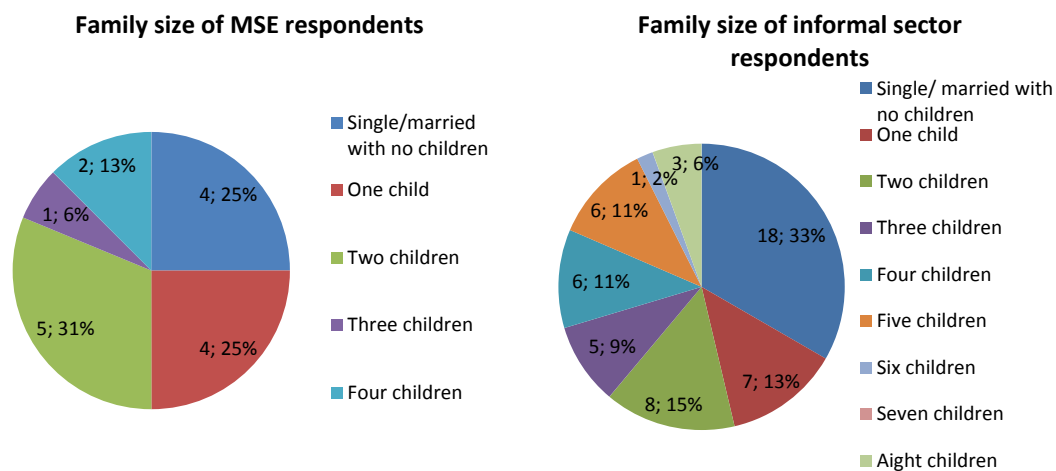


Figure 41: Family size of MSE and informal sector respondents

Unfortunately, it was difficult to collect reliable quantitative information about the income of the MSE and informal sector respondents. The data differed in units (daily, monthly) as well as gross or net values. The assessment of the economic impact of tourism development on MSE and the informal sector must therefore rely on softer indicators. For example, 75 per cent of the MSE and around 60 per cent of the informal sector respondents perceived a change in their living conditions during the last two years (2014-2016, see Figure 42). The large majority of them explained their income had increased.

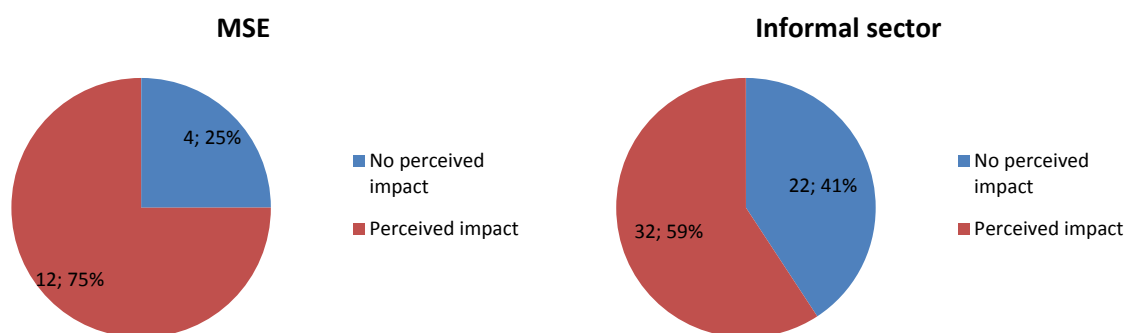


Figure 42: Perceived livelihood changes

Not surprisingly the large majority of respondents was content with their current occupation and wanted to continue with it (see Figure 43). Employees in laundries were unhappy with their current situation, which points towards poor working conditions in these businesses. Ojek, taxi and overland drivers also reported dissatisfaction, which can be explained by growing numbers of competitors and correspondingly more difficulties to earn a living.

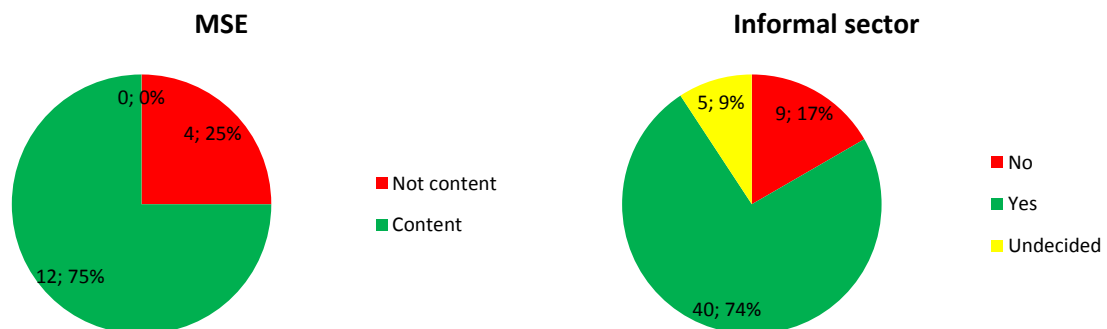


Figure 43: Content with current occupation

Around 40 per cent of the MSE respondents and a quarter of informal sector respondents had other sources of cash income and were therefore not solely dependent on income from tourism. Additionally, in around 60 per cent of the cases for MSE and 40 per cent of the cases for informal sector respondents the spouse was contributing a second income to the family (see Figure 44).

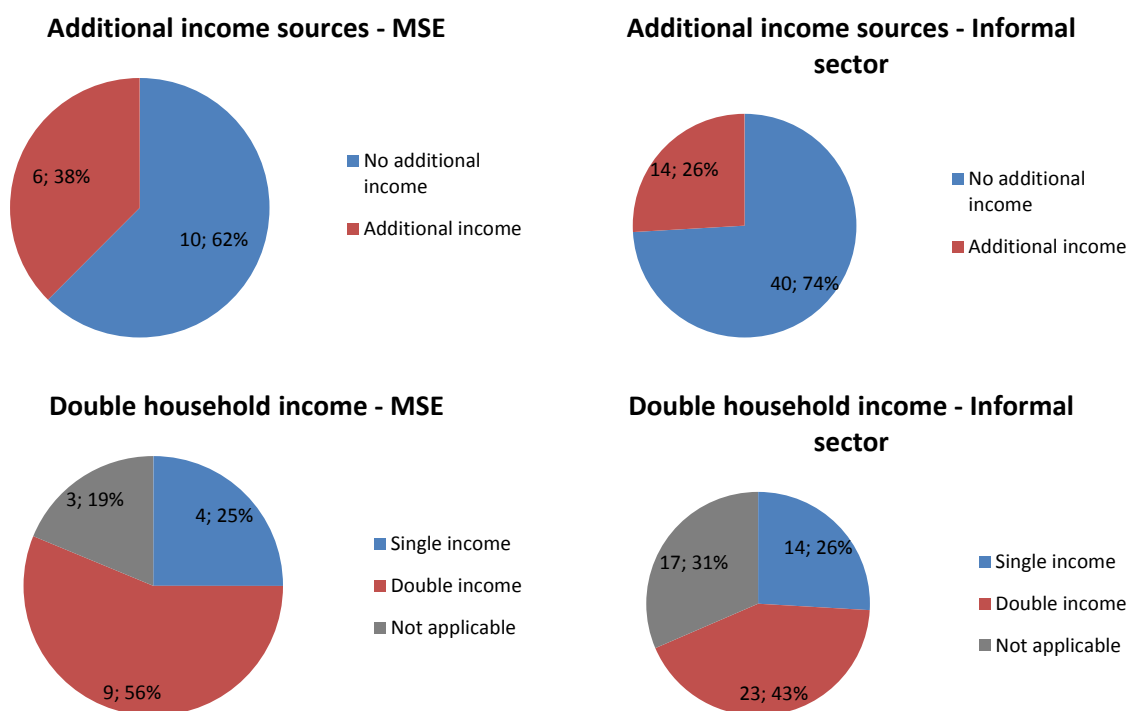


Figure 44: Additional income sources and double household income

Around 60 per cent of the respondents were registered with BPJS. All without BPJS could afford medical care. All except for one respondent with children could bear educational costs. Around 80 per cent of respondents reported to be able to save money for retirement. However, for 50 per cent of MSE and 70 per cent of informal sector respondents it was not possible to save for longer times of sickness (see Figure 45).

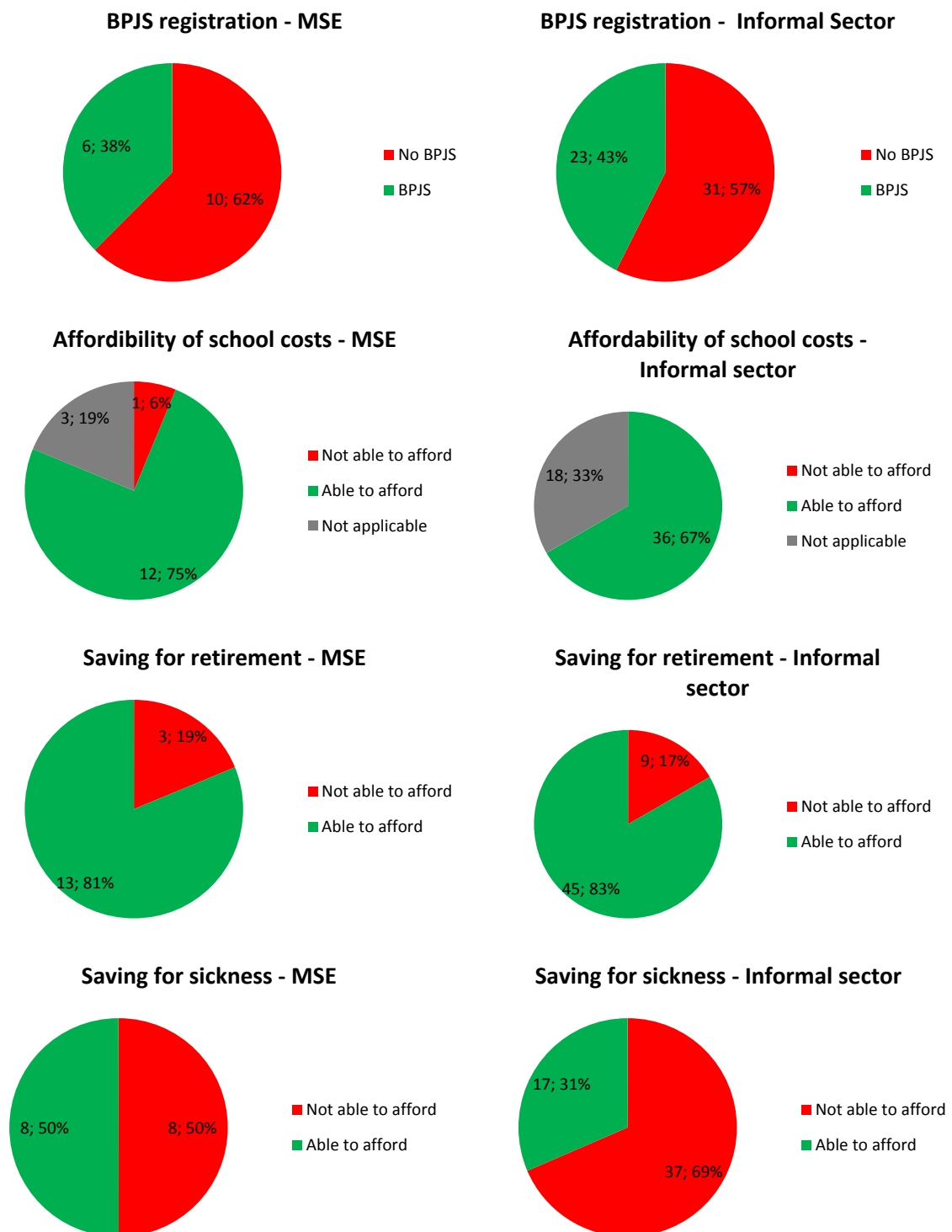


Figure 45: Livelihood indicators in the MSE and informal sector

Tourism is directly and indirectly creating income for people, who might otherwise be marginalised. However, it is questionable if it makes a significant contribution to poverty reduction. Until 2014 the poverty measures have slightly improved in Manggarai Barat and - more interestingly - they have improved more than in the neighbouring regencies (see Table 5). However, there is a massive deterioration between 2014 and 2015, which is surprising. It's unlikely caused by a large influx of poor migrants because the proportion of the poor compared to the overall population is not changing as much.

Overall it seems too much, to conclude a significant contribution of tourism to poverty reduction. The gap between the intensive industry development and the slight improvements in the poverty measures is too striking. However, West Manggarai seems to be doing slightly better than Central and East Manggarai, so this could indicate a contribution after all.

Number of poor people by regency (thousand people)											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Manggarai Timur	-	-	-	-	59	65,7	63,53	64,4	66,1	64,72	77,67
Manggarai	155,4	167,2	150,5	137,8	66,9	67,1	64,78	65,7	65,2	63,86	74,01
Manggarai Barat	53,7	58,9	53,5	48,3	45,9	45,3	43,83	44,4	44,1	42,55	50,98
Average		113,05	102	93,05	57,267	59,367	57,38	58,167	58,467	57,043	67,5533
Changes											
Manggarai Timur						11	-3	1	3	-2	20
Manggarai		8	-10	-8	-51	0	-3	1	-1	-2	16
Manggarai Barat		10	-9	-10	-5	-1	-3	1	-1	-4	20
Average						3	-3	1	0	-3	19
Share of poor people in population by regency											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Manggarai Timur						25,995	24,636	24,601	24,945	24,112	28,5013
Manggarai						22,944	21,665	21,581	21,058	20,306	23,1566
Manggarai Barat						20,433	19,147	18,909	18,306	17,31	20,2552
Average						23,124	21,816	21,697	21,437	20,576	23,971
Changes											
Manggarai Timur							-5	0	1	-3	18
Manggarai							-6	0	-2	-4	14
Manggarai Barat							-6	-1	-3	-5	17
Average							-6	-1	-1	-4	16
Poverty gap by regency											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Manggarai Timur	-	-	-	-	4,4	5,02	3,68	3,66	3,36	3,3	4,72
Manggarai	6,68	5,09	4,8	7,66	4,09	3,57	3,07	3,24	2,96	2,65	4,38
Manggarai Barat	5,64	4,33	4,97	7,84	3,32	3,22	3,11	2,9	3,74	2,64	3,32
Average		4,71	4,89	7,75	3,94	3,94	3,29	3,27	3,35	2,86	4,14
Changes											
Manggarai Timur						14	-27	-1	-8	-2	43
Manggarai		-24	-6	60	-47	-13	-14	6	-9	-10	65
Manggarai Barat		-23	15	58	-58	-3	-3	-7	29	-29	26
Average						-1	-15	-1	4	-14	45
Poverty severity by regency											
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Manggarai Timur					1,14	1,4	0,81	0,81	0,68	0,69	1,09
Manggarai	2,12	1,15	1,18	2,28	0,98	0,85	0,72	0,76	0,64	0,52	1,17
Manggarai Barat	1,58	0,95	1,2	2,73	0,78	0,83	0,73	0,68	1,15	0,63	0,79
Average					0,97	1,03	0,75	0,75	0,82	0,61	1,02
Changes											
Manggarai Timur		-46	3	93	-57	-13	-15	6	-16	-19	125
Manggarai		-40	26	128	-71	6	-12	-7	69	-45	25
Manggarai Barat						23	-42	0	-16	1	58
Average						5	-23	0	12	-21	69

**Table 5: Poverty measures for Manggarai
(BPS Provinsi Nusa Tenggara Timur, n.a. (4))**

3.4.2. Income in other economic sectors

The tourism industry is connected with other industries. This connection is often referred to as intersectoral linkages. These linkages create indirect income from tourism. In the context of developing countries the most important linkages usually exist between agriculture and tourism, handy crafts and tourism as well as construction and tourism, because these are the sectors in which the local population, and in particular the poorer (rural) population, is most likely to be included. Additionally tourism enterprises can create business opportunities for local MSE through outsourcing of services such as laundry, maintenance or security.

