6. ECONOMIC DEVELOPMENT

100 GROSS DOMESTIC PRODUCT
102 DOMINATING ECONOMIC SECTORS’ SHARES
104 AGRICULTURAL DEVELOPMENT
105 RAIN PADDY PRODUCTION
107 SUMMER PADDY PRODUCTION
109 CHANGE OF PADDY YIELD
110 AGRICULTURAL REGIONS
116 GROSS DOMESTIC PRODUCT: SHARE OF PRIMARY SECTOR
117 SHARE OF PRIMARY SECTOR IN TOTAL GDP
118 AQUACULTURE
122 DEVELOPMENT AND INDUSTRIALISATION
123 SHARE OF SECONDARY SECTOR IN TOTAL GDP
126 CRAFTS
128 GARMENT INDUSTRY IN YANGON
130 THE TERTIARY SECTOR: ADMINISTRATION, TRADE, TRANSPORTATION AND TOURISM
131 GROSS DOMESTIC PRODUCT: SHARE OF TERTIARY SECTOR
133 TOURISM CENTRES AND REGIONS
The regional breakdown of Gross Domestic Product, based on Myanmar’s 330 townships (MNPED 2015), provides more detailed information about each region’s contribution to the country’s economy. Apart from Yangon’s dominant position as Myanmar’s main economic centre, what is striking about these figures is the familiar division of the country, with a strong economy in the central lowlands and comparatively weak economic performance in the mountain regions. Within these two major regions, however, there is considerable homogeneity in the economic performance of their respective townships. Overall, the figures for the lowland townships are generally 10 to 20 times higher than for the mountain regions.

The figures for the contributions to Gross Domestic Product by township mirror the high absolute values for the cities and towns with an industrial base and service sector. Leading the field is Yangon with 11.85 million Kyats, Mandalay with 2.56 million Kyats and Nay Pyi Taw with 1.42 million Kyats (2014-2015; MNPED 2015). Yangon’s contribution is almost five times higher than Mandalay’s. Within Yangon, the contributions of the townships which host the major industrial zones stand out, particularly Hlaingtharyar, Dagon Myothit and Insein. Some regional cities are also notable on account of their high absolute values for GDP, primarily Bago and Pathein (whose administration covers the tourist areas of Chaungtha and Ngwe Hsaung). Also striking are the substantial contributions made by the specialised regions, including the productive agricultural areas such as the Ayeyarwady Delta and the central lowlands and the prosperous mining regions, e.g. Thabeikkyin with its gold mines and Kalaymyo with coal, nickel, copper and cobalt production. By contrast, most of the mountain regions are lagging far behind. The contribution made by some trade-oriented border crossings and corridors also stands out; examples are the corridors from Muse to Lashio and from Tachileik to Kengtung.

The data offer important insights into trends in the generation of GDP in Myanmar. However, their informative value should not be exaggerated, as some factors are fully or partially excluded from the calculation of GDP, such as the substantial contribution made by subsistence farming, by unremunerated domestic work or work in family businesses, and by the informal sector, shadow economy and unregistered production, all of which are typical features of a developing country. Another obvious problem with the data is underreporting: it is surprising, for example, that the figures for major tourist regions such as Bagan and Inle Lake are not particularly high. Ultimately, Gross Domestic Product is merely an expression of traded production output (to the extent that it is officially reported), not of a region’s prosperity.

Per capita GDP allows economic regions of various sizes to be compared with each other. It is also a measure of a region’s material prosperity as it shows the total output of a country broken down by the number of inhabitants. However, the mean values provide no information about the actual range of the per capita values. The regional breakdown reveals high values for some cities (mainly in Yangon, Mandalay, Nay Pyi Taw and Pathein) and relatively high values for central Myanmar (e.g. around Monywa and Magway) and areas around development projects (e.g. Kyaukphyu), but it is clear that the figures for some townships need to be reviewed or analysed in more detail before they can be accurately interpreted.

Frauke Kraas and Zin Nwe Myint
In Myanmar, the individual economic sectors make different contributions to total gross domestic product (GDP). According to statistics from the Department of Planning, the primary sector (agriculture, livestock and fisheries, forestry) generates 27.9% of GDP, the secondary sector (energy, mining, processing and manufacturing, electric power, construction) accounts for 34.4% and services (transportation, communications, financial institutions, social and administrative services, rental and other services, trade) contribute 37.7% (MNPED 2015: 203).

If the townships are 'localised' within the sector triangle – in other words, if the percentage of GDP generated in each township is shown in terms of its dominant economic sector (primary, secondary or tertiary) – it is striking that in 86 of the 330 townships, the primary sector generates more than 50% (up to 75%) of GDP. Most of these townships are located in the central lowlands in the dry zone and the Ayeyarwady Delta, although a small number lie in predominantly agricultural mountain regions. In a further 166 townships, the primary sector contributes more than 25% (but less than 50%) to GDP. There are only 20 townships in which the secondary sector accounts for more than 50% (but less than 75%) of GDP. Just three townships – Kyaukpyu, Pathein and Yebyu – are dependent on the secondary sector for more than 75% of their contribution to GDP. In 128 townships, between 25% and 50% of GDP is generated by the secondary sector. The majority of these townships are located in cities and towns across the country, indicating a broad regional spread of the secondary sector. In 40 townships, the tertiary sector accounts for 50% to 75% of GDP; in Pabedan/Yangon and Zayarthur/Nay Pyi Taw, the figure is above 90%. As expected, GDP production is dominated by the tertiary sector in urban townships and, in some isolated cases, in border regions with dynamic trade. Surprisingly, none of the main tourist regions stand out.

Frauke Kraas and Zin Nwe Myint
Subsistence-oriented agriculture in the lowlands, on nutrient-rich soils in valley bottoms and on frequently nutrient-poor substrata on the slopes of the mountain regions, is the most important economic pillar of the country and the main basis of employment. As during the British colonial period (more than 68% employed in agriculture; Storz 1967: 157; Saito/Lee 1999: 26) and upon the introduction of a market-oriented economy after 1988 (1990/91: 65.5%; Saito/Lee 1999: 30), about 61.2% (MoAI 2013) of all workers are employed in agriculture today (Khin Khin Soe/Yin Yin Lwin 2015). The sector contributes a good third of gross domestic product, i.e. 36.4% of national GDP (2012-13) and 17.5% of total export earnings (Aung Kyaw et al. 2013). About 26% of the country’s entire area is used for agriculture and permanent crops (MoAI 2013). In 2010-2011, the area under paddy accounted for 70% of the total arable area and it contributed about 30% of Myanmar's gross agricultural and 95% of total cereal output. Less than 20% of agricultural land is artificially irrigated; this is primarily located in the Ayeyarwady Delta, near the Bago Yoma dams, in the drier central area (dry zone) and parts of the north of the country.

The most important product for domestic consumption is rice. Rice is also Myanmar’s main agricultural product and the second most important exportable agricultural commodity after beans and pulses, and is thus a very important income source for farmers. Total paddy production was 18,580 (000’MT) in 1995-96 and increased to 27,704 (000’MT) in 2012-13; cropping intensity increased from 140.5% in 1995-96 to 158.3% in 2012-13 (Settlement and Land Records Department 2013). Rice production is concentrated in the Ayeyarwady Delta and occupies about 40% of the 15.85 million ha of cultivated land (FAO 2005: 5, Aung Kyi 2006). The agricultural crops with the highest yields are, according to their production (2012-13): sugar cane, blackgram, maize, groundnuts, greengram, onions, vegetables, potatoes, cotton, natural rubber, fruits and tea (Settlement and Land Records Department 2013). Moreover, oilseeds, pulses, cotton and soy beans are important crops (FAO 2005: 5). Animal husbandry is practised nationwide, with a focus on poultry in the Ayeyarwady Delta and pigs in the mountain regions and in the north of the country. Pasture land is developed in the Sagaing, Bago, Magway, Mandalay and Yangon Regions and Mon State (Than Than Htay 2012: 155). Dairy farming in the mountain regions of Shan, Kayah and Kachin States has been declining for some years; there are not enough pastures due to deforestation and the expansion of tillage.

