A regional perspective on poverty in Myanmar

Empowered lives.
Resilient nations.

Stephan Schmitt-Degenhardt

August 2013

This research was commissioned by UNDP Myanmar based on the data of the Integrated Household and Living Conditions Assessment (IHLCA) conducted under the support of UNDP, UNICEF and SIDA. The opinions do not necessarily reflect the institutional points of view.

Contents

Executive summary

Myanmar is at a critical moment in its development. The economic and political decisions of today will have serious implications for the development path the country will be taking. These years are so relevant because of the political transformation process, and because of the current international commodity boom: if Myanmar specialises on primary products it risks embarking on a sub-optimal growth trajectory of volatile export earnings and an economic structure that is easier subject to volatile shocks and special interest groups. Instead, Myanmar should target early on a steady movement towards more complex products services, and a more diversified industrial and trade structure.

At the crossroads of India, China and ASEAN, Myanmar is of high geopolitical interest. As integral and long standing part of the ASEAN community, its political and commercial future is anchored in this trading block. But open trade with China, India and also Bangladesh, should be fostered as long as it is beneficial for the wellbeing of the involved partners.

Myanmar's poverty rate and depth are rather on the low side for a nation at this development stage. Its poverty is shallow, with the median income only 25% above the poverty line. Small improvements can thus bring a large number of people out of poverty, but already small shocks can also bring an even larger number of people into poverty. Due to its very low consumption inequality, GDP growth can translate at a larger ratio into poverty reduction.

Overall, the country would need annually 850 billion Kyat, or 2.3% of its GDP (2010), to lift all its poor up to the poverty line, if cash transfers could be fully targeted and no transaction cost occurred. In effect, the median poor endures an annual poverty gap of 50,000 Kyat – or some 25 to 30 days of paid work.

The availability of work is, however, not the major obstacle to poverty reduction. Rather, the work is not equally distributed and paid for: as a whole, the Myanmar people do work weekly 60 million hours too much, i.e., beyond the 44 hour week. If the workload would be perfectly distributed, Myanmar could provide jobs for additional 1.34 million people. The real issue is one of a very low return on the labour invested. This low return is likely to have three major reasons: low skills and low capital usage lead to low productivity, underdeveloped market structures further reduce productivity and increase cost, and unbalanced market powers lead to an imposed capping of wages. If there is the will, all three can be handled.

Because Myanmar is exposed to many natural –but in principle preventable- calamities, costing annually 8% of agricultural output or 500 billion Kyat, it needs to invest into mitigation and adaptation strategies. Land fragmentation into unsustainably small plots hamper development especially in Chin and Shan. But household indebtedness is looming as potentially the largest problem: the median poor has debts of 60,000 Kyat, mostly for consumptive purposes. Depending upon the loan source, this household most likely pays between 8,000 and 12,000 Kyat monthly for interest alone, resulting in 96,000 to 144,000 Kyat annually, or two to three poverty gaps! In other words, if the poor were credit free, the half would not be poor anymore!

This report confirms what many reports have outlined before: the country requires a diversification into more complex products, while not neglecting the agricultural sector which will remain for a long time the breadwinner for most households. It requires investments into infrastructure and especially

electricity and IT communication. And it requires a predictable macroeconomic framework with capable, strong and accountable institutions. Development requires finance. But it would be wrong to hastily overrun the country with money from foreign investors or wealthy locals: these would obtain the bacons of investment, leave for a long time to come the development potential of local small and medium investors in the dry. It could quickly turn out to be too much, too soon.[1]

Myanmar is a country of vast opportunities. It is in the hand of the Government to develop these opportunities, and to do so in such a way that they are "in the interest of the entire people, not in the interest of a handful of people" (Sai Mauk Kham, Vice President of Myanmar, May 2012).[2]

[1] See Rieffel & Fox. (2013). Too much too soon.

[2] See International Crisis Group, 2012, p. 10

Introduction

Based on the results of the Integrated Household Living Conditions Surveys (IHLCS) of 2005 and 2010, various reports have already been written. These reports analyse the poverty profile, poverty dynamics, poverty and the Millennium Development Goals (MDG), the role of remittances, access to finance, transport infrastructure and trade, food insecurity and vulnerability, and do also provide technical and qualitative background information on these surveys.

This report's purpose is to attempt, as far as the data allow, a regional analysis of the causes of poverty. Based on this analysis, potentials to improve the wellbeing of the regional populations are outlined. Seven regions[3] have been selected for a more intensive analysis, and for each of these regions, UNDP is in the process of preparing separate analytical reports.

The report looks predominantly at expenditure poverty. It focuses on the median poor (versus the average), and takes as "unit of measurement" the median poverty gap: how much would various changes contribute to reduce the cost incurred by the poor household, or increase its income, in terms of closing this median poverty gap?

In so doing, the report does also attempt to provide national and particularly regional policy makers with benchmarks to assess policy proposals. As so many reports have already been written, this report avoids where possible elaborate repetitions and refers instead to the said documents.

[3] Ayeyarwady, Bago, Chin, Magway, Mandalay, Mon, and Shan.