According to research indirect intersectoral linkages can significantly boost the economic impact of tourism. An estimated average lies at more than 50 per cent, on top of the direct impacts. Most studies in developing countries found an extra 60 to 80 per cent (Mitchell & Ashley, 2010). However, the positive impact is not guaranteed. A number of supply, demand and marketing constraints can prevent their manifestation.

Agriculture and fishing

Because of its scale and potentially strong links with the local agricultural sector, the food supply chain into tourism businesses can be an important source for indirect benefits.

A little less than half of the businesses interviewed for this impact assessment purchased the food for their operations from the local fish and farmers markets as well as supermarkets. Another quarter had supply contracts with local retailers. Only in two cases, the provider of the food supplies came from Bali. The concerned hotel found the quality provided by local retailers insufficient (e.g. chicken in whole instead of ready to use cuts; see Figure 46). Overall the data indicate very strong ties between Labuan Bajo's retail sector and the tourism industry. However, this does not mean that the majority of the purchased food is home grown.

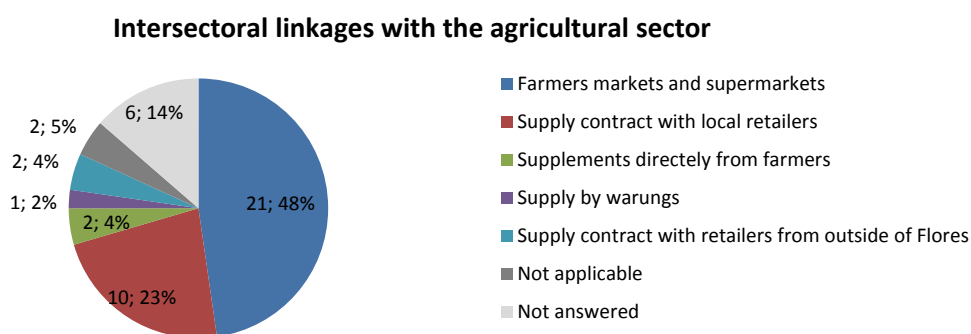


Figure 46: Food purchasing by tourism businesses

Only two interviewed businesses reported to supplement food purchases with products directly from Florenese farmers. The data from the informal sector surveys indicate that only 20 per cent of the market sellers purchase their goods primarily from local farmers. Another 40 per cent purchased fruits and vegetables locally and from other parts of Indonesia. Yet another 40 per cent exclusively maintained buying relationships with farmers from outside of Flores (Bima, Lombok, Bali, Java, Sulawesi; see Figure 47).

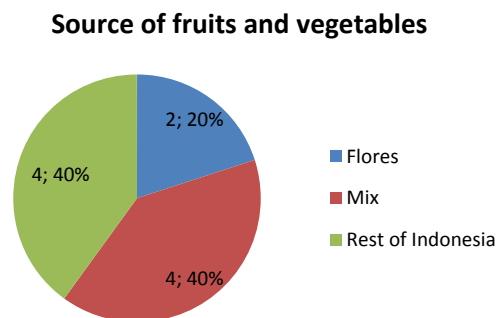


Figure 47: Source of fruits and vegetables purchased at local farmers markets

The origin of the market sellers seems to influence from where they purchase their stocks. Migrants are more likely to make use of their relationship with farmers at home than with Florenese farmers. Beyond that, the quality and quantity of goods as well as the reliability of supplies provided by local farmers is often a major reason why intersectoral linkages between the agricultural and the tourism sector are weak. This also applies to Labuan Bajo. The majority of agricultural production is located around Ruteng. The quality of products from there is good, however farmers don't have transport means to get their produce to Labuan Bajo. Instead they send it with normal transport or trucks. The transport of goods along the winding road to Labuan Bajo takes longer than having products brought in by boats from other parts of Indonesia. Additionally, normal transport and trucks don't drop to the buyers what makes delivery even slower. The produce is often not fresh by the time it reaches the customer. Beyond that farmers are not organised well enough to pool and coordinate their production as would be necessary to provide the needed variety and quantity of products. Additionally, they rely on representatives in Labuan Bajo. Different expectations about the service provision often strain these business relationships and discourage farmers.

Coffee and drinking water are the only products which are dominantly produced in Flores and bought by almost all of the touristic businesses. The establishment of value chain linkages to the coffee farmers was only successful because of NGO support. The coffee is produced by small-scale farmers in Bajawa and Manggarai. The NGO facilitated the founding of coffee grower associations in 2013/2014, which led to an increase in sales prices for the coffee beans as well as the establishment of processing and packaging capacities in Flores.

Fish from the fish market is primarily provided by Komodo fishing communities and presents a significant source for indirect benefits for the population in the national park.

Crafts

Besides agricultural goods, crafts are another product that could potentially be supplied by the local population and create indirect economic flows from the tourism industry. Souvenir street sellers and shops are the main intermediaries between local producers and tourists.

Souvenir street sellers in Labuan Bajo primarily sell sarongs and pearl necklaces. Vendors interviewed for this impact assessment purchased sarongs from retail markets, primarily in Ruteng but also in Larantuka or Flores' neighbouring island Sumba. Not all the fabrics at these retail markets are hand-woven by rural communities. Sarongs at a cheaper price range are likely to be factory-made in Java, again potentially creating leakage and increasing the imbalance between Indonesia's economic centre and the less

developed periphery. The difference between hand-woven and factory-made fabrics is usually not recognizable by tourists. Pearls on the other hand are farmed in Komodo.

Locally produced products sold at souvenir shops and some boutiques are limited to sarongs, wood carvings (mostly of Komodo dragons) and few culinary products (mostly honey from Komodo). The majority of shops bought sarongs from retail markets across Flores, on Sumba and on Timor, or from travelling merchants. Only one shop had direct purchasing relationships with producer communities. It is more likely that sarongs in shops are hand-woven than factory-made, but it is not guaranteed.

Wood carvings on the other hand are likely to be handmade originals from Komodo. However, two out of six shops (also) sold wood carvings coming from Lombok and Bali. There are no supply agreements between the crafters from Komodo and the souvenir shops in Labuan Bajo. This was explained with the unreliable quality of the carvings and unprofessional behaviour by the business partners (agreed stocks have been sold to competitors, complaints about the quality of products were disregarded). Recent research by Lasso and Dahles on Komodo Island concludes drastic livelihood transformation among Komodo's crafters and souvenir sellers, caused by tourism development (see box below; Lasso & Dahles, 2017).

Livelihood transition on Komodo Island

The introduction of woodcarving on Komodo Island was initiated in the 1970s when a researcher from the United States was looking for a local carpenter to craft him a Komodo statue. The souvenir business was later applied as a livelihood diversification strategy, conducted in the locals' spare time besides their main occupation of bagan fishing. In the mid-2000s income from bagan fishing fell due to a combination of a significantly decreasing squid population, high fuel prices and scarcity of bagan crews. At the same time the number of tourist visiting the national park on the island increased. Witnessing the success of other full-time crafters and souvenir sellers, more and more bagan fishermen quit fishing, sold their boats and fully concentrated on the souvenir business. As a result their livelihood fully relies on tourism today.

Currently tourism is providing the crafters and souvenir sellers in Komodo with a sufficient income besides growing numbers of market participants and increasing competition. However, the long stretched low season proves to be financially challenging and creates debt risk. The locals' fully reliance on the number of tourists also makes them vulnerable to drastic changes in visitor numbers caused by shocks, natural disaster or terrorism. The crafters and souvenir sellers do not have alternative means to maintain their livelihood as they have lost one of their most crucial assets, the bagan boats. The high purchase prices for bagan boats make it unfeasible to return to the former occupation. Under these conditions the sustainability of the contribution of tourism to the local livelihood remains questionable.

A number of current developments threaten the people's livelihood:

- a. Raising entrance fees to the national park pose a potential threat in the future by causing a decrease in visitor numbers.
- b. The only legal market place at the national park entrance can no longer absorb the increasing number of souvenir traders. At current visitor numbers the market is saturated.
- c. Although crafters and sellers succeed to earn a sufficient income during high tourist season, their lack of financial management skills does prevent them from getting through the low season. This traps some of them in a circle of debts.

Lasso, Aldi H. & Dahles, Heidi. Tourism Development and Local Livelihood on Komodo Island, Indonesia, Otago University, Dunedin, 2017.

With the exception of one souvenir shop, all other offered products mainly originating from Bali, Java, Lombok and Sumba. The exceptional shop was able to purchase table ware, jewellery, clothing and shoes made from traditional fabrics, honey (during the season), shrimp paste, sugar, snacks and dried fish from local producers.

Services

Laundry and maintenance/repair are services which touristic businesses can outsource to service providers and thereby create opportunities for small local businesses. Accommodations and restaurants are the most potent consumers of such services. More than 60 per cent of the accommodations interviewed for this impact assessment, however, had in-house laundries and just above 40 per cent had repairs and maintenance done by own staff (see Figure 48).

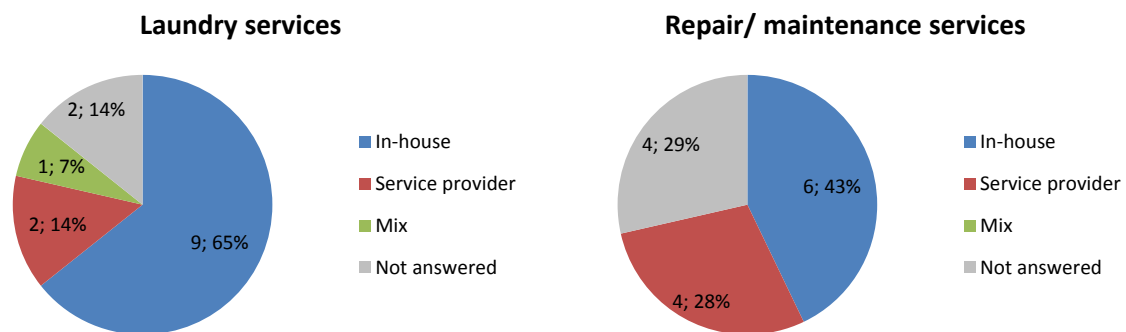


Figure 48: Outsourcing of services

Construction

Construction companies are capital intensive, large businesses. Benefits for the local population derive from employment created in these enterprises. Florenese people work on three quarters of the construction sites screened for the purpose of this impact assessment. In more than 40 per cent of the construction crews they shared the jobs with migrant workers from other parts of Indonesia. Only in 25 per cent of the cases all the jobs were given to local builders (see Figure 49).

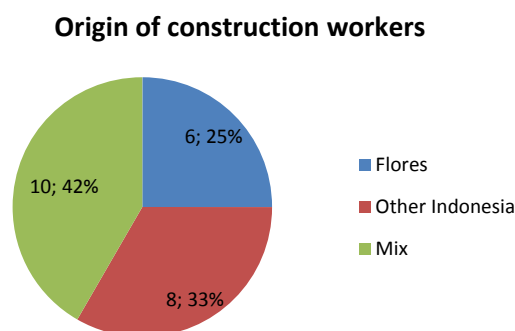


Figure 49: Origin of construction workers

In informal discussions the migrant workers explained they had lived in Labuan Bajo for several years moving from one construction site to the next. Even though the research for this impact assessment did not include detailed primary data collection on the working conditions on the construction sites, observation alone allows for the conclusion that they are very poor. Besides the fact that there are no safety measures visible, the workers also live in simple shacks made of scrap wood or the building carcasses without sanitary or any other facilities.

Additionally, the jobs given to local builders as well as the migrant workers are hard physical labour. According to informal discussions with business owners in Labuan Bajo higher skilled construction work

such as electric installation and plumbing is done by companies from Java. This is reflected by the construction arrangements of all the company owned beach resorts interviewed for this impact assessment. The parent companies owned their own construction companies or hired cooperation partners from Java.

While construction jobs are only a small benefit to the local population, substantial indirect benefits might derive from the purchase of construction materials. At all of the screened construction sites, workers reported, that the majority of building material originates from Flores. However, the environmental consequences of the resource extraction are visible all along Roads in Flores (see Figure 50).



Figure 50: Quarries along roads in Flores

3.4.3. Conclusion

The overall economic development from the growth of Labuan Bajo's tourism sector benefits MSE and people working in the informal sector. The informal sector holds an income potential for people who might otherwise be marginalized. Moreover the majority of these beneficiaries is from Flores (but the migrants have the more profitable and stable occupations). The income also appears to create livelihood which is not precarious and can be considered a positive impact. However, periods of sickness and the long stretched low season, which particularly affect those who earn money directly from tourism, put people in a vulnerable position. Overall it would be too much to conclude a significant contribution of the tourism development in Labuan Bajo to poverty reduction.