Of the 4.8 million farming families that live solely or predominantly from agriculture, 63% have access to less than 2 ha of agricultural land (small farmers and landless farmers are included in the statistics), 25% have 2-4 ha and 13% have more than 4 ha (Ardeth Maung Thawhghmung 2003, Aung Kyi 2006). While small farmers mostly practise subsistence farming, larger farms, including plantations, are either under state control (state-owned enterprises), government-favoured enterprises or in the hands of foreign investors (indirectly, as these can only act through intermediaries).

Basic food security for the country’s population has not been a problem in the past, with the exception of wartime: rice was always available in sufficient quantities, even if not all regions produced constant surpluses. However, the quality of the supply is not secure countrywide, especially among small farmers and agricultural labourers, the majority of whom are landless. Food expenditure amounts to
72% of the total consumption expenditure of an average family in Myanmar. Of this total food expenditure, about one fifth is needed to buy rice. In the countryside and villages, the share of food (especially rice) in total consumption is higher. This is particularly so in the rural areas of Chin State where food accounts for 76% of total household consumption expenditure, with the share of rice in total food expenditure coming to roughly a quarter.

REGIONAL DIFFERENCES

The wide range of very disparate natural conditions and socio-culturally determined, mostly ‘traditional’ agricultural forms creates a highly differentiated regional picture. Diverse historical influences must also be taken into account. The structural patterns of agriculture that evolved in the pre-colonial period were first radically altered during the British colonial period (1824-1948), when agriculture was expanded across the country and thitherto untouched natural landscapes were systematically developed, in particular in the Ayeyarwady Delta and the mountain regions (Cheng 1968, Kan Zaw et al. 2011, Keck 2015, Kraas 2016b). Furthermore, soon after what was then Burma gained independence, there followed almost three decades of the ‘Burmese Way to Socialism’, the fundamental character of which continues to show through in planning and policy even after the introduction of a market-oriented economy in 1988.

For the Myanmar governments since then, the improvement of agriculture has been one of the most important economic goals: area expansion, the expansion of irrigation, mechanisation, technical modernisation and improvement of crop yields are to provide food security for the population, expand Myanmar’s export capacity and further the development of agroindustry (Mi Mi Kyi 2005: 79; FAO 2005: 5). Special measures to encourage ‘model villages’ are intended to promote integrated rural development (Mi Mi Kyi 2005: 94) while improving rural infrastructure, education and health care, thereby also creating a better general foundation for agriculture.

MODERNISATION AND DEVELOPMENT POTENTIAL IN AGRICULTURE

With the introduction of market-oriented production after 1988 and more so since 2010/11 the government gradually initiated other modernisation processes in agriculture (Tin Soe 2004). While achieving production targets has hitherto been a priority in agricul-
ture, the focus has not yet been explicitly on self-sufficiency, the diversification of agricultural products and crop sequences or income security for farmers.

More recent reform strategies have recommended a (holistic) broadening of focus to embrace the situation in agriculture as a whole, and follow a development path from a household-oriented subsistence economy to a regionally and internationally competitive market economy (Aung Kyi 2006).

The priorities of such strategies are as follows. Firstly, ecological aims are to be pursued, e.g. the establishment of soil protection and erosion prevention policies, measures against soil salination, and the creation of systematic wind barriers. Secondly, from an economic point of view the diversification of the crops cultivated, the consolidation of secondary crops, the reduction of post-harvest losses as well as improved access to loans, the stabilisation of the finance sector and a broadening of farmers and agricultural labourers income basis in agriculture, in association with agriculture and outside of agriculture, are necessary. From a structural point of view, improved land policies and resource development, the provision of transparent market information, a systematic development of human resources and the encouragement of agro-technology are called for. Finally, regionally differentiated improvements are perceived as necessary, rather than (too) general strategies. The main long- and medium-term goal is to achieve significantly improved integration and networking of the eight agricultural zones as well as further development of the endogenous socio-economic potential of the individual regions.

**SUMMER AND RAIN PADDY: PRODUCTION AND YIELDS**

Yields of rain and summer paddy vary considerably depending on natural conditions in and around the individual townships and in particular on soil quality and monthly rainfall.

Nationally, average yields of rain paddy are between 3.5 and 4.5 tons/ha; they are lower in coastal areas and in middle Shan State and significantly lower in the mountainous regions of Chin State, northern Kachin State and Kayah State. Higher yields of up to 8.7 tons/ha are achieved in the Sagaing and Magway Regions and in northern Shan State. Overall, yields are average by comparison with other ASEAN nations (USDA 2015) and stable over the country as a whole.

Yields vary in different parts of the country: yields of rain paddy in the delta areas of the Ayeyarwady and Sittaung rivers and in Rakhine State are high by comparison with the rest of the country and have been rising in recent years (2012-2014) in the core area, while on the coasts they are stable and in some townships of the central dry zone they are falling. Yields have fallen sharply in recent years in Kayin State and Mon State, largely on account of the shortage of labour as a result of the migration of workers to Thailand, lack of access to loans for modernisation and increasing cultivation of other agricultural commodities that command higher prices (all data: MoAI 2015).

Although the volume of summer paddy that is produced is significantly lower than that of rain paddy, the second rice harvest that summer paddy provides is nevertheless important for the national rice supply. Geographically the production of summer paddy is concentrated mainly in the southern Ayeyarwady Delta. Substantial harvests are also achieved in parts of the Magway and Mandalay Regions; productivity is high at between 5.0 and 7.0 tons/ha. Little summer paddy is harvested in other parts of the country, chiefly because of insufficient rainfall and limited capacities for artificial irrigation (all data: MoAI 2015).

*Frauke Kraas and Khin Khin Soe*
ECONOMIC DEVELOPMENT

CHANGE OF PADDY YIELD

Summer Paddy 2012-2013

Rain Paddy 2012-2013

Development of rain paddy yield from 2012/13 to 2013/14 (in tons/ha)*

-0.9 - 0.3 decrease
>0.3 - 0.1
>0.1 - 0.1 stable
>0.1 - 0.5 increase
>0.5 - 2.0
>2.0 - no data

Sources: MAIA, 2012; MAIA, release April 2013 (months)

German-Myanmar Research Project:
"The BI - Urban Natural System of Myanmar": "Socio-economic Atlas of Myanmar"

Conception and Layout of the Atlas: Faulke Kusa, Regine Specht

Copyright: Institute of Geography, University of Cologne, Germany
Myanmar can be divided into different agricultural regions according to their natural and socio-economic conditions and characteristics. It would be too simplistic to distinguish agricultural regions primarily on the basis of natural conditions. The wide range of very disparate socio-culturally determined, mostly 'traditional' agricultural forms creates a highly differentiated picture. Thus, for example in Chin, Kachin and Shan States different cultivation methods and traditions, different agricultural products, crop sequences and specialisations are to be found, simply because of the different ethnic groups in these regions. Also to be taken into account are diverse historical influences. The structural patterns of agriculture that evolved in the pre-colonial period were altered during the British colonial period, when agriculture was expanded across the country and hitherto untouched natural landscapes were systematically developed.

The differentiation of eight agricultural regions was derived from a synthesis of several criteria, based on primary and secondary data as well as qualitative characteristics (Kraas 2015): a) topography/relief (based on topographic maps and satellite images), b) total annual precipitation (data from the Department of Meteorology and Hydrology Myanmar), c) current land-use and vegetation (based on global land cover data; Chen et al. 2014), d) official agricultural statistics from the Ministry of Agriculture and Irrigation, e) numerous interviews with public authorities, entrepreneurs and farmers in the states and regions of Myanmar, f) field observation. Based on these criteria, eight different agricultural regions can be distinguished which shall briefly be characterised.
COASTAL REGIONS

Along the coast, the dominant activities are fishing and gathering (marine animals, sea-food and firewood; Heymann/Löffler 1997) in the adjoining brackish areas with frequently relatively untouched mangrove, nipa and bamboo forests. The agricultural potential along the coast is low, especially as the workforce is already seasonally occupied in fishing and tourism in a few places with early tourism development. Wet rice cultivation is mostly practiced for subsistence in the elongated coastal marshes beyond the beach walls, often together with vegetable cultivation for local markets.

DELTA AREAS OF THE AYEYARWADY, SITTAUNG AND THANLWIN RIVERS

The intensively cultivated southern Ayeyarwady Delta is the core of Myanmar’s agricultural production today (Adas 1974, Nishizawa 1991, Brown 2005, Hedley/Bird/Robinson 2010). This is the ‘rice bowl’ of the country, with extensive cultivated areas only a few metres above sea level, covering an area of over 20,000 km². Also rain-irrigated wet rice cultivation, pulses and vegetables are grown. Often, elongated houses on stilts for hens and ducks are erected in the basins, providing important extra income. Where storage reservoirs, dams and canal system enable irrigated farming outside of the rainy season, up to three harvests are possible. The potential of artificial irrigation is considered to be underutilized (Kraas 2016b).

The specialized cultivation of fruit – pomelos, watermelons, mangoes, durian or jackfruit – diversifies agricultural income. While most agricultural products in the deltas are produced for the national market, the export share of fruit and especially fish and prawns (dried or increasingly fresh-chilled) to Southeast Asia, China and Japan is rising continuously.

In areas easily accessible from Yangon and Mawlamyine and along the now well-developed trunk roads, e.g. to Maubin and Pathein, traditional tillage is increasingly being displaced by capital-intensive aquaculture, often owned by foreign investors (from Japan, Vietnam, Thailand) or joint ventures.

Following the devastation caused by Cyclone Nargis in 2008 (Kraas 2009), numerous reconstruction and development aid projects have led to the modernisation and mechanisation of agriculture in the Ayeyarwady Delta.

SOUTH CENTRAL MYANMAR

As precipitation and population densities decline northwards, rice accounts for a falling proportion of the harvest, and its yield levels drop. Oilseeds (sunflowers, peanuts, sesame) and cotton are increasingly cultivated. The share of sorghum and pulses – various peas, lentils, beans – rises, whereby the high diversity of the endogenous crops cultivated, many of them still very widespread, indicates how strongly Myanmar’s agriculture has been oriented towards the domestic market and its demands for many decades. Systematic and improved processing, marketing and quality improvement would enable a rise in farmers’ incomes and at the same time help to develop agroindustry.

THE DRY ZONE OF CENTRAL MYANMAR

In the dry zone of central Myanmar, which lies in the rain shadow of the major mountain ranges and receives between 400 and 1,000 mm annual precipitation with up to seven arid months, generally only dry farming is possible. As well as various species of acacia, the natural vegetation includes dwarf shrubs and succulents; some animals are kept where these grow. The main dry zone crops are peas, maize, cotton, sesame, onions and chillies (FAO 2005). Palm sugar production (toddy palm) attracts seasonal labourers from all around the country.

Apart from the irrigation zones near the Ayeyarwady River and its tributaries, where up to three harvests are possible, the potential for artificial irrigation has so far not been exploit-
ECONOMIC DEVELOPMENT

ed systematically. However, it should also be borne in mind that agriculture competes with urban employment opportunities in the Mandalay agglomeration, and the expansion of irrigation would have ecological consequences for the lower reaches of the Ayeyarwady River.

VALLEYS OF NORTH CENTRAL MYANMAR AND KACHIN STATE

In the broad fertile valleys of the Chindwin and Ayeyarwady Rivers with annual precipitation levels between 1,000 and 3,500 mm, sugar cane, rubber, oil palm, potatoes and mustard plant are cultivated as well as the dominant rice. Linked to the relatively low population densities, cultivation is less intensive than in the south of the country. The formerly widespread subsistence agriculture has changed since the late 1980s with the ongoing improvement of transport routes, although the north of the country remains poorly connected to the central lowlands. During the dry period, subsistence rice and vegetable cultivation is practised on the sandy islands and sloping banks of the large rivers. For some years harvested crops have increasingly been sold to Yunnan/China, as well as to India via the border crossing at Tamu or Rihkhawdar. The choice of plants cultivated (e.g. maize, yams, citrus fruits) has also changed in response to the growing demand from neighbouring countries for food and animal feed.

In principle, there is considerable potential for intensification. However, in view of the numerous nature reserves and conservation potential, the opening up of new areas to agriculture is questionable. As the region is thinly settled and many workers are already employed in extensive mining activities, there is currently little pressure to expand agricultural land-use.

MOUNTAINOUS REGIONS (BAGO YOMA, RAKHINE YOMA, CHIN STATE, NORTHERN SAGAING REGION, KACHIN AND SHAN STATES)

The highly differentiated mountainous regions of Myanmar, reaching heights between 2,000 and 4,000 m, with a high relief energy in Chin State and a somewhat lower relief energy in the Shan Hills, form numerous parallel mountain chains running north-south, composed mostly of limestone and granite.

Flatter slopes are usually cultivated as clearances. Slash-and-burn cultivation often occurs on the slopes in the typical Myanmar Taungya cultivation, where the fires are controlled and selected tall trees, so-called legacy trees, are
left standing in the course of clearance in order to support reforestation after two to three years of agricultural use. Shortly before the onset of the monsoon, mostly rice, sorghum, soya and maize are sown directly into the ashes. As yet there are few areas with permanent crops such as fruit trees, tea or coffee, as so far there is a lack of agricultural techniques and knowledge, capital and a functioning marketing system to encourage permanent crops.

Also grown are wheat, potatoes, vegetables, maize, onions and garlic. The intensively farmed permanent crops on the flatter slopes include fruit (apples, grapefruit, grapes, pineapples and strawberries), macadamia trees and above 1,500 m coffee and tea, usually in the form of plantations, which were initiated during the British colonial period. Furthermore, at higher elevations the cultivation of medicinal plants (castor oil plant, ginger or cinnamon), tobacco and traditional spices is expanding. Currently, these are mainly sold on the domestic market for traditional medicine or local specialities and are rarely subject to specific quality controls. On sunny slopes near Taunggyi, viticulture is now successfully practised in a pioneering venture.

In particular in the mountains around Inle Lake and along the long-distance roads from Thazi via Kalaw to Taunggyi and from Pyin Oo Lwin via Hsipaw to Lashio and Muse, the cultivation of mid-latitude crops has expanded considerably in recent years, since the growing demand in urban and (seasonal) tourism centres can be met thanks to improved transport links (Nilar Aung 2007). Near mining cities (e.g. Mogok, Kyatpyin or Hpakan), agriculture is in competition with mining so that with the availability of more capital, more intensive forms of cultivation have developed, e.g. slope cultivation with furrow irrigation or localized irrigation, greenhouses, partly with seasonal labourers.

Many coastal mountain ranges (large parts of the southern Rakhine Yoma and the mountains parallel to the coasts of Mon State and Tanintharyi Region) are subject to increasing land-use pressure, whereby rubber plantations, and in the south oil palm plantations, dominate.

In many mountain regions there are large national parks with a high biodiversity of flora and fauna, including wild elephants (protected since 1879), tigers, rare species of deer and a large number of bird, reptile and amphibian species, some of them endemic. There are also numerous nature reserves where subsistence agriculture is permitted. These protected areas are a tremendous resource for the country insofar as their natural flora and fauna have hitherto been little influenced by human land-use. An expansion of agriculture in these regions is possible and conceivable, but is not very feasible in respect to the significance of their ecological potential.