The intersectoral linkages between Labuan Bajo's tourism industry and other economic sectors are weak. Most tourism businesses buy produce from local sellers but not from local farmers, because there are weak ties between Labuan Bajo's market places and Flores' agricultural sector. Only a very roughly estimated 30 per cent of agricultural products sold are actually coming from the island. Accordingly, leakage in the food supply chain is high. A majority of the interviewed businesses did not seem to be aware that locally sold, does not necessarily mean locally grown. Fish from the fish market on the other hand is primarily provided by Komodo fishing communities and presents a significant source for indirect benefits.

Locally produced crafts are not very divers. Additionally ties between crafters and shops are very weak, resulting in a small proportion of local products sold by souvenir sellers and shops. Overall this presents another source for considerable leakage. Tourists' inability to recognize the origin of products in connection with a low willingness to pay disadvantages local hand-made products compared to factory-made copies.

Sourcing laundry and repair services from local MSE does already provide business opportunities to local MSE. However, the benefit could be increased if more tourism business would be willing to make use of outside service providers.

Indirectly created jobs in the construction sector are not beneficial to the local population and most likely highly exploitive. The hiring of construction firms from Java increases leakage and the economic imbalance between the centre and the periphery. It also constrains opportunities for local construction companies

and builders to improve their capabilities. However, the sourcing of building material from Flores could be a major indirect economic benefit, at the cost of considerable environmental destruction.

3.5. Public income

The public sector can receive income from tourism development through a number of channels. Employers and employees contribute to income tax and social insurances. Businesses are subject to corporate taxes and capital duty. Additionally there are property taxes, the value added tax (VAT) and customs fees. Fees from protected areas and other touristic sites under governmental management further add to public earnings.

Public income created by Labuan Bajo's tourism sector is split between local and central government. Because the revenues are created through many channels and public data does not specify how much one particular economic sector contributes to the accumulated sum of each channel, it is not possible to quantify neither the total generated public income in monetary terms nor the proportion of local compared to central governmental earnings. However, given the rules of distribution for the revenues, it is very likely that central government receives a much larger share (see Table 6). For instance, roughly three quarters of the total annual revenues from ticket sales in Komodo National Park go to central government.

Central government	Local government
▪ Private income tax ▪ VAT ▪ Customs fees ▪ Komodo National Park fee ▪ Fee for touristic activities in Komodo National Park ▪ Harbour and airport fees	▪ Corporate income tax ▪ Vehicle taxes ▪ Taxes on land and construction ▪ Taxes on acquisition of land and buildings ▪ Entrance fee to touristic facilities in Komodo National Park

Table 6: Distribution of taxes and fees to central and local government

The local revenues are pooled for the entire regency of West Manggarai. It is not possible to quantify the absolute contribution of tourism to the regency's budget as explained earlier. However, it is noteworthy that the tourism department was not only one of the 14 out of 53 departments, which generated any income at all, it was also the fifth largest contributor. In 2015 it generated 4 billion Rupiah (approximately 280,000 Euro) mostly through levies. In comparison, the largest contribution overall came from the tax office with 19.5 billion Rupiah. Second, third and fourth largest budget items were generated by the departments of financial and local asset management (12.8 billion Rupiah), health (10.5 billion Rupiah), as well as mining and energy (5 billion Rupiah; Pemerintah Kabupaten Manggarai Barat, in press a). The growing tourism sector is likely contributing to all of these positions more or less directly, but to an unknown extent.

While the numbers confirm a positive relative impact of the tourism development on public income creation in West Manggarai, the absolute impact could be fairly small. For instance, the paving of 1 km of road alone costs 850 million to 2.75 billion Rupiah depending on width and quality of asphalt etc. Tourism could therefore finance the paving of 1.5 to 4.7 km of street. The street in the touristic centre of Labuan Bajo, which is currently in very bad condition, is already 1.7 km long. That means, despite the fact that tourism is growing, the government of West Manggarai will continue to be widely dependent on transfer payments from central government, which in 2015 accounted to around 580 billion Rupiah (40 million Euro; Pemerintah Kabupaten Manggarai Barat, in press b). This is also the case for the sub-district of Komodo and its lower administrative levels of the urban agglomeration of Labuan Bajo, because the pooling of income on regency level does not create any direct income for them at all.

In the current situation and given the quality of available data it is not possible to establish or quantify a correlation between increasing tourism development in Labuan Bajo and larger transfer payments to West Manggarai or its sub-district of Komodo. This is sure to change, however, in the context of Labuan Bajo's declaration as one of the ten new priority destinations. The size of the funds to be provided within this framework is not yet determined but can be expected to be profound.

In summary, the creation of public income is likely significant on the level of the central governmental and certainly driving the plans to significantly expand Labuan Bajo's tourism development especially through the attraction of foreign visitors (who for example pay a 30 times higher price than domestic tourists to enter Komodo National Park). On the local level, however, relative significance exists, but the absolute contribution to the public income is small or not transparent, respectively. This is resulting in a lack of incentives for the local government to manage Labuan Bajo's tourism development appropriately, and ultimately in opposing incentives on the level of local and central governmental with regard to the scale and scope of Labuan Bajo's tourism development.

3.6. Spill-over effects

Tourism development can create various indirect impacts, such as migration or improvements in public infrastructure and mobility which are directed at tourists, but benefit communities as well.

3.6.1. Migration

Tourism development such as in Labuan Bajo is often associated with urbanisation and migration from lesser developed areas to the new industrial centre. Around 20 per cent of the respondents from the MSE and a third of the respondents from the informal sector reported to have migrated to Labuan Bajo from other parts of Indonesia and the majority of them stated job opportunities as the reason why. Particularly many people moved to the town in the years 2000, 2010, 2011, 2013 and 2014 (see Figure 51). It seems that with increasing tourism growth, more people were attracted by Labuan Bajo.

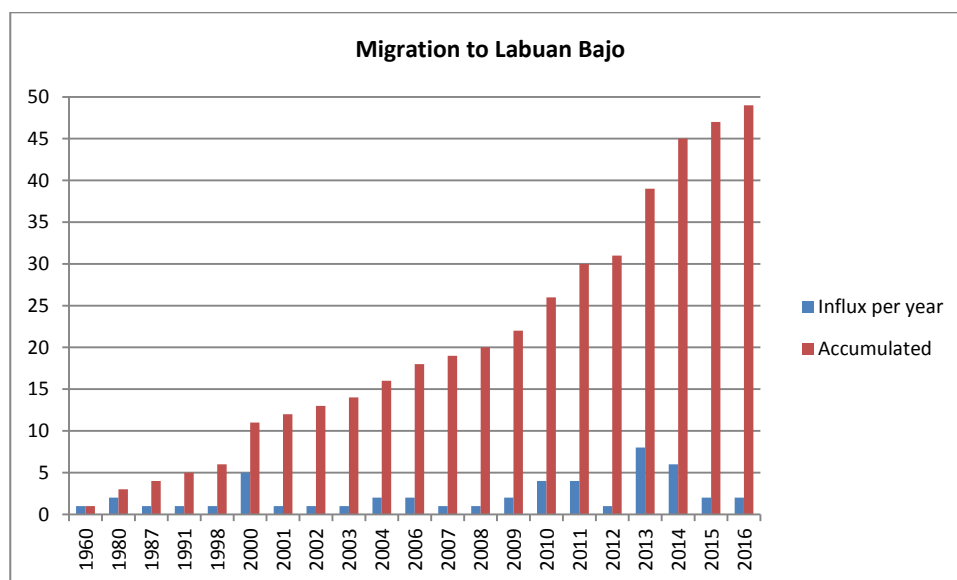


Figure 51: Migration to Labuan Bajo (primary data)

The information from the MSE and informal sector is difficult to support with official statistics. The Kecamatan of Komodo has seen a temporary rise in population numbers in 2013, the year of Komodo Sail. However, the statistics for the urban agglomeration of Labuan Bajo do not show the same increase in the population size. There the jump came a year later. In the same year as the population increased in Komodo there has been a steep drop in Lembor and Kuwus, which could indicate, that people moved from these

two Kecamatan to Komodo. However, by 2014 the population number in Komodo was almost back to where it was in 2012, but the population size in the other Kecamatan remained at the lower level. This in turn suggests that people have moved to other places than Komodo. Between 2014 and 2015 Komodo had the highest growth rate of all the Kecamatan in West Manggarai, which might again be an indicator for the pulling effect of the tourism industry in Labuan Bajo (see Figure 52).

Information received from informal discussions with the people in Labuan Bajo is similarly ambiguous. On the one hand Florenese people explained they'd decided against migrating to other places in Indonesia because now there were employment options available in Labuan Bajo. Some had even moved back to Flores. Others, however, saw working in Labuan Bajo's tourism industry as a steppingstone on the way to Bali, where wages are higher and life was expected to be more interesting.

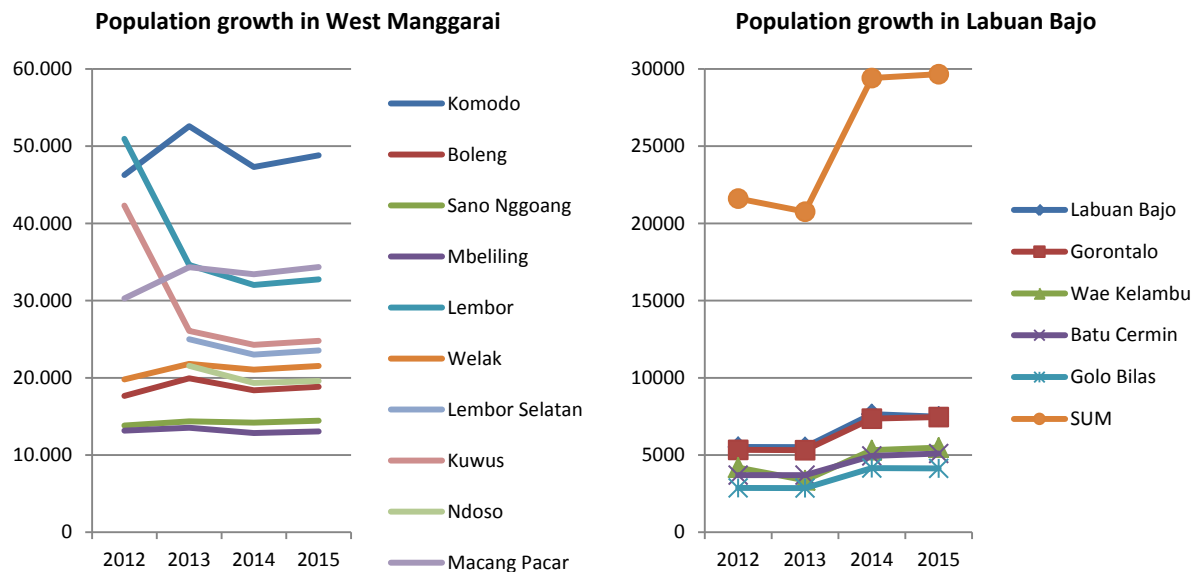


Figure 52: Population growth in West Manggarai and the Labuan Bajo area (BPS Kabupaten Manggarai Barat, n.a.)

3.6.2. Infrastructural improvements

There have been substantial investments in transport infrastructure in Labuan Bajo. The harbour has successively been enlarged and an international airport has been constructed. However, other than that Labuan Bajo's infrastructure is comparatively bad. Power shortages are common. Water has to be delivered and stored in tanks, because the water pipes installed by the local government do not function. The roads are in worse conditions than in other urban areas in Flores.

3.6.3. Conclusion

There is most likely a migratory pull effect from other parts of West Manggarai and Flores to Labuan Bajo. The majority of people, who were interviewed or involved in informal discussions with the researchers, came from Lembor or the areas of Ruteng and Bajawa. The reason why these migratory flows are not reflected by official statistics is most likely a methodological problem. The data rely on registration. Possibly people do not always report their change in residency. The expansion of residential areas as is visible on Google Earth definitely supports the assumption that there has been massive migration to Labuan Bajo (see 5.2). Whether or not the tourism development in Labuan Bajo affects migration from and to other parts in Indonesia is much more difficult to say.

The infrastructure improvements which have been realised primarily benefit the tourism industry. Improvements which would benefit businesses and residents equally, however, have not been made yet. This is likely to change if governmental funds in the context of the new priority destinations start pouring in.

3.7. *Economic impact summary*

Labuan Bajo has been growing rapidly over a decade now. Fuelled by the prospect of major development interventions by the central government the growth has recently taken on characteristics of a gold rush. The result are numerous land deals and building projects in connection with noticeably increasing land and rent prices. It is not apparent, that the development is monitored and directed by the local government. If this perception is correct, the current situation is likely to impair.

So far the people of Flores are participating in the industry development. They open touristic businesses and pursue opportunities in the MSE and informal sector. Locals are more likely to open businesses in lower price and more competitive segments, because there the entry barriers are comparatively low. Raising land and rent prices in connection with the apparent sell-out of land are closing this opportunity gap. Local land owners might opt out for selling their land instead of developing their own businesses on it. Motivated entrepreneurs might be discouraged because they cannot afford the investment in land or rental space. In other words the push of tourism growth in Labuan Bajo will likely exclude the local population from participating in the development. If investments are left only to financially strong Indonesians from more developed parts of the country, or Western business people and transnational consortia, the leakage in Labuan Bajo will inevitably increase. This will widen the development gap between Indonesia's economic centre and its periphery instead of reducing it as intended. If large scale developments are preferred over smaller investments this will also result in the establishment of highly vertical integrated businesses. This would additionally limit opportunities for the local population to take root in the tourism industry via transport and tour services, shops, gastronomic businesses or services for other touristic enterprises. If local entrepreneurship is to be supported, slower growth is undeniably preferable. Investments in local capacity building with regard to offering touristic services, business planning and financial management as well as assistance in professionalization and upgrading of existing local businesses would be the recommended strategy.

So far job creation is undeniably a significant positive impact of the tourism development in Labuan Bajo. The job impact is particularly positive, because the majority of employees is from Flores and holds full-time positions. However, there is a lack of compliance and enforcement of labour laws. Employees are left dependent on the sheer goodwill of their employers. Especially if it comes to working hours, off-days and overtime compensation as well as social security it is clear that goodwill is not enough to ensure fair working conditions. However, labour legislation is most often based on the manufacturing context. Tourism needs more industry specific and to certain extent flexible rules, especially when it comes to working time regulations. A balance between business needs and workers' rights needs to be found.