**BASINS AND VALLEYS OF THE MOUNTAIN REGIONS**

Within the mountain regions, numerous basins and valleys facilitate more intensive farming than on the hill slopes. Because of the altitude-related lower annual average temperatures (under 18°C), with lowest temperature values just above freezing point at high altitudes, mid-latitude vegetables and fruit are cultivated. Some of these were introduced during the British colonial period, while many were brought to the country by missionaries in the context of aid activities to improve basic nutrition: potatoes, cabbage, tomatoes, cucumber, carrots, radishes, celery etc. Since 1988, the influence of China and Thailand has been apparent, especially in the Shan Hills: Traders import seeds which produce higher yields and better-looking crops, although these often prove less resistant to plant diseases and pests than local varieties. For this reason, local seed providers have become established in recent years. Through the connection to Thailand, and increasingly also to China and India, increasing amounts of pesticides and artificial fertilizers are being applied in agriculture, so that the special potential of relatively unspoiled soils which could be used for organic farming, is gradually dwindling.
High-yielding agriculture is primarily practised at an altitude of about 900 m in the Shan Hills and around Inle Lake, Myanmar’s second largest inland lake. Traditionally, so-called ‘floating gardens’ (Wilhelmy 1986) are created on the lake: On artificial islands and earth-covered mats anchored in the lake floor with woven roots and climbing plants as well as wooden posts, lake sediments and plant detritus are repeatedly deposited to expand and deepen the soil layer. The main crops on these islands are tomatoes, beans, onions, leeks, aubergines and flowers. The constant supply of water from the lake makes several harvests per year possible. The cultivation and harvesting of the elongated ‘fields’ is effected from boats that access the plants along narrow canals and transport the harvested crops. On the lake banks the crop is sorted, packed and then transported, mostly by truck, to the agglomerations of Yangon and Mandalay (Nilar Aung 2007).

HIGH MOUNTAINS

The mountain regions above 2000 m in the north of Kachin State have hitherto been quite inaccessible because of a lack of transport links and are only used for agriculture in scattered locations. The mountain massifs of the eastern foothills of the Himalayas surrounding the country’s highest mountain Hkakabo Razi are largely inaccessible. The dense mountain rainforests at lower altitudes with oaks, chestnuts, tree ferns and bamboo, pines and rhododendrons give way to open bush- and grasslands at higher altitudes. Subsistence agriculture is carried out mainly in the valleys, sometimes on terraces, with rice and vegetable cultivation dominating. Taungya slash-and-burn cultivation is practised sporadically, making dry rice cultivation possible. Hunting and gathering are also common in the forests, though limited in many places by local restrictions on their use.

Frauke Kraas, Aung Kyaw and Nay Win Oo
Detailed analysis of the data for Myanmar’s 330 townships reveals a regional differentiation that is highly characteristic.

The share of the primary sector in total GDP by township (2014/2015; indicated by the colour of the frame of the squares) shows that the sector accounts for shares of more than 50% in predominantly rural regions without major urban centres (for instance in the west of the Ayeyarwady lowlands and delta, and in peripheral townships of the Shan Highlands and in the Sagaing and Tanintharyi Region). In larger towns and cities and their surroundings, the share of the primary sector in total GDP drops to less than 25%, as would be expected. In some locations it is less than 5%, which is due to urban and periurban industry and the high share of trade and services. Correspondingly, the lowest shares of the primary sector in GDP are found in Yangon, Mandalay, Nay Pyi Taw, larger regional urban centres (such as Mawlamyine, Sittwe or Myitkyina) and some border towns (such as Muse and Tachileik).

A look at the shares of the ‘agriculture’ and ‘livestock and fisheries’ subsectors in the primary sector shows the huge importance of agriculture in the central lowlands of Ayeyarwady and in the peripheral highlands of Shan, Kayin and Kayah State and the Sagaing Region. Fisheries dominate along the coasts, notably aquaculture in the southern delta of the Ayeyarwady. In the peripheral mountain regions with infertile soils, high relief energy and low levels of market integration, such as in Chin State, the major importance of livestock is evident. The contribution of forestry and agroforestry to GDP is below the 25% threshold in all townships. This contribution can only be derived indirectly from the available data insofar as forestry and agroforestry play a supplementary role in GDP generation in all the locations where agriculture, livestock and fisheries do not make up more than 90%.

Frauke Kraas and Khin Khin Soe

Rice harvest in Ayeyarwady Delta
In addition to rice, fish and fish products are the most important source of domestic food security in Myanmar (‘rice fish culture’); with almost 55 kg/capita/year Myanmar heads up per capita consumption worldwide (Belton et al. 2015: 8, 21). Almost as much of the household budget is spent on fish (14%) as on rice (19%; Belton et al. 2015: 23).

Fish production in Myanmar is derived from marine capture fish, freshwater capture fish or from aquacultures. Fishing in natural waters dominates throughout the country; there are also numerous mostly small or medium-sized artificial fishponds. Inland fishing has been particularly promoted since the Pyidawtha-Plan (Government of Burma 1952, Hla Tun Aung 2003: 355-356). Freshwater fishing is favoured over saltwater; in addition to cast-nets and drag-nets, weirs, fish-cages and angling tackles are used. Deep-sea fishery dates back to the time of Japanese occupation but remains less developed (Storz 1967: 221, Hla Tun Aung 2003: 355-357); it is restricted by a lack of technical equipment, knowhow and the difficulties of ensuring timely cold chain transport. Following the decline of salt production on the coast of Rakhine (Ba Shwe 2012: 77-90), traditional salting practices have lost significance.

Aquacultures are found in almost all the country but are concentrated in the coastal and delta regions, in the Ayeyarwady Delta and in the vicinity of Yangon, especially in Maubin, Twante, Nyaungdon, Kyauktan and Khayan (Mi Mi Kyi 2005, Kyauktan TPDC 2006). Here are about 90% of the nation’s fish farms. Aquaculture was first introduced in the mid-1960s (‘proto-aquaculture’; Beveridge/Little 2002), and gained greatly in significance after 1988 with the introduction of the market-oriented economy and the end of the armed conflicts in the eastern Ayeyarwady Region. In 1980, giant shrimps (Macrobrachium sp.) was introduced in Myanmar (Tint Tint Moe 1997) and is since then produced on commercial scale. Shrimps
and prawns are cultivated along the coast, especially in Rakhine State and the Tanintharyi Region (even though they only account for 5.6% of aquacultures; Belton et al. 2015: 15, FAO 2016). After the construction of the Yangon-Thanlyin Bridge, aquaculture expanded substantially in Kyauktan township (from 125.49 acres in 1995 to 4,872.00 acres in 2000; Khin Khin Soe 2008). Similarly, fish cultures expanded along the Bago-Khayan-Thongwa road with its upgrading process.

Although care is required when considering the statistics – the surface area of ponds is markedly under-reported while yields are markedly over-reported (Belton et al. 2015: 37, 39, 90-92) – two trends can be identified. Yields have more than doubled in the last decade and a half due to a combination of increases in the area under aquaculture and, especially, intensification (Belton et al. 2015: 16). The operating structure is polarised: more than half of the enterprises are very large farms that received concessions for the small amount of land in the Ayeyarwady Delta that was previously uncultivated; otherwise there are numerous small and medium-sized farms and over 200,000 small ‘backyard ponds’ or ‘homestead ponds’ in the neighbourhood of farmhouses, particularly

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>UNION OF MYANMAR</td>
<td>785,495</td>
<td>1,580,051</td>
<td>2,548,037</td>
<td>3,424,413</td>
</tr>
<tr>
<td>KACHIN STATE</td>
<td>4,371</td>
<td>11,742</td>
<td>17,906</td>
<td>20,771</td>
</tr>
<tr>
<td>KAYAH STATE</td>
<td>5</td>
<td>410</td>
<td>716</td>
<td>942</td>
</tr>
<tr>
<td>KAYIN STATE</td>
<td>1,999</td>
<td>5,763</td>
<td>9,087</td>
<td>13,866</td>
</tr>
<tr>
<td>CHIN STATE</td>
<td>50</td>
<td>457</td>
<td>732</td>
<td>1,265</td>
</tr>
<tr>
<td>SAGAING REGION</td>
<td>15,809</td>
<td>34,878</td>
<td>57,264</td>
<td>84,625</td>
</tr>
<tr>
<td>TANINTHARYI REGION</td>
<td>30,925</td>
<td>471,552</td>
<td>703,135</td>
<td>1,066,626</td>
</tr>
<tr>
<td>BAGO REGION</td>
<td>37,378</td>
<td>131,013</td>
<td>210,346</td>
<td>286,910</td>
</tr>
<tr>
<td>MAGWAY REGION</td>
<td>3,034</td>
<td>5,470</td>
<td>10,080</td>
<td>11,351</td>
</tr>
<tr>
<td>MANDALAY REGION</td>
<td>15,450</td>
<td>27,814</td>
<td>45,851</td>
<td>46,049</td>
</tr>
<tr>
<td>MON STATE</td>
<td>26,124</td>
<td>90,173</td>
<td>165,404</td>
<td>170,127</td>
</tr>
<tr>
<td>RAKHINE STATE</td>
<td>59,856</td>
<td>96,687</td>
<td>152,507</td>
<td>171,718</td>
</tr>
<tr>
<td>YANGON REGION</td>
<td>40,163</td>
<td>149,619</td>
<td>226,238</td>
<td>330,951</td>
</tr>
<tr>
<td>SHAN STATE</td>
<td>1,745</td>
<td>3,449</td>
<td>6,265</td>
<td>12,048</td>
</tr>
<tr>
<td>AYEYARWADDI REGION</td>
<td>270,306</td>
<td>551,024</td>
<td>942,506</td>
<td>1,204,473</td>
</tr>
<tr>
<td>NAY PYI TAW</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,691</td>
</tr>
</tbody>
</table>

Production of Fish and Prawns by Region and State [absolute values in thousand viss] (MoFF 2016: 293)
in the southern Ayeyarwady Delta and near Thongwa (Belton 2015: 37, 61).

To date fish farms account for about 20% of inland fish production; about 38% of the total volume of farmed fish sold domestically is bought in cities, 62% in rural areas (Belton et al. 2015: 4). Contrary to the common perception that the majority of aquaculture products are used for export, apparently only about 20% of products are actually exported, particularly to Kuwait, Saudi Arabia, Bangladesh, UAE and Singapore (Khin Kin Soe 2008, Belton et al. 2015: 18-20).

To date, indigenous carp (rohu, nga myit chin, Labeo rohita) dominate the fish farms, accounting for about 70% of catches (Belton et al. 2015: 15/16, FAO 2016). Integrated poultry-fish production is increasingly practised; the poultry – usually ducks, chicken or geese – are kept in elongated houses over the fish-ponds (especially in Hlegu or Kayan; Belton et al. 2015: 33, 35).

More than double the amount of labour is invested in fish-farming than in rice farming. A significant proportion is recruited on a temporary basis and used for the labour-intensive fish harvest or pond construction and repair.

The produce is usually transported by bus and private cars, sometimes by boat to Yangon to Hlaing Thayar or one of the two leading fish markets, San Pya wholesale market in the south-west of Yangon or Shwe Padauk, where the goods are mostly traded and sold through brokers. Dried fish is mostly sent through Bayint Naung Market to Mandalay and Myingyan; salted fish and Nga Si Baung (swim bladder) is sent through Bayint Naung Market to China (Khin Kin Soe 2008).

The sector could be significantly strengthened by the promotion of sustainable forms of production, combined with improved environmental awareness, better advisory services, capacity enhancement, specialised higher education and the development of microcredit-systems for small and medium-sized enterprises (Steins et al. 2015, Nang Mya Han 2016).

Frauke Kraas, Nilar Aung and Khin Kin Soe
Although the secondary sector has been growing in recent years, prior to the post-2011 reforms its role in the country’s economic development was relatively minor by comparison with the primary and tertiary sectors: its contribution to GDP was 9.7% in 2000/01 and 17.5% in 2005/06. Since 2010/11 its share has risen steadily from 26.5% to 34.4% (2014/15), with processing and manufacturing accounting for nearly 20% of this (MNPED 2015: 203).

HISTORIC DEVELOPMENTS

Some moves towards industrialisation were made in pre-colonial times under King Mindon, who sought to expand traditional crafts such as sawmills, pottery, shipbuilding and lacquerware production (Aung Tun Thet 1989: 43). During the colonial era the British established large sugar mills (in the 1840s) and rice mills (in the 1860s) as well as textile, rubber and beverage factories, thereby laying the foundations for a food and consumer goods industry (Spate 1941, Andrus 1947). From the 1870s onwards, a colonial export economy based on profits from the ‘rice rush’ that followed the opening up of the Ayeyarwady Delta (Adas 1974, Aung Tun Thet 1989: 126) developed alongside the traditional subsistence economy that then predominated. In 1940 there were 1,027 factories in operation, including 673 rice mills and 116 sawmills; two-thirds of them were in foreign hands (Walinsky 1962: 46; Aung Tun Thet 1989: 3, Chit So 1999: 127). The opening of the Suez Canal in 1869 boosted the colonial policy of industrialisation of agriculture (Furnivall 1948: 85-90). This was “agriculturisation” rather than industrialisation’ (Kudo 1999: 215) and at the same time ‘growth without development’ (Aung Tun Thet 1989: 33), because there was no structural reform and domestic entrepreneurship and human resources remained underdeveloped. The industrial sector, which was based almost entirely on resource extraction, led to the statement that ‘Burma is a land of isolated outposts of industry’ (Grant 1942: 47).
After independence there were four periods of economic liberalisation during which deliberate attempts were made to promote industrialisation (Myat Thein 2004, Kudo/Odaka 2016: 156-160): (1) The aims of the brief liberalisation that followed the Eight-Year Economic Plan (the Pyidawtha Plan of 1952) included the transfer of foreign-owned companies to Myanmar nationals and a state-driven boosting of industrial production (Government of Burma 1952, KTAM 1953, Myat Thein 2004: 16-21). This period ended with the coup d’etat of 1962. The nationalisation that took place as part of the ‘Burmese Way to Socialism’ saw private companies converted into state-owned ones. (2) After 1974 the country became eligible to receive official development assistance (ODA). These payments did little to revive the industrial sector, instead leading only to an accumulation of foreign debt and, as the country began to slide into recession and political opposition mounted, resulting (3) from 1988 onwards in the introduction of a market-oriented economy (von Hauff 2007). Despite a restructuring of foreign direct investment and abolition of the nationalisation policy, twelve key sectors remained under government control after 1989. They included forestry, oil and gas, gemstones, energy, post and telecommunications, transport, the media and arms production (Kudo/Odaka 2016: 158). Moreover, in the wake of the Asian financial crisis of 1997 and the imposition of sanctions by western nations, industrialisation struggled to get under way. (4) It was only as part of the latest post-2011 transformation processes, which gathered pace after the 2015 elections, that significant economic liberalisation, internationalisation and growing industrialisation occurred.

### CURRENT SITUATION

Nationalised businesses currently suffer from inadequate modernisation, low labour efficiency, undercapitalisation, renovation backlogs, poor horizontal networking and weak sales markets, while private-sector companies are hampered by bureaucratic obstacles, poor basic infrastructure, inadequate access to electricity and financial loans and insufficient pre-