Labuan Bajo's tourism industry is undeniably a low-wage sector. The minimum wage is the measure of all things and determines the overall wage level in the town. The minimum wage allows workers in Labuan Bajo to lift or keep themselves out of poverty, but it does not allow them to accumulate savings and wealth. As the more important are reliable data on living expenses and an appropriate calculation of the minimum salaries. The minimum wage must allow saving money as an insurance against unemployment, health issues and retirement, but it must also enable investments in education and careers. Otherwise tourism employment becomes dead-end jobs. Rarely businesses pay significantly more than the minimum wage. This needs to be considered, if the regulation itself is not supposed to become a break for the growth in salaries. The wage level is closely connected with the skill level. One argument why businesses pay low

wages is the need to invest time and effort in training their staff. Improving the educational capacities in Flores would not only put employees in a better position to ask for higher wages, it would also ensure that the Florenese work force can compete with migrants from other parts of Indonesia.

Rapid growth might result in one-dimensional economic benefit creation for the local population solely based on employment. However, MSE and the informal sector enable people with lower educational background and/ or capital to gain from tourism development. They deserve more support. One way of protecting the entrepreneurs is to ensure affordable space in the proximity of the tourist centre. The night market is recognised as touristic attraction and sees infrastructural improvements. This kind of support is not given to other informal sector groups. Souvenir vendors have no space at all. Fruit and vegetable sellers have been displaced from the centre to distanced market places. This resulted in income losses for them. Labuan Bajo's tourism businesses buy from the market places because it is convenient. If this changes local benefit opportunities will be lost to formal service providers. Ojek drivers also requested the establishment of a proper station for their services. Generally informal entrepreneurs in the transport segments desired governmental support in establishing associations for the professionalization, standardisation and regulation of their services. Especially the boat captains and crews need to be enabled to compete with outsiders. Another supportive measure in the MSE and informal sector would be the establishment of suitable financial tools which assist entrepreneurs in professionalising and expending. There were food stalls outside of the night market, which desired protected space and a roof. Laundries were moving on from hand to machines wash, and motorbike rentals were planning to expand into the car rental segment. Guides were criticising that the guide association is not certifying more freelancers. Here qualification programs and brokering between guides and customers is needed.

The intersectoral linkages between Labuan Bajo's tourism industry and other economic sectors such as agriculture, crafts or services are weak. This is a substantial potential for local benefit creation which lies idle. Establishing and maintaining such linkages is known to require substantial facilitation to ensure, that the right variety, quantity and quality of goods and services is produced. Capacity building in terms of initiating and maintaining business relationships is also required.

Just like the income benefits in the private sector do not necessarily stay in Flores, so does the public income. The divide between public income that drains off to central government and the proportion which remains with the local authorities creates problematic incentives. For the central government fast growth in visitor numbers is highly beneficial. The local government, however, is confronted with any negative consequences of this development path and does not have the means to finance needed infrastructure and public services. A higher share of the public income should stay in the destination and the local authorities should be enabled to take better control over the development. Besides financial means this also requires capacity building and resources for better quality data collection and monitoring as well as urban planning.

4. People – Social impacts

Besides socio-economic impacts, which were discussed in the previous chapter with regard to living wages, livelihood, and equality of economic benefit distribution, tourism development potentially has other social impacts. In the context of an urban destination the more prominent topics are the empowerment of individuals, communities and local government authorities as well as the guest-host-relationship. It is also worth to look at potential spill-over effects in the health and educational sectors. Other common social impacts of tourism such as consequences for the cohesion of communities and the initiation of cultural change are more obvious in smaller communities. However, some conclusions can be drawn from questions asked in the context of the examination of the guest-host-relationship.

4.1. Empowerment

In the case of tourism development in Labuan Bajo empowerment can be analysed on three levels. On the individual level tourism is believed to have the potential to economically empower marginalized groups. On the community level the impact is much more obvious in community-based, rural projects, however, citizens' movements as well as community projects from responsible businesses and NGOs can make empowerment visible in the urban context as well. On the third level the local government might be able to leverage the tourism development to gain more power and access to resources.

4.1.1. Individuals

One reason why tourism is considered a favourable economic development strategy is that it usually creates employment for groups of people, who are otherwise likely to be disadvantaged on the job market. This often includes low skilled people, but also women or the youth. The income they receive is considered economic empowerment if it allows people to gain greater independence and leeway to accumulate assets as well as influence on institutions and public policies.

Most employees of Labuan Bajo's formal touristic businesses have attended vocational schools (Swisscontact, 2015b; BPS Kabupaten Manggarai Barat, 2016 (2)). Therefore economic opportunities for low skilled people rather arise in MSE and the informal sector than in the formal sector. However, 80 per cent of the respondents in MSE and the informal sector felt like their interests are not being considered by the government (see Figure 53). This suggests little empowerment.

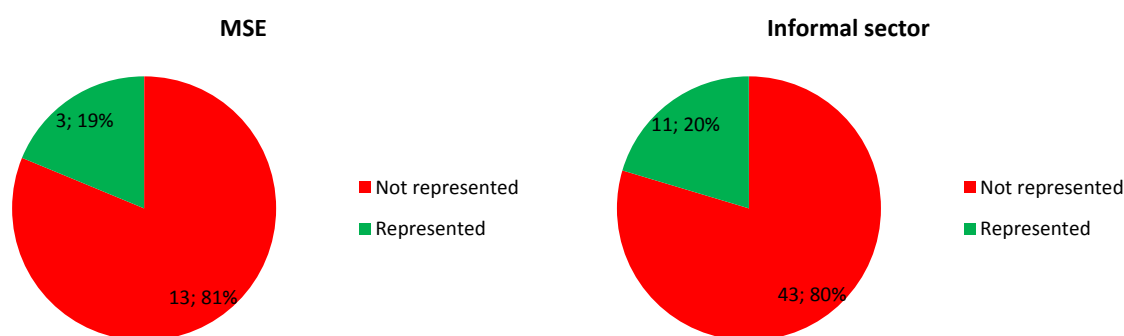


Figure 53: Empowerment in MSE and the informal sector

Labuan Bajo's tourism businesses so far also have created more employment for men than for women, but the share of female employees is increasing (Swisscontact, 2015b). Nevertheless a clear gender difference regarding occupations remains. Women are less likely to become dive guides and instructors, which are higher paying jobs. They are also less likely to work as guides, who have many opportunities to interact with tourists, bring in high tips, practice languages and built networks.

4.1.2. The community

Besides empowerment on the individual level tourism could potentially draw attention to the matters of communities. The impact is generally more obvious in community-based and rural tourism, however, through citizens' movements, NGO initiatives or corporate citizenship community empowerment can also become visible in the urban context. Not any kind of citizen movement is empowerment. For example there is strong opposition among the people of Labuan Bajo against the privatization of beach properties. Already the access to the beach is blocked along most of Pede and Wae Cicu Beach. A citizens' movement formed to prevent construction on one of the last remaining free spaces. Rather than empowerment, however, this presents an act in self-defence. Other members of the community are organizing to lobby the local government for better waste management in Labuan Bajo, which is a much stronger example for

empowerment. Tourism businesses play an important role in the initiation and continuation of these efforts. In part the mobilization was supported by NGOs (see 5.4.1).

Other than waste management, however, the businesses of Labuan Bajo show very little engagement in the community. Around 45 per cent of the businesses interviewed for this impact assessment reported to make any efforts at all, and only a third claimed to do it regularly (see Figure 54). If these efforts were not related to waste management, they referred to the protection of marine biodiversity. Seldom businesses engaged with the community. Only one dive and tour operator reported to have educational and scholarship community projects set up. Aside from that three hotels supported the same one home for orphans and homeless people. A souvenir shop organized art related community projects.

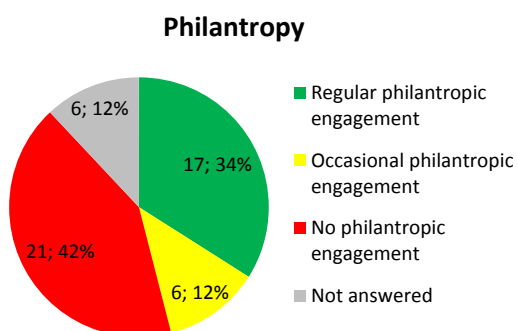


Figure 54: Philanthropic engagement of tourism businesses

At least nine NGOs have been active in Labuan Bajo at the time of the research. Five of them were active in waste management, two in marine biodiversity protection, one in bird life protection, two were concerned with inclusive business development and one facilitated capacity building among Labuan Bajo's MSE. Another two NGOs engaged in water, hygiene and sanitation as well as education for children. Projects of NGOS, which were implemented in connection with tourism development, however, mostly focused on the environment and did not primarily aim at community empowerment. The two inclusive business projects aim at rural communities in the surroundings of Labuan Bajo. Only the MSE capacity building was targeted at Labuan Bajo directly.

4.1.3. The local government

One level above the community the local government might be able to leverage tourism development to gain influence and access to resources. Two aspects are determining whether this impact actualises. In the previous chapter it was already explained that the manner of public income distribution disadvantages the local administrative levels. Beyond that the legislative structures in Indonesia limit political influence of local governments.

Governmental programs are proposed on three levels. The general direction is specified by central government and passed down to the provincial and district governments. On each level the implementation of programs is proposed and approved separately from each other. Tourism is also affected by regulations from three different ministries, which coordinate little among each other (see Figure 55).

Currently the incentives set by the manner of public income distribution together with the general government organization structure results in a situation in which central government increasingly interferes in Labuan Bajo, seemingly without any coordinating with the local government level. In fact central and local government have opposing interests and at times act contradictory. As one respondent explained, central government strongly pushes foreign direct investment. However, local government was creating

significant bureaucratic hurdles for the establishment and operation of foreign run businesses. According to local stakeholders the situation is aggravated by the current staffing of Labuan Bajo's mayor's office. Officials on the highest level were said to either feel not responsible to manage the tourism development and mitigate its consequences or, respectively, were not enabled to do something about it.

In the context of the 'priority destination'-program of the central government it is planned to establish working groups on the highest governmental levels which would coordinate initiatives of the various relevant governmental bodies and include representatives from the local government. This promises a relevant improvement compared to the current situation.

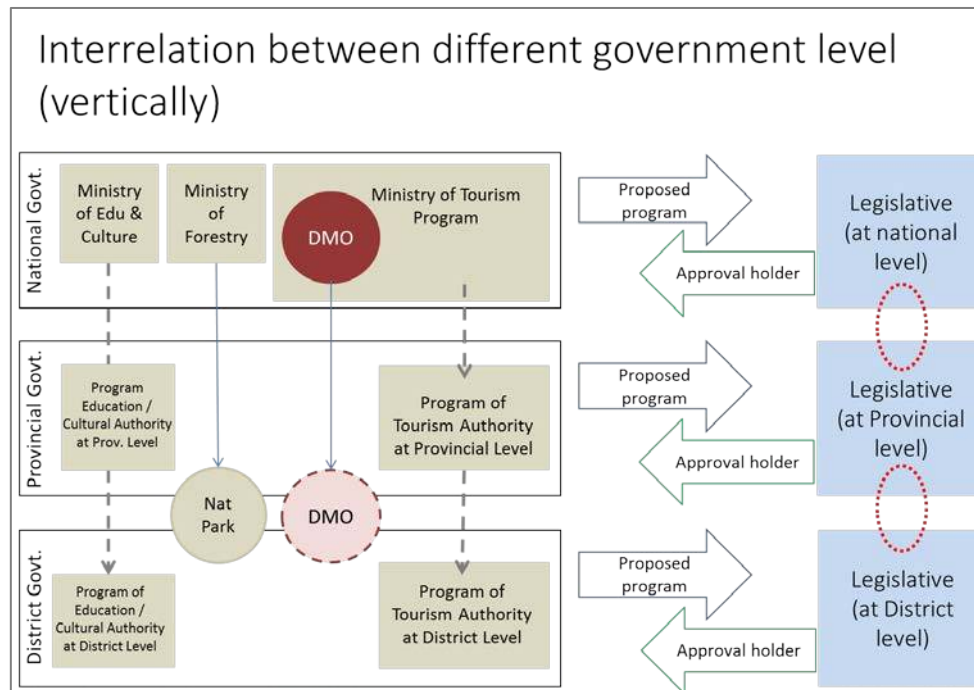


Figure 55: Governance structures in Indonesia (Samosir, 2016)

4.1.4. Conclusion

There is potential for economic empowerment for low skilled people and women, but it is not in the formal sector and it does not yet contribute to gender equality as much as it could. For the MSE and informal sector the potential does not actualize in empowerment. To the contrary, the sector feels poorly represented by the government. Beyond that, this research cannot draw conclusions whether or not the existing potential results in actual empowerment of women. It has not been examined, how they deploy their income, organize or otherwise enhance their influence.

On the community level tourism businesses and NGOs initiated community projects to improve waste management. Other than that the majority of businesses barely engages with their community. It is unfortunate how little impact the businesses have beyond their immediate presence. For the NGOs, which mostly focus on the environmental rather than the social dimension of sustainability, it seems unfavourable that a large number of organisations focuses majorly on two topics. On the other hand pooling of efforts and resources of several organisations might be necessary to tackle the extensive issues. Until recently there was no formal coordination between the NGOs, citizens' movements and the local government. Informal coordination has worked reasonably well between a few groups, but it is very recommendable that the first steps towards better communication and cooperation among all are perpetuated.

On the governmental level the lack of influence and seeming unwillingness of the local government to take responsibility for the tourism development coupled with strong incentives of the central government to push rapid growth lays the ground for a development path, which is not the most favourable for the local people nor the environment.

4.2. Guest-Host-Relationship

Tourism development in urban areas can affect the residents whether or not they benefit from employment or other ways of participating in the industry. Common issues are displacements, raising rental and living prices, or rude behaviour of tourists. All this can decrease the acceptance of the guests by the hosts.

Data from MSE and informal sector respondents as well as a small poll among citizens of Labuan Bajo, who did not economically benefit from tourism, gives some information about the guest-host-relationship in the town. The large majority of people believed tourism is good or very good for Labuan Bajo (see Figure 56). Even more people, who did not immediately benefit from tourism, thought so than their counterparts.