<table>
<thead>
<tr>
<th>MAIN ECONOMIC ACTIVITY OF BUSINESS</th>
<th>NUMBER</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>RETAIL TRADE (EXCEPT MOTOR VEHICLES AND MOTORCYCLES)</td>
<td>27,492</td>
<td>21.7</td>
</tr>
<tr>
<td>MANUFACTURE OF FOOD PRODUCTS, BEVERAGES AND TOBACCO PRODUCTS</td>
<td>27,127</td>
<td>21.4</td>
</tr>
<tr>
<td>FOOD AND BEVERAGE SERVICE ACTIVITIES</td>
<td>18,890</td>
<td>14.9</td>
</tr>
<tr>
<td>WHOLESALE TRADE (EXCEPT MOTOR VEHICLES AND MOTORCYCLES)</td>
<td>8,480</td>
<td>6.7</td>
</tr>
<tr>
<td>MANUFACTURE OF RUBBER AND PLASTIC PRODUCTS, AND OTHER NON-METALLIC MINERAL PRODUCTS</td>
<td>7,137</td>
<td>5.6</td>
</tr>
<tr>
<td>TRADE AND REPAIR OF MOTOR VEHICLES AND MOTORCYCLES</td>
<td>5,397</td>
<td>4.3</td>
</tr>
<tr>
<td>OTHER SERVICE ACTIVITIES</td>
<td>4,624</td>
<td>3.6</td>
</tr>
<tr>
<td>TRANSPORTATION AND STORAGE</td>
<td>4,150</td>
<td>3.3</td>
</tr>
<tr>
<td>OTHER MANUFACTURING; REPAIR AND INSTALLATION OF MACHINERY AND EQUIPMENT</td>
<td>4,109</td>
<td>3.2</td>
</tr>
<tr>
<td>MANUFACTURE OF TEXTILES, WEARING APPAREL, LEATHER AND RELATED PRODUCTS</td>
<td>3,930</td>
<td>3.0</td>
</tr>
<tr>
<td>MANUFACTURE OF BASIC METALS AND FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT</td>
<td>3,077</td>
<td>2.4</td>
</tr>
<tr>
<td>ACCOMMODATION</td>
<td>2,348</td>
<td>1.8</td>
</tr>
<tr>
<td>ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES</td>
<td>1,904</td>
<td>1.5</td>
</tr>
<tr>
<td>MANUFACTURE OF PAPER PRODUCTS; PRINTING AND REPRODUCTION OF RECORDED MEDIA</td>
<td>1,455</td>
<td>1.0</td>
</tr>
<tr>
<td>MANUFACTURE OF FURNITURE</td>
<td>1,229</td>
<td>1.0</td>
</tr>
<tr>
<td>MANUFACTURE OF WOOD PRODUCTS</td>
<td>1,114</td>
<td>0.9</td>
</tr>
<tr>
<td>HUMAN HEALTH ACTIVITIES</td>
<td>610</td>
<td>0.5</td>
</tr>
<tr>
<td>PUBLISHING, AUDIOVISUAL AND BROADCASTING ACTIVITIES</td>
<td>560</td>
<td>0.4</td>
</tr>
<tr>
<td>MINING AND QUARRYING</td>
<td>504</td>
<td>0.4</td>
</tr>
<tr>
<td>MANUFACTURE OF TRANSPORT EQUIPMENT</td>
<td>486</td>
<td>0.4</td>
</tr>
<tr>
<td>IT AND OTHER INFORMATION SERVICES</td>
<td>332</td>
<td>0.3</td>
</tr>
<tr>
<td>EDUCATION</td>
<td>331</td>
<td>0.3</td>
</tr>
<tr>
<td>ARTS, ENTERTAINMENT AND RECREATION</td>
<td>320</td>
<td>0.3</td>
</tr>
<tr>
<td>PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES</td>
<td>318</td>
<td>0.3</td>
</tr>
<tr>
<td>MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS</td>
<td>299</td>
<td>0.2</td>
</tr>
<tr>
<td>MANUFACTURE OF BASIC PHARMACEUTICAL PRODUCTS AND PHARMACEUTICAL PREPARATIONS</td>
<td>228</td>
<td>0.2</td>
</tr>
<tr>
<td>MANUFACTURE OF MACHINERY AND EQUIPMENT N.E.C.</td>
<td>187</td>
<td>0.1</td>
</tr>
<tr>
<td>CONSTRUCTION</td>
<td>161</td>
<td>0.1</td>
</tr>
<tr>
<td>ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY</td>
<td>104</td>
<td>0.1</td>
</tr>
<tr>
<td>MANUFACTURE OF ELECTRICAL EQUIPMENT</td>
<td>51</td>
<td>0.0</td>
</tr>
<tr>
<td>WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION</td>
<td>44</td>
<td>0.0</td>
</tr>
<tr>
<td>REAL ESTATE ACTIVITIES</td>
<td>29</td>
<td>0.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>126,928</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Distribution of Businesses Across Economic Sectors (MoPF 2016: 359)
paredness for international competition. Privatisation is also hindered by the institutional environment, a poorly trained workforce, limited market-economy thinking and a shortage of managers. Furthermore, there is a lack of standards for waste disposal, hygiene, environmental protection and sustainability awareness (Tin Maung Maung Than 2007, Kudo/Odaka 2016: 170-183).

Geographically, enterprises in the secondary sector that contribute to the gross domestic product (GDP) are concentrated on the one hand in some centres of mining and energy generation and on the other in industrial manufacturing sites, the majority of which are located in the central lowlands and the regional cities. In the peripheral parts of the country, GDP is generated mainly by the construction sector. Privately owned factories are concentrated in two separate areas: the Mandalay Region (2009: 17.7% of all companies in Myanmar) and the Yangon Region (14.0%). With the addition of the Bago, Sagaing and Ayeyarwady Regions, almost 70% of all private-sector industrial companies are located in these five areas (Kudo/Odaka 2016: 173). The food and beverage industry is distributed evenly between the regions. Textile manufacture, metal processing and machinery production are concentrated in the area in and around Mandalay, while Yangon is the centre of chemical, paper, plastic, rubber and non-metallic production (Kudo/Odaka 2016: 173). The creation of special industrial zones is intended to foster industrialisation throughout the country. However, many of these zones – especially those located in or near the big cities, notably Yangon and Mandalay – are not altogether successful. Development is hindered by bureaucratic obstacles, the time-consuming process of obtaining licences, blocked development as a result of land speculation, inadequate access to electricity and in some cases water, poor waste and sewage disposal facilities, limited technological modernisation, lack of access to loans, and environmental problems (Zin Nwe Myint 2006b, Moe Kyaw 2009, San Thein 2012, von Hauff 2016).

In the medium term it is likely that if industrialisation continues it will result in an economic dualism in which a small technologically modernised industrial sector with an increasingly international outlook contrasts with a large number of small and medium enterprises that continue to employ traditional production methods and are not internationally competitive (Kudo/Odaka 2016: 171). In addition, regional and social disparities within the country may well increase.

Frauke Kraas and Zin Nwe Myint
CRAFTS

Crafts are one of the most valuable assets of Myanmar and represent an enormous potential. Incomprehensively, they have not yet received much attention in the economic development of the country. Various craft traditions have developed over the centuries – some at the courts of the kings and rulers, some as quotidian art through everyday objects – and there are numerous regional specialisations.

Fraser-Lu stated that there was no ‘distinction between the ‘fine arts’ and the decorative or ‘applied arts’. The arts of the metalworker and those of the wood-carver and lacquer worker are not regarded as secondary to architecture, painting, and sculpture. All art in Burma traditionally had the same purpose, that of furnishing the religion and court with objects of consummate beauty and of providing the common people with attractive, well-crafted objects for everyday use’ (1994: 7).

The craft culture encompasses a rich spectrum of different products (Fraser-Lu 1994, Golloch 2014):

- The weaving of traditional fabrics and longyis is widely distributed through all parts of the country. The products display typical patterns, colours and fabrications for different ethnic groups. In the villages many households still practise traditional weaving (often jacko weaving) but larger looms, weaving for wages and mechanical weaving mills are increasingly widespread.

- Elaborate wood carving with figural and floral motifs decorates numerous wooden monasteries and pagodas, for instance in Mandalay (Moilanen/Ozhegov 1999). But buildings, agricultural machinery and everyday objects are also impressively decorated.

- Traditional lacquerware production is concentrated in the area of Bagan, but workshops are also found in Inwa, Maungdaung, Kyaukka, Mandalay, at Inle Lake, in Laihka and Kengtung (Weigelt 2005: 10). The base material is normal wood, soft wood, bamboo split into thin strips or basic forms...
made of braided horsehair. The lacquer is applied to this material layer by layer, dried and smoothed, then decorated with coloured patterns and ornaments, and in some cases with gold leaf, and polished. Very different techniques, decorations and designs characterise the different workshops (Fraser-Lu 2000).

- The workshops of artistic stonemasons are concentrated in the larger area of Mandalay and Sagaing. Marble from the Sagyin marble quarry north of Mandalay is used here, primarily to create sculptures of Buddha. Specialised bronze and brass foundries are also located in the area and use traditional techniques to manufacture sculptures, bells and small articles – increasingly for international customers.

- Precious and semi-precious stones are worked into jewellery, sculptures and pearls or are artistically scattered or laid out to create gemstone pictures, particularly in Mogok and Kyatpyin, but also in Mandalay, Sagaing and Yangon.