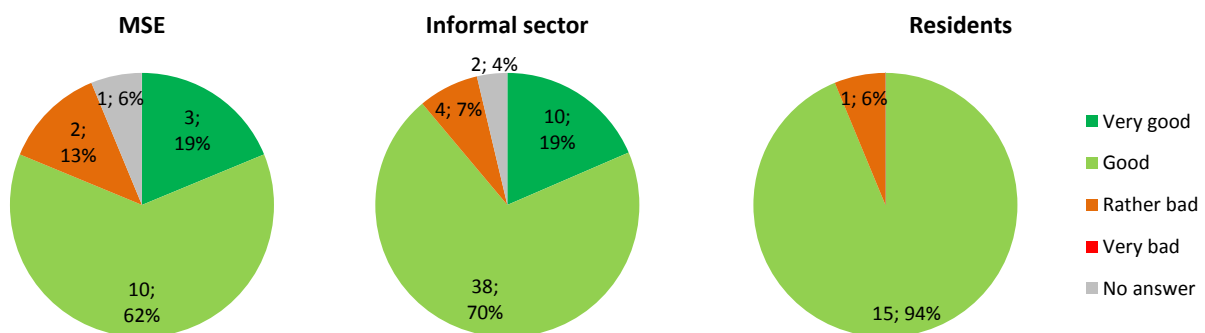


Figure 56: Perception of the advantageousness of tourism

Those who could elaborate on their general opinion about tourism most often valued the economic benefits as well as opportunities to interact with foreigners and practice languages. On the negative side most people were concerned with the waste problem and criticised that the government would fail to manage the tourism development properly, provide needed infrastructure and take care of the waste problem. A considerable amount of people worried about increasing living expenses as well as rising land prices and the sell-out of land. Many informal sector respondents from the transport segments criticised that the industry developed competition and unfair dynamics between the formal and informal businesses. Just as many people saw a contribution of the tourism industry growth to the water and electricity shortage. Rather few people were concerned with the behaviour of tourists and cultural change (see Figure 57).

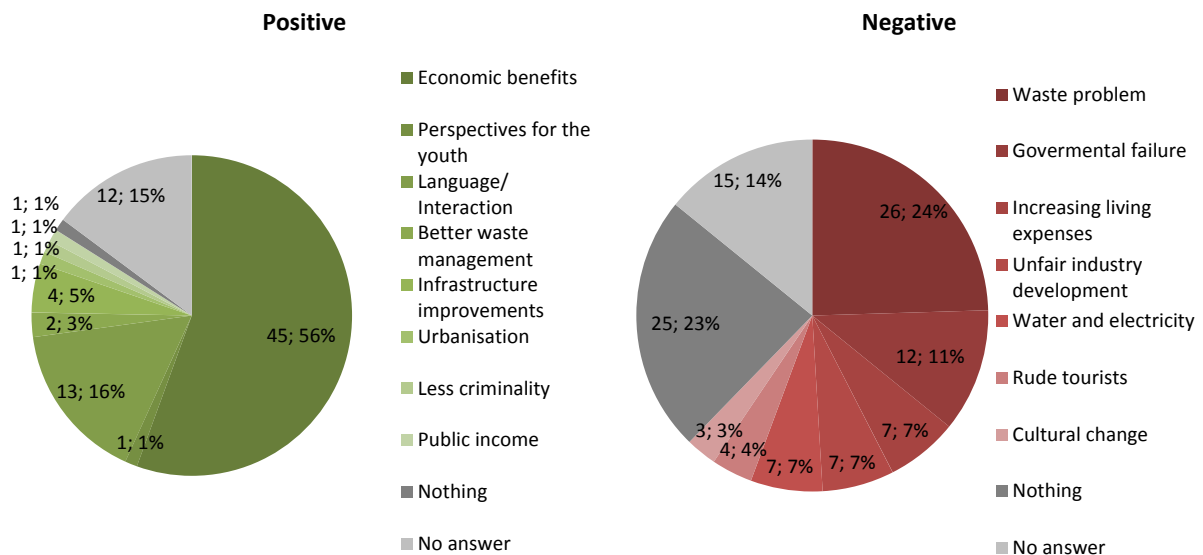


Figure 57: Positive and negative impact from the perspective of the hosts

Surprisingly nobody mentioned the privatisation of land along the coast and inaccessibility of beaches as a negative effect. Most likely the poll was too small to capture this issue. Undeniably there is resistance against this development (see Figure 58). Attempts to build another resort on the only free premise left have so far been halted by active protests on the spot.



Figure 58: Protest at Pedde Beach (Kamis, 2016)

In conclusion, the guest-host-relationship in Labuan Bajo is good, even though a number of concerns exist. However, the locals also see their own responsibility in issues such as the waste problem. The creation of jobs and economic development are the best guaranty for high acceptance of tourism among the people. However, aggravation of the waste problem, increases in living expense, resource shortage, and the current land sell-out will affect the acceptance sooner or later. The people's dissatisfaction in this regard is clearly directed at the government rather than the tourism industry.

4.3. Health and Education

Tourism development can have social spill-over effects in the areas of health and education. In many developing countries public health care is insufficient. In this case income generated from tourism can give access to better, but fee-based private care. Labuan Bajo has, indeed, a new private hospital since January 2016. There is a clear connection with the tourism growth in Labuan Bajo, because the operator is known to target wealthy and Western customers. Given that private care is not (fully) covered by BPJS and the wage level in Labuan Bajo is very low, it is unlikely that the general population significantly benefits from

the new health facility. A public hospital, however, opened at the end of 2016 and is accessible for anybody. It is the first and only public hospital in West Manggarai and its opening was long overdue. Opposite to the private hospital it cannot be considered a positive impact of tourism development.

In some other tourism destinations in Indonesia tourism is accompanied by increased drug consumption and prostitution. According to the stakeholders in Labuan Bajo similar developments do not occur in their destination yet.

Tourism development can bring about improvements in the educational sector aiming to build a qualified workforce as needed by the industry. This impact is obvious in Flores, where Swisscontact WISATA holds the mandate to support vocational schools. The project supports schools through capacity building for teachers, development of guidelines and syllabi, technical assistance on library management, as well as a Sister School Program, which connects the vocational schools with more advanced schools in Bali and Java. An Internship programme assists vocational school students to gain practical experience in touristic businesses all over Flores. Besides this, clear positive impact, observation also indicated a negative indirect impact of tourism on school education. Many trained, young English teacher seem to quit their jobs at public schools, where there have been employed as volunteers with irregular and low payments. Instead they leverage their language skills to get jobs in the tourism industry. This leads to the question whether there are enough teachers left to teach the children. At the same time the teachers in the tourism industry have plentiful opportunities to increase their proficiency, which can be a positive impact should they ever return to the educational sector.

Besides school education, continues training and qualification through employment is a potential positive educational impact of tourism development. However, as we have seen in chapter 3.2.5, not even half of the businesses in Labuan Bajo reported to systematically train their staff at all, and except for the larger chain hotels there were no businesses which offered structured training programs. Respondents from the businesses explained their reluctance to send employees to formal trainings was caused by the associated costs as well as a risk of staff poaching by training facilities and exploitation by employees, who would use the training as a steppingstone to find other employment.

Overall, the social spill-over effects are rather limited, except for the NGO support to the vocational schools.

4.4. Social impact summary

Assessing the social impact in an urban destination is challenging. Various groups and large numbers of people are affected on a variety of dimensions. At the level of depth of the study at hand only grave consequences of tourism development can become visible. Overall, unambiguously positive or negative results did not appear. Low skilled people and a growing number of women gain access to income opportunities, but it is unsure if this results in their empowerment. Communities are surely negatively affected by tourism development in the form of raising land prices and living expenditures, land sell-out and pressure on resources, but view these negative effects to be outbalanced by the economic benefits and increasing living quality in Labuan Bajo. By tendency the acceptance of tourism among the population is high. Labuan Bajo is receiving a lot of attention from NGOs, but their work often focuses on the environmental more than the social dimension of sustainability. There are improvements in the health and educational sector, but the accessibility and significance of the impact are questionable.

Overall, Labuan Bajo is at a tipping point. It is alarming, that in this crucial moment the local government appears to be exceptionally weak, not taking responsibility or control, and not advocating the interest of their people against the background of potentially exacerbating central government plans. With a view to corporate citizenship it is unfortunate how little impact the businesses have beyond their immediate presence.

5. Planet - Environmental impacts

Tourism development has a number of environmental implications in the areas of resource and land use as well as the contribution to climate change, waste, sewage and other pollution such as light, noise and air emissions. With regard to biodiversity tourism is a double edged sword. It can significantly contribute to the financing of protected areas and at the same time be the very reason that the environment gets destroyed elsewhere.

5.1. Resource use (Water)

The most pressing resource use issue in Labuan Bajo is the contribution of tourism to water consumption. According to recent research only a minority of households in Labuan Bajo is connected to a public water supply system, which additionally functions inadequately. The large majority of people relies on private supplies. Households are confronted with unregulated and unreliable water sources of doubtful quality, or they have to spend time and effort on collecting and carrying water from public water supply stations. This task is usually performed by women and disadvantages them. The lack of regulation leads to uncontrolled and unmonitored withdrawal of underground water. The cost for water from private sources is exceptionally high and burdens Labuan Bajo's households.

Besides the water use itself the present form of supply causes further environmental costs. Fuel is needed to utilize large numbers of electric pumps at water wells. Refill water for tanks as well as drinking water in gallons and bottles is brought by diesel trucks from places up to 15 hours away from Labuan Bajo. At the same time measures to secure water supply and reduce consumption are not widely applied in Flores. There is a minimal use of rainwater catchment and storage, and deforestation is occurring widely while only one NGO is involved in forest catchment protection. Due to a lack of clarity regarding responsibilities of various government departments for different aspects of water management, the authorities are not capable to alleviate the water problem (Cole & Muslin, 2015).

In this problematic starting situation tourism adds to the issue. The data presented in the following paragraph are not representative, but they give a rough idea of the magnitude of the water consumption by tourism businesses in Labuan Bajo.

The accommodation segment generally consumes the most water in a destination. The accommodations interviewed for this assessment used between around 20 and 770 l per day per bed. The large difference was not only caused by the size of businesses but also by facilities. The hotel with the largest water consumptions, for example, had a big pool as well as several decorative water basins and fountains. In average the accommodations used 275 l per day per bed. The median however is slightly less than half of that (117 l per day per bed; see Figure 59). If these numbers are extrapolated using the bed capacity of Labuan Bajo this results in a *maximum daily water demand in the hotel segment* of approximately 265,000 to 630,000 l per day. For the industry as a whole an approximation of the daily average water consumption can be derived by multiplying the average/ median daily water consumption of each business segment and multiply it with the number of businesses in each segment. This makes an *average daily water demand in the whole industry* of approximately 250,000 to 660,000 l per day. The comparison shows the

consequences of rising visitor numbers. Would the occupancy in the hotels increase to almost full level the accommodations alone would use as much as the industry as a whole currently uses on an average day. Generally daily water consumption in the described dimension makes up 0.7 to 1.9 per cent of the *annual total (!)* public water production in Flores (BPS Provinsi Nusa Tenggara Timur, n.a. (5))

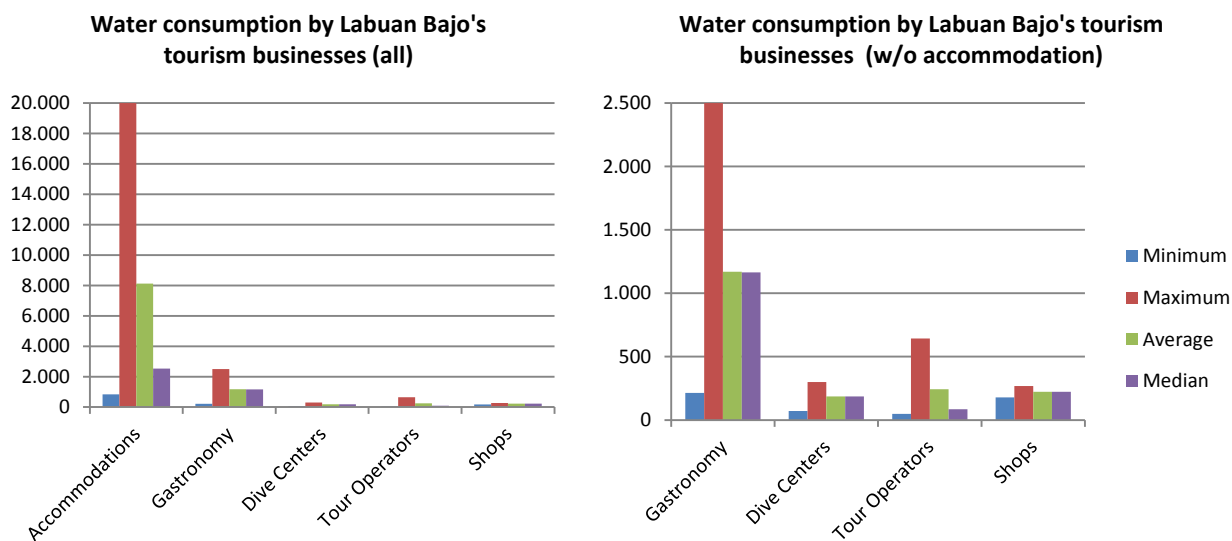


Figure 59: Water consumption

Like Labuan Bajo’s households the businesses also have to purchase water from private sources, unless they have their own wells. Tourism businesses compete for water with the local population. Some stakeholders criticise that the businesses are treated preferentially. Most of the businesses receive their water from delivery trucks or wells (see Figure 60). The pricing structure enables the largest consumers to consume at the lowest unit price, setting wrong incentives and leading to a situation in which large businesses exploit the water resources of local communities under value (Cole & Muslin, 2015).