Many other regional craft centres exist in almost all parts of the country: pottery is manufactured especially in Pakkoku, Sagaing (Khin Khin Soe/Kraas/Yee Yee Than 2016) and Twante, umbrella production is concentrated in Pathein and at Inle Lake. At Inle Lake and in Taunggyi production furthermore centres around traditional Shan bags, valuable fabrics made from lotus plants, handmade paper created from petals, and cheroots and tobaccos. Other special craft traditions include silversmithing and goldsmithing, the textile art of the kalagas, beadwork, and the manufacture of marionettes, musical instruments, chin-lon balls, mats, panels, trays, all sorts of baskets, slate panels, wooden pipes, Pumtek beads and papier-mâché masks and toys.

Little comprehensive work has been undertaken on the spatial focuses or economic and social significance of local crafts, and there are no relevant statistics. Reports on economic performance often fail to even mention crafts. In contrast to many other Asian states that have been transformed by globalised economic development, Myanmar still possesses an enormous store of living and intact traditional knowledge on craft – along with the rich reserves of raw materials this represents the largest endogenous potential of the country in the current transformation process.

Frauke Kraas and Khin Khin Soe
The development of an export-oriented textile and clothing industry in Myanmar after the shift to a market-oriented economy is a young process. Its origins lie in the fact that in the early 1990s state-owned, military-related textile and clothing factories pursuing a policy of import substitution started to produce for the foreign market, after companies from, in particular, Korea and Hong Kong had begun to gain a foothold in Myanmar through joint ventures. Companies that were entirely foreign-owned followed, and they were joined from the mid-1990s by the first domestic private enterprises. This led to a production and export boom at the end of the 1990s; the boom peaked in 2001, when clothing worth 868 million US dollars accounted for 40% of all Myanmar’s exports (Kudo 2009b: 79). The export-led development strategy was temporarily halted by the imposition of sanctions by the USA and western countries in 2003.

The sector’s growth was fuelled by the growing market demand from the European Union (which took approx. 50% of production) and the USA (approx. 45%). The majority of businesses operated on the basis of the cutting, making and packaging (CMP) principle. Production involved conventional technology and low levels of investment. The business environment was favourable, because under the Multi-Fibre Agreement (MFA) there were virtually no import restrictions, and Myanmar had a pool of sufficiently cheap labour. There were also advantages inherent in the CMP system, since it allowed the raw material to be imported at low cost (Kudo 2009b: 81). Myanmar industrialists did not need to concern themselves with the controls surrounding imports and exports, or by tedious procedures, as in other sectors. … they could have access to imported raw materials without “export earnings” under the CMP arrangement’ (Kudo 2009b: 82). Furthermore, the private companies were not competing with the state-owned economic enterprises (SEEs), which meant that the boom under the prevailing conditions of the market-oriented economy could be achieved through self-sustained growth primarily on the basis of market incentives: ‘The government did nothing to promote it, but also did nothing to impede it’ (Kudo 2009b: 85).

Geographically the garment industry is concentrated in and around Yangon, where production takes place in the large industrial zones and industrial parks, especially in Hlaing Tharyar Industrial Zone, Yangon Industrial Park, Shwe Lin Ban Industrial Zone and Shwe Pyi Thar Industrial Zones I and II, with up to 35,000 jobs in each. Other smaller clusters are located in other industrial zones in the former capital city. Outside Yangon only Bago, Thanlyin, Hmawbi and Pathein are involved in the garment industry. On account of the almost complete concentration on the labour-intensive and export-oriented cutting-making-packaging principle, virtually nothing is produced for the local market. To a very small extent (geographically mostly in inner-city locations), some design and training takes place. The majority of the companies involved are joint ventures or funded by foreign investment; some companies from Myanmar operate in the industrial zones of Hlaing Tharyar, Shwe Pyi Thar, Pyin Mabin, Shwe Pauk Kann Mayangone and South Dagon (all data: statistical details for 2015, MGMA 2015).

_Frauke Kraas and Zin Nwe Myint_
THE TERTIARY SECTOR:
ADMINISTRATION, TRADE, TRANSPORTATION AND TOURISM

After the primary sector it is the tertiary sector that plays the next most important economic role in Myanmar, and within this sector trade and transport predominate. The tertiary sector’s contribution to GDP rose from 33.0% in 2000/01 to 36.7% in 2010/11 and 37.7% in 2014/15. The proportion accounted for by trade fell from 24.0% in 2000/01 to 20.1% in 2010/11 and 18.7% in 2014/15, while the figures for the transport sector in these three periods rose from 5.7% to 11.5% and then remained at 11.5%. Slight increases were also reported in the shares accounted for by communications (0.3% to 0.8% and 1.9%) and social and administrative services (1.5% to 2.3% and 3.1%) (all data: MNPED 2015: 203).

Regional differences in the tertiary sector’s contribution to GDP – both overall and specifically through trade and transport – are also informative. As expected, the geographical focal points are the cities of Yangon and Mandalay. A large proportion of trade is concentrated in the central lowlands in general, the Greater Yangon area and the southern Sagaing Region. The lowlands also account for a large proportion of transport, as do Rakhine and Mon States, where the tertiary sector is almost the sole generator of GDP. Trade dominates in large parts of the mountainous areas of the Sagaing and Tanintharyi Regions and Shan State. As is to be expected, tertiarisation is particularly strong in the capital city: more than 75% of the GDP generated there comes from employment in public administration. Administrative and social services also make a noticeable contribution to GDP generation in the structurally weak mountainous areas – that is, in Chin State and the peripheral townships of Kachin State.
SHARE OF TERTIARY SECTOR IN TOTAL GDP

Tertiary sector share of total GDP in 2014-2015 by township (in %)

- >75  (max 37.9%)
- >50 - 75
- >25 - 50
- >10 - 25
- >3 - 10

Dominant subsectors’ share of tertiary sector GDP in 2014-2015 (by township, in %)

- >90
- >75 - 90
- >50 - 75
- >25 - 50
- 0 - 25

Subsectors of the tertiary sector:

- Transportation
- Communications
- Social and administrative services
- Rental and other services
- Trade

*Subsector share of financial services is lower than 25% in each of the 330 townships.

Source: MNB (Central Statistical Organization of Myanmar), MNB release April 2014 (modified).


Conception and Layout of the Atlas: Faustine Kous, Researcher, Sphynx.

Copyright:

University of Cologne

Franz Steiner Verlag
TOURISM DEVELOPMENT

Tourism plays a particularly important part in the country’s economic development, although it is not regionally identifiable in the GDP earnings of the townships. As a result of both growing domestic tourism and a significant increase in tourism from abroad, it is one of the most strongly growing economic sectors in Myanmar as well as an important earner of foreign currency.

Myanmar has experienced rapid growth in tourism demand, particularly since 2011, and is beginning to diversify its range of tourism products and services. The country offers immense potential for tourism development, with an abundance of cultural and natural heritage, the genuine hospitality of its people and, at least for the moment, the exotic appeal of a hitherto ‘unexplored’ country (at least viewed from a foreign perspective). This is flanked by rising incomes in its Asian neighbours, with an accompanying surge in investment and interest in foreign travel.

Its eminent religious and cultural sites, the lively traditions of the country’s many ethnic groups and the great diversity of its natural and cultural assets offer immense potential for tourism development. These primary assets are enhanced by increasingly diversified secondary tourism resources. Numerous hotels and restaurants, mainly in the mid to upper price segment, have opened recently and international hotel investors are entering the market. The offering in the formal and informal souvenir trade is expanding and the range of tourism or tourism-related services is also increasing. A Tourism Master Plan was published in 2013 (MoHT 2013b).

Although the pre-colonial visits by explorers and missionaries cannot be described as ‘tourism’ in the narrower sense, the images and impressions that they conveyed attracted growing numbers of investors and merchants, paving the way for the initial phase of early tourism development during the British colonial period. This led to the emergence of international tourism – primarily for the purpose of culture, education, adventure and hunting and mainly targeted at the elites – towards the end of the 19th century. After the country gained its independence in 1948, however, the length of time that international visitors could feasibly remain in the country and their freedom to travel were initially limited by the impacts of conflict and civil war. Travel was then further constrained by the nationalisation of industries and the policy of autarky and isolation from 1962.