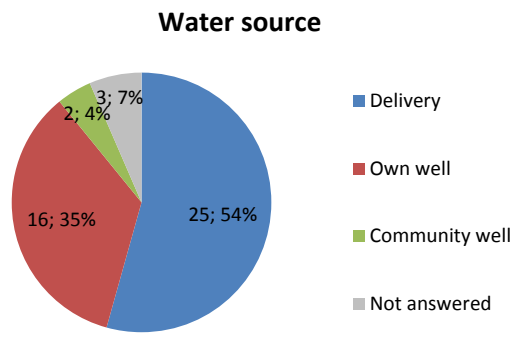


Figure 60: Water sources

Around 40 per cent of the interviewed businesses reported to try to reduce their water consumption (see Figure 61), however the measures in place were unspecified attempts to use water frugally or limited to low effort measures. Such measures are towel replacement policies and stickers encouraging tourists to use water responsibly as well as rain water collection for irrigation of plants. Ironically one of the largest water consumers reported to make efforts to reduce water consumption as mentioned above, but had large decorative fountains and pools for decoration around the building. None of the businesses had water saving tapware, showers or toilettes installed. Neither did they use treated rain water for showers nor grey water for flushing. The larger hotels did not mention to consider water consumption in their landscaping.

No hotel or individual restaurant mentioned to use water saving equipment in the kitchen or consider the water footprint of ingredients.

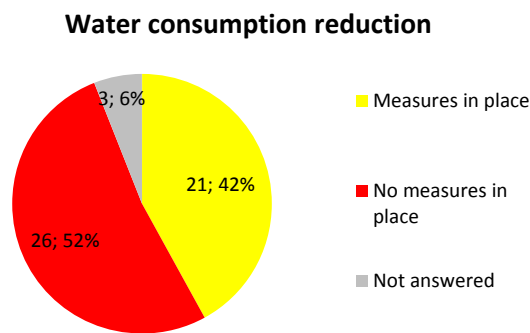


Figure 61: Water reduction measures

In summary, Labuan Bajo's water shortage problem is intensified by tourism development. The only incentive for businesses to lower consumption are high purchase prices. However, especially in the case of large scale consumers this mechanism is undermined by low unit prices. There is a clear need for regulation and better public management of water sources (see the policy paper of Cole & Muslin for detailed recommendations). In addition, businesses are taking little responsibility for their water use. Measures to reduce water are limited to low effort activities majorly targeting the water consumption behaviour of tourists.

5.2. Land use

Demand for tourism exaggerates the pressure on coastal areas of high natural and visual value. Coastal or forest ecosystems might be transformed into urban space resulting in its biodiversity to get lost. Especially in the case of mangrove forests this can destroy fish breeding grounds and affect the livelihood of fishing communities. Similarly conversion of farm land does not only affect flora and fauna it also decreases subsistence capacities of the local population. Deforestation contributes particularly to biodiversity loss and climate change.

Official data on land use changes in West Manggarai and its sub-districts are not publicly available. However, a few conclusions can be drawn from Google Earth visual recordings over time. The first decent pictures have been taken in 2002. It is not obvious that the construction of tourism businesses has converted fields or forests into urban space. Instead additional space has been created through land reclamation in the harbour area, and densification took place in the touristic centre. Businesses have occupied land along the beaches, but the previous use is difficult to recognise from the pictures. It does not seem like mangrove forests have been destroyed by the building activities. So far construction on Labuan Bajo's wooded hills in the touristic centre does not seem massive. However, judging by recent openings of new businesses and construction sites this is changing now, because there is no other building space left in the touristic centre. This will have implications for water run of in the town, which need examination.

While the tourism businesses themselves seem to occupy comparatively little additional space, residential areas expanded clearly along major roads in all Kelurahan of Labuan Bajo's urban agglomeration but particularly in Batu Cermin east of the airstrip and in Wae Kelambu. The land of today's residential areas appears to have been farm, wood and scrubland before (see Figure 62).

In conclusion, the land surrounding Labuan Bajo has been shaped by human activities over long time. Rather than a conversion of pristine nature into urban space, there is a transformation from rural to urban land use. Which consequences this has for biodiversity or the livelihood of the people has not been

examined in the scope of this study. In general terms, it is problematic that Labuan Bajo currently has no zoning in place according to officials. This could otherwise help to monitor and direct the changes in land use. Again public capacities are lacking, putting the destination in risk of unfavourable development if growth is pushed to rapidly.

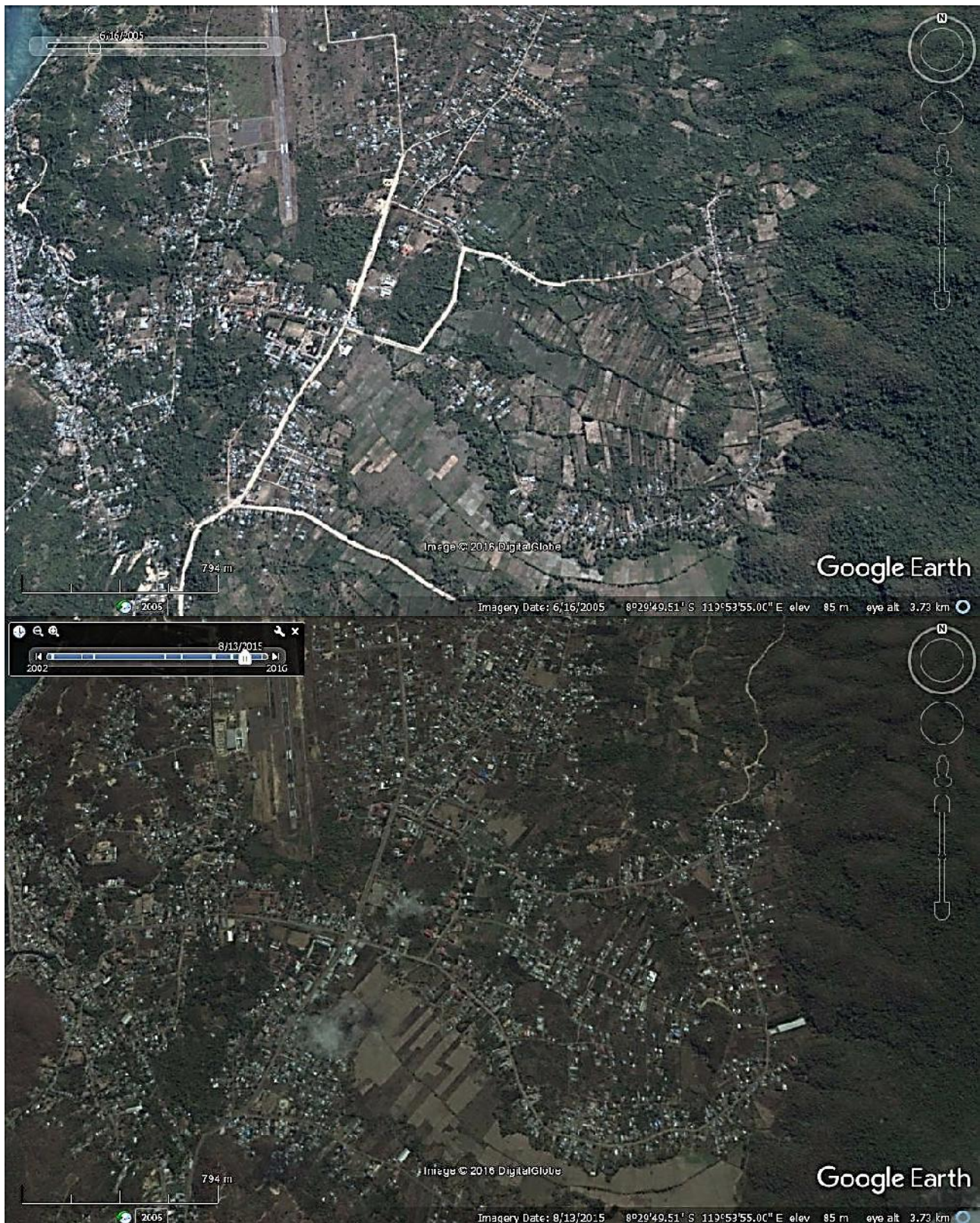


Figure 62: Land use in 2005 compared to 2015

5.3. Climate change impact

Indonesia, as many other countries of the Global South with well-developed tourism sectors, finds itself in a dilemma. On the one hand the country is very vulnerable to the effects of climate change, on the other hand it is partly dependent on an economic sector that contributes to global warming not only to a significant but also to a growing extend. Air and road traffic to, from and within the destination as well as the electricity consumption of accommodations are the main drivers of the tourism sector's high emissions.

5.3.1. Transport

The combination of large numbers of overseas visitors, the need to use air traffic to travel within Indonesia and road travel on its islands, as well as the rising popularity of cruise ships increase the climate change impact of Indonesia's tourism sector. Several attractions across Indonesia besides Komodo National Park draw tourists to the country. Almost no foreign tourist will visit only Labuan Bajo and Komodo National Park. Instead the destination will be one among several in a (packaged) tour. The same tourists, who are visiting Labuan Bajo on their tour, would most certainly come to Indonesia even if Labuan Bajo and Komodo National Park would not exist. The climate change impact can therefore not be attributed to Labuan Bajo and Komodo National Park alone. However, it is important to form an understanding of the magnitude of the climate change effect that tourism to Indonesia and Labuan Bajo has. In order to do so, the following paragraphs will give an assessment of the climate change effect of air travel to and from Labuan Bajo neglecting for a moment that also other (Indonesian) destinations will have been visited by the same flight passengers.

In order to get more accurate data for touristic air traffic to and from Labuan Bajo, one can resort to the visitor statistics of Komodo National Park. They do not only include the numbers of visitors, but also their countries of origin. Using the emissions calculator of [atmosfair gGmbH](#), a renowned emissions compensation organization, it is possible to calculate a rough estimate for the climate change impact touristic air traffic to and from Labuan Bajo has⁹.

107,675 people are listed in the visitor statistic of Komodo National Park for the year of 2016. The total CO₂ emissions of these visitors accounted to around 650 million kg. In relation to the accommodation capacity of Labuan Bajo this makes an average of approximately 290,000 kg per bed per year.

atmosfair offers carbon offset within the Clean Development Mechanism of the UN and in doing so only finances projects complying with the Mechanism's Gold Standard, which takes developmental effects into particular consideration. If the 650 million kg CO₂ produced by air traffic to and from Labuan Bajo (as one destination among several) were to be compensated in this way, the cost would add up to around 15.7 million Euro (around 223 billion Rupiah). This is 12 per cent of the GDRP of West Manggarai in 2015 (BPS Provinsi Nusa Tenggara Timur, n.a. (1)). In relation to the visitor numbers an average price top up of 146 Euro (2 million Rupiah) per guest would be needed to finance the emission compensation.

As has been discussed in chapter 2.1.1. the visitor statistic might include repeated visits of the same travellers. However, atmosfair assumes direct flights during the emissions calculation, when in reality most overseas visitors have to transfer at least once and in most cases several times. Therefore, the actual CO₂-emissions per way can be assumed to be higher than in the calculation above. Additionally, emissions from

⁹ If not given specific flight details, atmosfair makes assumptions on the flight class and type as well as the aircraft type. The calculator also assumes direct flights. For the purpose of this study the capital cities of each country of visitors has been used as a proxy for the departure location. In case the distance from the departure location to Labuan Bajo was too far for a direct flight to be possible, atmosfair asks to enter a transit location. For this study transit locations have been chosen based on indications from actual flights. The CO₂-emissions have been calculated for outward and return flight.

the diesel fuelled, truck engine powered transport boats servicing the route between Labuan Bajo and the islands of Komodo National Park as well as substantial emissions from cruise ships visiting the destination will add further to the climate change impact of tourism in Labuan Bajo.

The climate change impact puts different options for tourism development in Labuan Bajo into perspective. So far marketing efforts are targeted at Western and recently more at Chinese tourists. Less attention is paid to domestic tourists, which already make up roughly 30 per cent of the visitors and the largest group from one country of origin. Domestic tourists have a considerably lower climate change impact than overseas tourists, though. The United States for example comes in 13th in terms of CO₂-emissions per way (right after the Southern American source markets). The European countries follow, while China and Australia are on the ranks 79 and 85 out of 95 countries. This is why Australia ranks second in terms of tourists visiting but is not even under the top ten countries in terms of total pollution (see Table 7).

	Top ten countries of origin	Top ten countries ranked according to CO ₂ -emissions per way	Top ten countries ranked according to total emissions
1.	Indonesia	Argentina	United States
2.	Australia	Uruguay	Germany
3.	United States	Paraguay	France
4.	Germany	Peru	United Kingdom
5.	France	Brazil	Spain
6.	United Kingdom	Ecuador	Netherlands
7.	Netherlands	Colombia	Italy
8.	Spain	Cuba	Indonesia
9.	Italy	Costa Rica	Canada
10.	Switzerland	Venezuela	Switzerland

Table 7: Komodo visitor statistics and CO₂ emissions calculation

5.3.2. Electricity consumption

Unfortunately, the public electricity provider PLN does not publish information on the electricity provided to different industries, and the businesses interviewed for this assessment were rarely able to state how much electricity they used in kWh. However, all of them received power from PLN (see Figure 63), which currently uses exclusively diesel to fuel its plants in Manggarai. A gas and a geothermal plant are in planning or construction, respectively. Only two of the interviewed businesses supplemented the conventional solar-thermal energy for hot water.

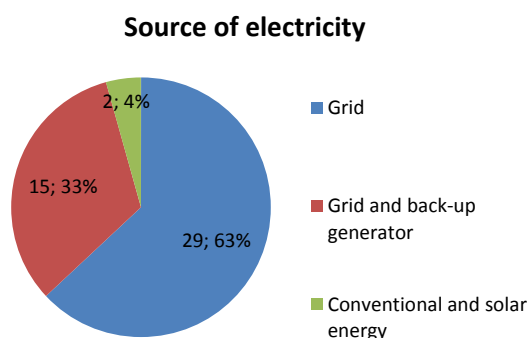


Figure 63: Source of electricity

While it is not possible to calculate the climate change impact of the electricity consumption in Labuan Bajo's tourism industry, it is safe to conclude, that it fully relies on climate damaging fuels.

5.3.3. Conclusion

A significant contribution to climate change is the undeniable downside of the socio-economic benefits tourism development has for Labuan Bajo. This study did not go into detail regarding threats from climate change and costs for adaptation and mitigation. We can only compare, that compensation of the greenhouse gas emissions from air traffic to and from Labuan Bajo would already consume 12 percent of the GRDP of the entire regency. Turning a blind eye on the payoff between economic development and climate change is not an option, however, finding a balance between the two is challenging. As first recommendable step it could be investigated how air travel to and from Labuan Bajo can be optimized in order to reduce emissions and how focusing on the domestic as well as nearby foreign tourist source markets could be an economically viable and environmentally less damaging strategy than attracting growing numbers of travelers from further located countries. Beyond that a climate change vulnerability study and development of adaptation and mitigation strategies is highly recommended.

5.4. Waste and sewage

Tourism businesses do not necessarily have to produce more waste per person than households. However, commonly in developing countries tourism produces more 'leisure waste' such as plastic bags and bottles and additionally the garbage has a lower share of recyclable material. In many places the latter is somewhat irrelevant because there are no recycling facilities. Often the local capacities for conventional waste collection and disposal are already insufficient and come under additional pressure from the tourism development. Similarly a lack of infrastructure for sewage management implies environmental hazards, which are also threatening to the people staying in a destination.

5.4.1. Waste management

There are no sound data on the waste production of Labuan Bajo's tourism businesses. When asked, respondents offered a variety of answers deploying various units to quantify the waste (kg, m³, bags, bins, boxes), which makes a quantification and comparison very difficult. Unfortunately, an NGO which picks up recyclable waste from cooperating businesses is not keeping track of the volumes handled.

It is clear though that Labuan Bajo does have a waste problem. The capacities for waste collection (106 m³ per day and 38,690 m³ per year) and disposal on the city's landfill (114.6 m³ per day and 41,829 m³ per year) are not sufficient to manage the waste currently produced. In response the local government plans to open up a new landfill of five hectares on land considered non-productive. Interestingly, according to public data provided by the department of environment of Labuan Bajo the average waste arisings of the city account to 127 m³ per day and 46,281 m³ per year. The sub-level districts of Labuan Bajo and Goron Talo – where the majority of accommodations are located – however, do not produce more waste per capita than the residential areas of Wae Kelambu and Batu Cermin (see Table 8). If this data is correct, it suggests that tourism is not adding to the waste problem of the city in a significant way (Dinas Lingkungan Labuan Bajo, 2016a; Dinas Lingkungan Labuan Bajo, 2016b).

Kelurahan	Population (in 2015)	Total annual waste produced (in m ³)	Total annual waste produced per capita (in m ³)
Labuan Bajo	7.485	7.419	1
Goron Talo	7.464	7.551	1,01
Wae Kelambu	5478	5.633	1
Batu Cermin	5099	5.221	1,02

Table 8: Waste production per capita

The public waste management consists in collecting waste and disposing it on a landfill without any activities of waste separation and recycling. Instead a number of community initiatives and NGOs are engaged in the establishment of a more sustainable way of waste handling. There exist two processing units for recyclable waste in Labuan Bajo. However, only one of them is currently operating. The set-up of the operational unit has been financed by the local government, but the operation is assured through efforts of community initiatives and volunteers. The only financing source for the operation are fees charged to cooperating tourism businesses, whose waste is collected by the community initiatives and a partnering NGO. Households on the other hand do not pay for the pick-up service. The second processing unit which was set up by another NGO failed precisely because of financing issues for the operation.

At the time of the interview phase for the impact assessment in November and December 2016 24 touristic businesses were involved in the recycling activities described above accounting to 11 per cent of the sector. By January 2015 6 businesses had temporarily or ultimately withdrawn from the initiative, because either the businesses closed during low season or were unsatisfied with the pick-up service. Problems arose because businesses were not aware, that the waste separation would have to be performed by themselves, which caused unexpected extra effort.

The large majority of businesses in Labuan Bajo has their waste picked up and dumped at the landfill or they burn it on the spot. Only around a quarter of the interviewed businesses had measures in place to reduce waste production (see Figure 64), they usually referred to offering water-refill to guests and avoiding plastic wrapping for food.

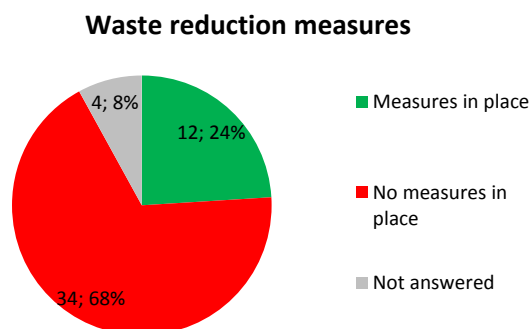


Figure 64: Waste reduction measures of tourism businesses

While the impact of tourism on the waste problem on land is not clear, it definitely exacerbates debris in the sea. In December 2016 during a one-day clean-up event off the shore of Labuan Bajo 50 volunteers from the city's dive operators supported by the local government retrieved more than one ton of waste, including more than 500 kg of plastic waste, from the sea. During one of the interviews conducted for this study a tour operator with integrated diving operations reported to clean up one ton of trash each month from beaches and the sea in Komodo National Park as a side activity during their operations. These numbers give a rough idea of the waste problem offshore. Tourism is just one of many factors contributing to the masses of garbage in the ocean. Waste transported in river streams and flushed from the streets of Labuan Bajo into the sea also contributes to it. However, tourist boats, ferries and cruise ships are notorious for dumping their trash on islands and into the sea.

The local government urges boats to collect their waste and dispose it in provided containers in the harbour. There are also regulations stipulating fees in cases of non-compliance. However, the control of the waste disposal remains an unsolved challenge, as the local public budget is not sufficient to finance patrols and alleged promises by the central government to provide the missing funds have not been kept so far.

There are community initiatives trying to involve touristic boats in the collection of waste on islands in the national park, however, such efforts are voluntary and not supported by any financial incentives.

Besides the NGO engaged in recycling, a number of other NGOs and civil groups support better waste management on land and in the sea. Some are organizing clean-ups others work with the local government to increase public capacities. The waste problem in Labuan Bajo is also receiving attention from central government. The concern over the waste problem and the motivation to solve it are connected with the need to provide tourists with a clean destination. In this regard tourism development has an indirect positive impact on waste management in Labuan Bajo.

5.4.2. Sewage management

While there is concern with water consumption and with waste disposal it seems like less attention is paid to sewage management. Only large hotels such as the resorts along Pede Beach are bound by law to install water treatment facilities. Hotels affected by the regulation, which were interviewed for the purpose of this study, reported to comply with the law and gave the interviewers access to the facilities. Except for the large hotels, only one other interviewed hotel and one restaurant reported to have voluntarily installed a water treatment system. All the hotels used the grey water to irrigate the garden, helping to reduce water consumption. The majority of the other businesses disposes grey water into the cities roadside ditches or sewage in to septic tanks (see Figure 65).

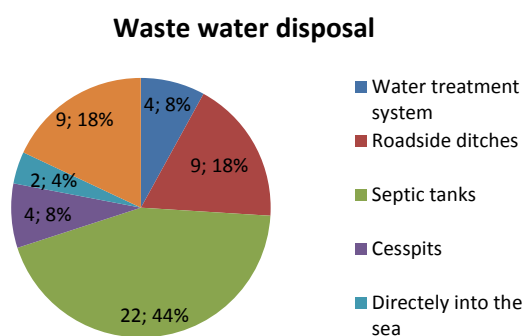


Figure 65: Water disposal

According to information provided by Labuan Bajo's department of environment the city does not manage the water disposed into the road side ditches. The water is released into rivers and eventually or directly into the sea (see Figure 66). Septic tanks consist either of concrete basins or to a lesser extent of reused fresh water tanks. If space is available the concrete septic tanks are closed at the bottom, get sealed when full and replaced with a new such tank. However, in the densely developed city centre, space for new tanks is lacking. In this case the concrete basin is open at the bottom, water triggers into the ground and potentially contaminates ground water. Aware of this issue, the local government recently proposed a plan for the installation of a sewage treatment system to central government. A pilot project is expected to be realized in 2018, which would capture and treat the sewage water of eight hectare of urban area in the city centre (Kampung Tengah, Kampung Air, and Kampung Puncak Waringin). The current landfill would be used to dispose of the sludge. If successful the project is to be replicated on a larger scale.



Figure 66: Road ditches in Labuan Bajo's city centre
(picture by courtesy of the department of environment)

5.4.3. Conclusion

Insufficient waste management is a critical problem all over Indonesia. Labuan Bajo is no exception from it, but additionally it is particularly vulnerable to the consequences of the issue. Plastic waste in the ocean threatens biodiversity in the sea, which is one of the major attractions in the destination. Additionally, tourists complain about garbage on beaches. Again it must be concluded that the local authorities are not able to keep up with the development and it needs to be considered how capacities can be strengthened in correlation with the growth target for the tourism development.

5.5. Biodiversity

Data collection on the impacts of tourism development on the biodiversity in Komodo has not been included in the scope of this study. The World Wildlife Fund for Nature (WWF) is actively working in Labuan Bajo and can provide detailed information. In general terms the establishment of the national park can be considered a positive impact of tourism development, even though it can be argued that both mutually depend on each other and that tourism helps to protect marine life while at the same time threatening it.

On the plus side dynamite fishing has been banned and is not practiced in the region anymore. Other forms of fishing are regulated as well. Dive operators get involved in monitoring of corals and other species which helps to plan measures and lobby for their protection. Measures have been adopted by the government to protect Mantas around Lombok after pictures of Manta bellies (manta "finger print") taken by divers in Komodo as well as Bali proved their migration past Lombok, where until then many of the animals got killed. As both diving tourism in both Bali and Komodo depend on the survival of the animals, they are now being better protected on their migratory route.

On the opposite side irresponsible behaviour by divers and even more often by snorkelers hurt corals. Additionally, building at the shore and in the wooded hills causes water run off problems polluting the sea and damaging corals as well. Waste, sewage and leaking oil or diesel from tourist boats pollute the sea and beaches. Sewage from Labuan Bajo adds to the issue. Possibly coastal habitats, potentially including mangrove forests and wetland, have been destroyed by building activities, but seemingly this has not been examined by anybody yet.

5.6. Environmental impact summary

Negative environmental impacts are clearly the downside of the economic benefits generated from tourism development in Labuan Bajo. The payoff between these two dimensions of sustainability is universal and Labuan Bajo is not the only destination, which has to find a balance between the two. However, two issues currently limit the ability of the stakeholders to do so. First, the rapid tourism development poses significant challenges on the local government, which clearly needs more support, capacities and resources

to plan, implement and monitor measures on a large amount of pressing issues. Collecting the needed data as a foundation of the management is already a comprehensive undertaking. Developing a holistic strategy across governmental departments is a further challenge. In addition, some of the pressing issues would better be addressed on a national than the local level. The clearest example for that is education and awareness raising about waste production and recycling. Another example is the marketing in foreign markets, which could be scrutinized under a climate change perspective. Other issues are not even under the control of the local authorities, such as the protected area management in Komodo National Park. The current coordination and division of labour between central and local government as was discussed in 4.1.3 is a likely hurdle to a successful management of the environmental effects of Labuan Bajo's tourism development.

The second issue in the destination is the lack of engagement of the tourism businesses. None of the enterprises interviewed for this impact assessment had a sustainability related certification or formal environmental management scheme in place. This means environmental impacts by the businesses are to the largest extent unmonitored and unmanaged. The only exception from the 'business as usual'-mentality of the enterprises are the recycling and clean-up initiatives, in which the dive operators take a leading role. Ultimately, however, only a fraction of all of Labuan Bajo's businesses is involved.

6. Impact summary and conclusion

Labuan Bajo is at a tipping point. The current status quo shows benefits and negative trends, which differ depending on whether they are assessed from local or national perspective, and today's decisions about the desired development path for the destination will decide whether things will change for better or worse. Unfortunately, the '10 Bali-scenario' will likely increase national benefits at the expense of the Florenese (see Figure 67).

Judging by the profitability of businesses and mostly relaxed competitive environment the industry has been on an economically sustainable growth path until now. There clearly are economic benefits being created, in which the local population is partaking on more than just one level. Locals are among the business man, the majority of jobs goes to people from Flores, and local entrepreneurs find income opportunities in MSE and the informal sector. However, linkages to other economic sectors, such as agriculture are weak and present a foregone opportunity to create and spread income opportunities further. The existing benefits are very appreciated by the local population and result in high tourism acceptance among the people.

However, there are also negative trends. The promising future of Labuan Bajo attracts growing numbers of investors and results in land sell-out, rising prices for land and skyrocketing rent prices. Due to the low skill level and high competition among the local labour force the industry shows a very low wage level. The income is enough to live, but not enough to accumulate wealth. The dominance of small and medium sized businesses creates a divers business environment on the one hand. On the other hand it comes along with a high degree of non-compliance with Indonesian labour regulations. The staff is in many cases dependent on employers' goodwill, which is not sufficient to guarantee decent working conditions and social security. Beyond that, negative environmental impacts are clearly the downside of the economic benefits. Tourism in Labuan Bajo contributes to water shortage, land conversion, greenhouse gas emissions, waste and sewage. These are all issues which are in unfavourable condition, need to be addressed and cannot be outbalanced by the environmental protection achieved in Komodo National Park.

Two clear bottlenecks challenge a beneficial management of the aforementioned negative impacts both in the employment as well as environmental context. First, the local government needs substantially more

support, capacity building and resources to study and monitor current developments as well as develop and implement suitable measures to improve the status quo. Right now the local authorities are reactive rather than proactive and not able to keep up with the rapid development. Second, the tourism businesses of Labuan Bajo show only a small positive impact besides their immediate presence, i.e. jobs and tax payments. Wages are barely higher than the minimum wage and in many cases only increase in connection with living wage regulations. Still not all employees are registered with social security. There are very little efforts to formally train the work force, built purchasing relationships with local providers, engage with the communities, or manage the businesses' environmental impacts in a systematic and zealous way.