It was not until the introduction of a market-oriented economy after 1988 that a second phase of tourism development could begin. This took place in 1996 with the launch of the ‘Visit Myanmar Year’ marketing campaign, the systematic objective of which was to encourage more openness to tourism in general and to facilitate the expansion of a small number of centres, specifically the classic ‘quadrangle’ comprising Yangon, Bagan, Mandalay and Inle Lake (Kraas/Zin Nwe Myint 2015). However, the country’s poor transport and supply infrastructure and hence its inaccessibility meant that there was virtually no tourism development in its peripheral regions. A distinct seasonality (high season: November to mid-April, before the start of the monsoon) additionally limited opportunities for tourism development. A system of obligatory currency exchange, unrealistically high exchange rates and the impacts of the sanctions were further impediments.

A third phase of tourism development began with a rapid increase in visitor numbers triggered by the current transformation process (Kraas/Häusler 2016). In 2015, the number of domestic tourists reached 2.5 million, with weekend pilgrimages or visits to family accounting for most of this activity. According to official statistics, Myanmar hosted around 800,000 foreign visitors in 2010, and this increased to more than one million in 2012 and approximately 4.6 million in 2015. However, these figures, published by the Ministry of Hotels and Tourism (MoHT), are of only limited reliability as they include day-trippers from neighbouring countries who crossed the border for the purpose of trade or to visit family (Myanmar Times, 19.1.2015). Out of
around one million international arrivals, some 500,000 incoming visitors described themselves as 'Foreign Individual Travellers' (FITs) or as 'Package Tour' tourists. Most of the rest were travelling on business or visiting family. The Shwedagon Pagoda, Yangon’s landmark and main attraction, was visited by half a million tourists, while other key destinations, which mainly attract Westerners and the Japanese, report visitor numbers of around 250,000, suggesting that a figure of around 500,000 ‘real’ tourists (i.e. for leisure purpose) is realistic; more precise statistics are not available.

TOURISM CENTRES AND REGIONS

Myanmar has a number of well-established centres of international tourism whose significant religious, cultural and historical sites have attracted visitors for decades (Kraas/Häusler 2016). They include the area around the archaeological site of Bagan – dating back to the 9th century, with its pagodas, which extend across an area of more than 36 km² (Kyaw Lat 2010) – and ancient royal capitals like Bago, Dagon, Taungoo and Mandalay. Inle Lake, surrounded by 1500 m high mountains, is another classic element of any tourist programme; here, the diversity of the natural and cultural assets is the main attraction. The floating gardens of Inle Lake are a unique feature of the horticultural landscape here: these ‘islands’ or floating garden beds are anchored to the floor of the lake and, with the application of earth, plants and algae as a soil substrate, are used for the cultivation of vegetables and flowers on the lake itself (Wilhelmy 1986, Nilar Aung 2013). The constant availability of water enables these crops to be grown all year round. For local people, most of whom live in simple houses on stilts at the water’s edge, seasonal tourism provides an additional source of income alongside farming, fishing and crafts.

A number of new tourist destinations, most with a specialised offer, are also emerging (Hudson 2016). The inscription of the three Pyu Ancient Cities – Halin, Beikthano and Sri Ksetra (politically significant from around 200 BC to 700 AD) – on the UNESCO World Heritage List in July 2014 generated fresh impetus for cultural, historical and heritage tourism (Su Su/Win Kyaing 2016, Moe Ommar Lwin 2017). New seaside resorts are emerging, such as Ngapali, Chaung Tha and Nwe Hsaung at the Indian Ocean. A new destination is also Mrauk-U (Zin Nwe Myint 2009, 2011 and 2014, Zin Nwe Myint/Khin Myo Hla 2009).

Around Yangon and Mandalay, there is growing demand for resorts for weekend tourism, which is becoming increasingly popular with Myanmar’s middle class and elite and the expanding international expatriate community. As a result, in the former colonial hill stations – i.e. towns located at higher altitudes with cooler temperatures, where the British would seek refuge from the summer heat or monsoon rains – such as Kalaw and Pyin Oo Lwin, but also in the mountain regions around Taunggyi, Hsipaw and Lashio (Shan State) and Kho Nu Msung (Chin Daai language) or Nat Ma Taung (Myanmar language) or Mt Victoria (British) respectively, a tourism segment which specialises in summer retreats, golf and hiking is developing, in some cases based around newly constructed weekend accommodation and second homes. Early signs of tourism development can also be discerned in the mountain regions, e.g. around Mogok and Kyatpyin and the former Thandaunggyi hill station (Naw Paw Thaw Thaw 2016), which for many years were accessible to foreign nationals only with special permission. In the region around Kyaikhtiyo, Thaton, Mawlamyine (Lusby/Eow 2015), Hpa-an and Kyaikkhami, there is a strongly expanding weekend tourism segment, mainly attracting domestic tourists and centred around visits to religious sites. However, there are also signs of a nascent nature-based and cultural/heritage tourism sector aimed at international visitors. Following the completion of a transnational highway and the opening of the international border crossing between Myawaddy/Myanmar and Mae Sot/Thailand in August 2014, the border region is an emerging new destination, especially for tourists from Thailand.
Infrastructures in the peripheral mountain areas in Sagaing Region (including Nagaland), Chin State and Kachin State are still underdeveloped for the most part, with the result that these areas are still largely inaccessible; this also applies to the far south of the country with the Myeik (Mergui) Archipelago and Kawthaung. There are initial signs of a basic tourism infrastructure emerging in Hakha and Falam (Kraas/Zin Nwe Myint/Khin Khin Soe 2016), at Indawgyi Lake (Kraas/Zin Mar Than 2016, Zin Mar Than/Kraas 2016, Zin Mar Than 2017), around Myitkyina and in the Puta-O and Machanbaw basin.

FUTURE OPTIONS

Future developments in Myanmar’s tourism industry should take into account innovations and trends in the broader regional context of growing tourism competition in Southeast Asia, especially since the current value of Destination Myanmar’s ‘exotic novelty’ is likely to decline with time. For example, as nature tourism based around the unique selling point of national parks and nature reserves develops, this natural potential – and hence the appeal and value of these assets – will decline with growing tourism demand and use. Spiritual and mediation-based tourism (increasingly tailored to the specific needs of foreign visitors) is also enjoying a surge in popularity but it too could well lose some of its originality and authenticity as international demand for a certain type and quality of accommodation and food, but also international values, take hold. Secondly, national and international tourism is likely to continue to diversify in relation to both supply and demand: wellness, sport and medical tourism (e.g. in and around Taunggyi), meetings, incentives, conferences and events (MICE) tourism (in or close to the major cities), educational/summer course tourism (in regional centres with better education infrastructure relative to the surrounding area) and cross-border and trade-related tourism (e.g. in Tachileik, Kengtung, Tamu and Myawaddy) point to the opportunities for highly diversified regional segmentation, and, in some cases, growing specialisation of the tourism potential. And lastly, against the background of Myanmar’s burgeoning international engagement, it is clear that not only will new investors contribute to a more diversified tourism offering, e.g. by introducing newer, low-budget but also high-end price segments into the market, but also that new customers will want to see their specific expectations and demands fulfilled, which could potentially include a de facto separation of guests based on nationality (which has long been the standard practice in neighbouring countries). It is often said that ‘tourism destroys the very assets on which the industry itself depends and thus destroys itself’, and there is a fear that this may soon hold true for Myanmar. This risk can only be mitigated with carefully crafted strategies and sustainable, systematic planning and development processes, based on the principle of fairness and involving a wide range of decision-makers and stakeholders.

Important changes lead to a responsible tourism policy and a policy on community involvement (MoHT 2012, 2013a). Positive signals exist from the government about the need to implement sustainability principles in the tourism sector (Häusler 2014, Häusler/Baumgartner 2014, MCRB/HSF 2015a, b).