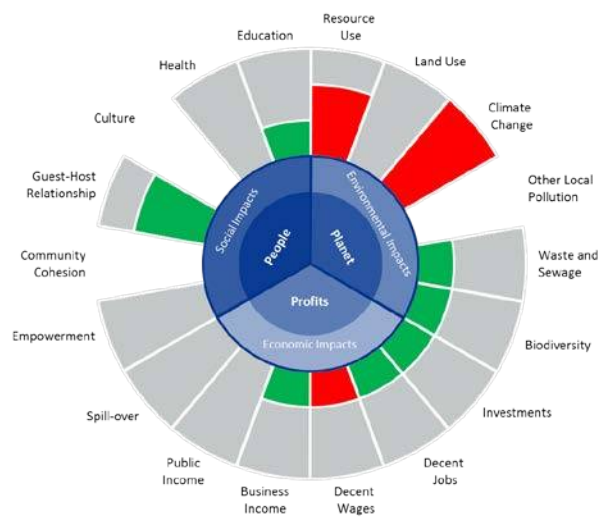
Current positive and negative trends are likely to be aggravated by the central government rapid expansion plans for Labuan Bajo. Land sell-out and speculation already start to reduce opportunities for local business people, because they have less experience and capital to deploy than their competitors from other places in Indonesia and foreign countries. Not only non-Florenese ownership, but also larger and by tendency vertically integrated investment projects will increase leakage. Local entrepreneurs, who are active in the industry now and learning the business, could be squeezed out rather than having the opportunity to grow with the industry. The capacities of the vocational schools will not be growing proportionately to the demand by businesses. The high share of locals in the labour force will consequently decrease and employment induced migration increase. With decreasing opportunities for the local population tourism acceptance among the local people is likely to drop. The magnitude of the negative environmental impacts will grow.

All these potential problems will have a noticeable effect on the local level. On the national level, however, the growth can create significant economic benefits. As long as the investors in Labuan Bajo are to the majority Indonesian, and foreign direct investors do not transfer taxable profits out of the country the investment benefits remain positive from central government perspective. The situation for employment and value chain linkages is similar. This creates incentives for the central government to push a development that is opposing the best interest of the local people and the environment. There is a large role to play for the central government. Hopefully it will not simply focus on extending bed capacity and infrastructure. Much can be done in local capacity building among local government authorities, the educational sector and local entrepreneurs. MSE and the informal sector can be protected and assisted in professionalising and expending. Similarly small tour operators and budget hotels have the potential to grow and become successful businesses with high standards. The establishment of intersectoral linkages needs planning and assistance. Regulation and financial support for greener construction and renewable energies are a possible measure. The community groups and NGO's who are tackling the waste problem and trying to educate about responsible behaviour in the corals need resources and flanking with educational programs and awareness-raising by the government. More funds and capacity building must go to the national park in order to enable it to fulfil its mission. The list goes on and hopefully one bullet point after another will soon be crossed, so that Labuan Bajo will not become another Bali but something better.

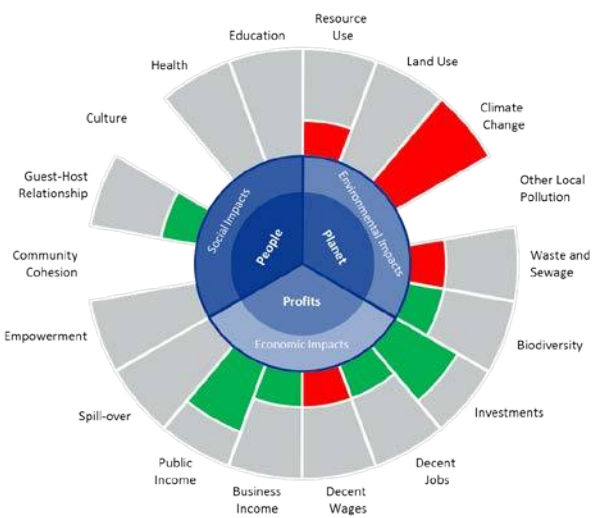
Impact summary from four perspectives



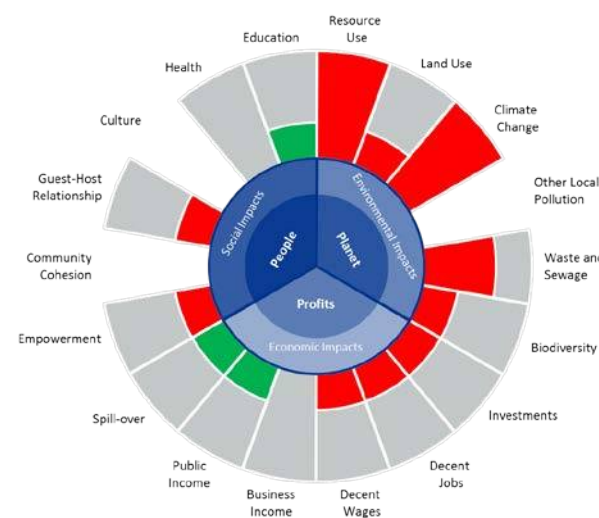
Status quo – Local perspective



Status quo – National perspective



'10 Bali-scenario' – Local perspective



'10 Bali-scenario' – National perspective

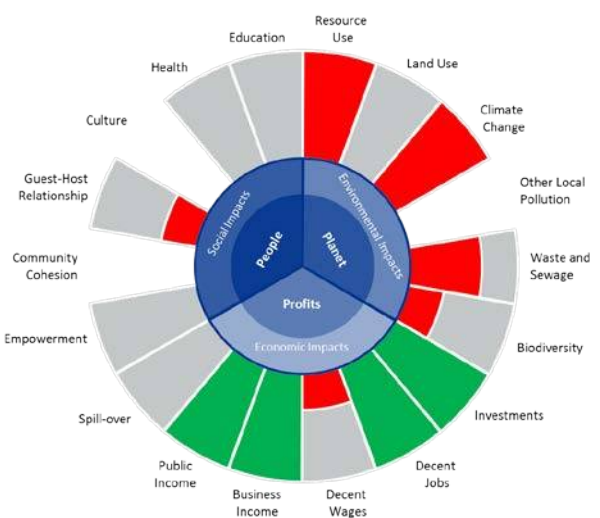


Figure 67: Impact summary

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Appendix 1: Impact summary

Impact	Indicators	Flores – Status quo	National – Status quo	Flores – 10 Bali Scenario	National – 10 Bali Scenario
Profits – Economic Impacts					
Investments	▪ Stable and strong growth (rate 18 per cent)	++	++	±	++
	▪ Diverse range of accommodations	++	±	-	±
	▪ Businesses are profitable and expanding	+	++	±	++
	▪ Business owners are positive about future prospects	+	++	+	++
	▪ Only tour operator segment shows first signs of saturation	-	++	+	++
	▪ Ownership: 30 per cent Florenese, 40 per cent Indonesian, 30 per cent other	+	++	--	++
	▪ Few multiple investors, no international chain investors	++	++	--	-
	▪ Around half of accommodations and dive centres are medium to highly vertically integrated, 80 per cent of the tour operators are cooperative	-	±	--	±
	▪ Increasing land and rent prices indicate land speculation and sell-out	--	±	--	±
	Net Impact	+	++	-	++
Decent jobs	▪ Large scale job creation (benefits from staff intensive diving segment)	++	++	+	++
	▪ Employees are from Flores	++	±	-	±
	▪ Employment is mostly full-time despite long low season	++	++	+	++
	▪ High rate of businesses, which do not fully comply with labour laws	--	--	--	--
	▪ Insufficient provision of social security throughout the industry	--	--	--	--
	▪ Lack of structured efforts in staff training limits career perspectives	--	±	--	±
	▪ Job creation is highly appreciated by the local population	++	±	±	±
	Net Impact	+	+	-	++

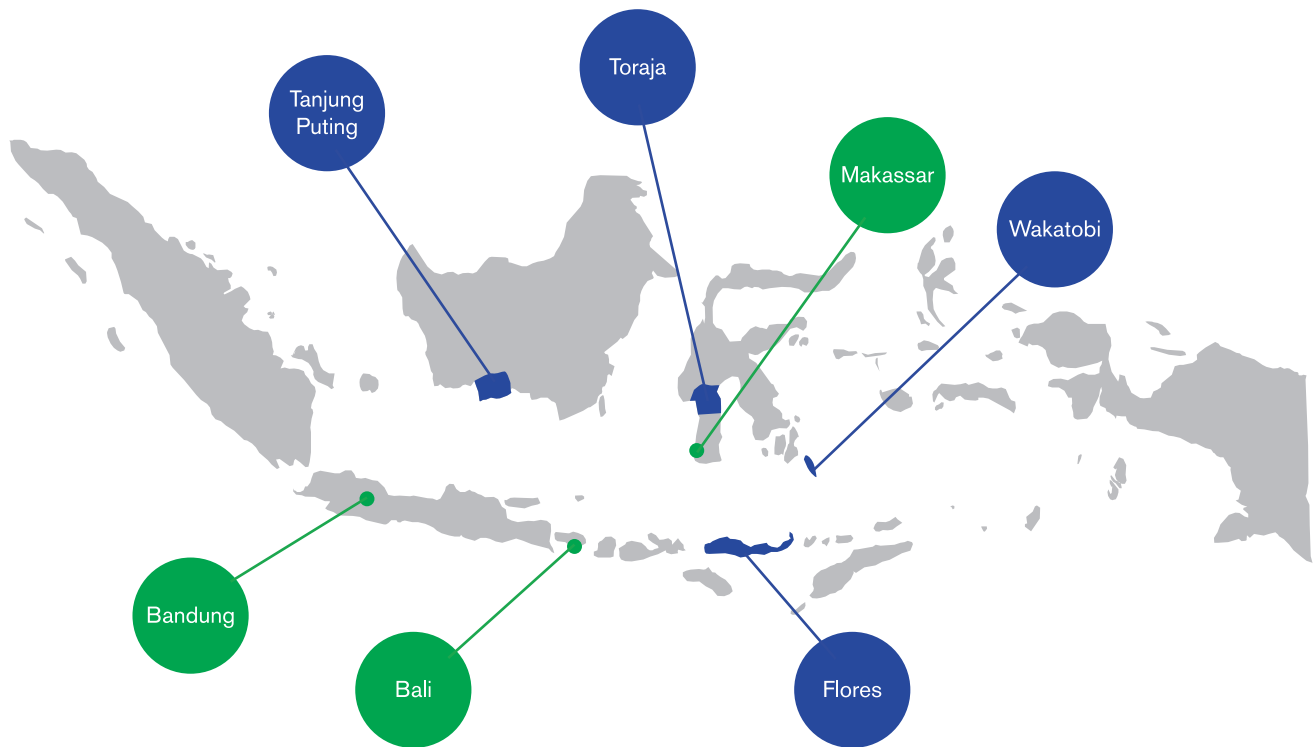
Im- pact	Indicators	Flores – Status quo	National – Status quo	Flores – 10 Bali Scenario	National – 10 Bali Scenario
Profits – Economic Impacts (continued)					
Decent wages	- Tourism industry is a low-wage sector 32 per cent of interviewed businesses paid below the minimum wage, the majority paid around the minimum wage 90 per cent of the businesses not complying with the minimum wage regulations did provide free accommodation and/or free food or paid extra food allowance - Minimum wage allows workers in Labuan Bajo to lift or keep themselves out of poverty, but it does not allow them to accumulate savings and wealth	- -- ± -	- -- ± -	- -- ± -	- -- ± -
	Net Impact	-	-	-	-
Business income	- MSE owners and informal sector entrepreneurs: 81 per cent from Flores, 19 per cent Indonesia - People of all ages and educational background find income opportunities in MSE and the informal sector - Income situation is not precarious, MSE owners and entrepreneurs are not looking for alternative occupations - Contribution to poverty reduction nevertheless marginal - Weak intersectoral linkages within Flores, strong linkages within Indonesia	++ ++ ± ± ±	+ + ± ± ++	± ± ± ± ±	± ± ± ± ++
	Net Impact	+	+	±	++
Public Income	- Majority of public income drains off to central government - Tourism has a relative positive impact on local government budget, but not a significant absolute impact	±	++	+	++
Spill over	- There is a pull effect within Flores, effect within Indonesia unsure, there are no urban slums developing because of tourism - No indication for infrastructural improvements which benefit the local population in significant ways	±	±	+	±

Im- pact	Indicators	Flores – Status quo	National – Status quo	Flores – 10 Bali Scenario	National – 10 Bali Scenario
People – Social Indicators					
Empowerment	- There is potential for economic empowerment for low skilled people and women, but it is not in the formal sector and it does not yet contribute to gender equality as much as it could. - Empowerment on the community level does not appear significant - Local government is not willing nor enables to take responsibility and control over the development	±	±	±	±
		±	±	-	±
		-	±	-	±
	Net Impact	±	±	-	±
Guest-Host- Relationship	- High tourism acceptance - Issues are related to urban planning more than to tourism development - Access to the beaches is an issue	++ + -	++ + ±	- - --	- - -
	Net Impact	+	+	-	-
Health	No indication for impacts	±	±	±	±
Edu- cation	Positive impact of Swisscontact Wisata	+	±	+	±

Im- pact	Indicators	Flores – Status quo	National – Status quo	Flores – 10 Bali Scenario	National – 10 Bali Scenario
Planet – Environmental Impacts					
Resource use	- There is water shortage and tourism is adding to it - Businesses do not monitor or manage their water consumption despite low effort measures	-	-	--	--
Land use	- So far construction of tourism businesses has not significantly resulted in conversion of forest and farm land - Urbanisation has taken place on forest, farm, and scrubland	±	±	--	±
Climate change	Significant contribution due to air, road and cruise travel and dominance of conventional energy for electricity generation	--	--	--	--
Waste & sewage	- Tourism is adding to the waste production but the major issue is household waste and behaviour of the population - Tourism industry engages in waste management initiatives - NGOs work on waste management in relation to tourism	+	+	-	-
Bio- diversity	- National park protects biodiversity - Diving and snorkelling tourism are damaging marine life - Waste and sewage from the tourism industry and in particular the boats add to the pollution of the sea	++ ± -	++ ± -	++ -- --	++ -- --
	Net Impact	+	+	-	-

WISATA

Tourism Development for Selected Destinations in Indonesia



The Swisscontact WISATA II program

The WISATA program funded by the Swiss State Secretariat for Economic Affairs (SECO) originally started in 2009 focusing on the island of Flores. The second phase of the program started in June 2014, covering there additional destinations Tanjung Puting, Toraja and Wakatobi. In addition WISATA II strengthens 9 vocational schools located in the 4 destinations as well as 3 Tourism Higher Education Institutes. The program is carried out in close cooperation with the Indonesian Ministry of Tourism . The main goal is to contribute to economic development through sustainable tourism, which creates employment and income to improve the livelihood of the local population.

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Société Générale de Surveillance (SGS): Swisscontact has been awarded the Certificate of the International Inspection Agency Société Générale de Surveillance (SGS) within the NGO Benchmarking Program.

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