The state of poverty and inequality

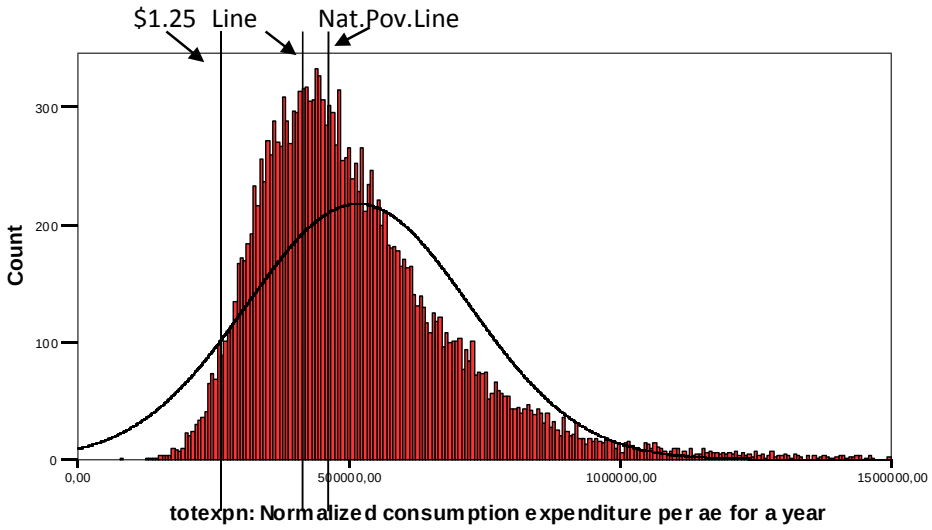
Poverty incidence

Overall poverty incidence

Between 2005 and 2010, Myanmar managed to reduce the poverty incidence and the poverty depth by almost 7 percentage points (from 29.6% to 22.7%), or by 5.2% annually. In international comparison, Myanmar did therefore perform well in terms of poverty reduction: regionally, only Sri Lanka, Thailand and Viet Nam reduced their poverty by a higher annual percentage (over longer period, though).[4] In the same time, GDP increased by 7.8% annually.[5] It has been estimated that a 1% increase in income can cut poverty in highly equal countries by 4.3% - the relation in Myanmar appears to be about 1.5% poverty reduction for each percent GDP growth.[6]

The overall poverty rate changes substantially if measured according to the internationally used poverty lines of US$ 1.25 and US$ 2.00 per day, at purchase power parity (PPP): at US$ 1.25 (PPP) it decreases to only 1.7%, and at US$ 2.00 (PPP) per day it increases to 26.5%.[7]

Figure 1: Distribution of adult equivalent expenditures



Note:

for better visibility, expenditures above 1.5 mio Kyat have been cut off

[4] ADB. 2012d

[5] http://www.economywatch.com/economic-statistics/Myanmar/GDP_Constant_Prices_National_Currency/ (in constant prices, national currency)

[6] Note: Unless otherwise noted all data stem from the UNDP IHLCS 2005 or IHLCS 2010, and the reports related to these surveys. Discrepancies between this report and other published reports can and do occur, as the calculation methods used differ. Each IHLCS is being conducted in two phases with the same households, but set about 6 months apart. Depending upon the purpose, the UNDP Poverty Profile usually creates averages of both phases, while this report relies in most cases only on the results of the first of these phases. Further, the UNDP Poverty Profile did at times exclude outliers, while this report includes them, unless otherwise noted. Therefore, this report relies more on median values, which do better reflect the situation of the "typical" poor.

[77] World Bank PPP exchange rate of 535.61 Kyat per US$ (PPP), calculated at 365 days per year. This yields an equivalent of 244,372 Kyat and 390,995 Kyat for the respective poverty lines.

But poverty reduction was uneven between the States and Regions (S/R) of the Union. While the poverty incidence decreased in almost all S/R by up to 66%, it increased in Ayeyarwady, Kayin, Rakhine and Yangon. Five of the S/R fall out of one standard deviation from the mean.[8] These are Bago (West) and Kayah as "over-performers", and Ayeyarwady and Rakhine as "underperformers". The underperformance of Ayeyarwady is likely to be the consequence of cyclone Nargis.

The poverty rate in rural areas was 1.8 times higher than in urban areas. As it was only 1.6 times in 2005, inequality between urban and rural areas increased slightly. These rations are however average for the Asia-Pacific region: they reach 18 in Bhutan, almost 6 in Viet Nam, and go down to around par value in Armenia. Out of 22 countries, Myanmar is slightly above median (ADB. 2012d).

The median person had however only slightly more disposable income than in 2005. As the compound inflation rate between 2005 and 2010 was around 128%,[9] a basket of goods equivalent to the median consumption expenditure of 194,233 Kyat in 2005 would cost 422,851 Kyat in 2010. The actual 2010 median expenditure was 477,109 Kyat per year, leaving an increase of 54,258 Kyat (in 2010 prices) over five years, or 2.4% annually.[10] This calculation disregards relative price changes. As the price of single most important consumption expenditure of the people, rice, increased in the same period by about 134.7%,[11] parts of this calculated improvement are likely to have been eaten up by relative price increases of rice alone.

Poverty Gap

The poverty gap (or poverty depth or poverty intensity) indicates the depth of poverty, and correspondingly the cost of bringing poor people up to the poverty line.

Changes in the poverty gap

The median poverty gap at union level is almost 50,000 Kyat (49,237 Kyat) per poor person. As a poor household has in average 6.13 members, and a median of 6, one can roughly state that the 'typical' or median poor household would require additional discretionary income of 300,000 Kyat annually to pass the poverty line (Table A3).

Between 2005 and 2010, Myanmar managed to reduce in all States and Regions (S/R) the poverty gap, and partially significantly. Reductions, adjusted for 2010 prices, were in average 31%, and median 33%. So while the median person in Myanmar did not gain much real income, the median poor person did Table A4).

---

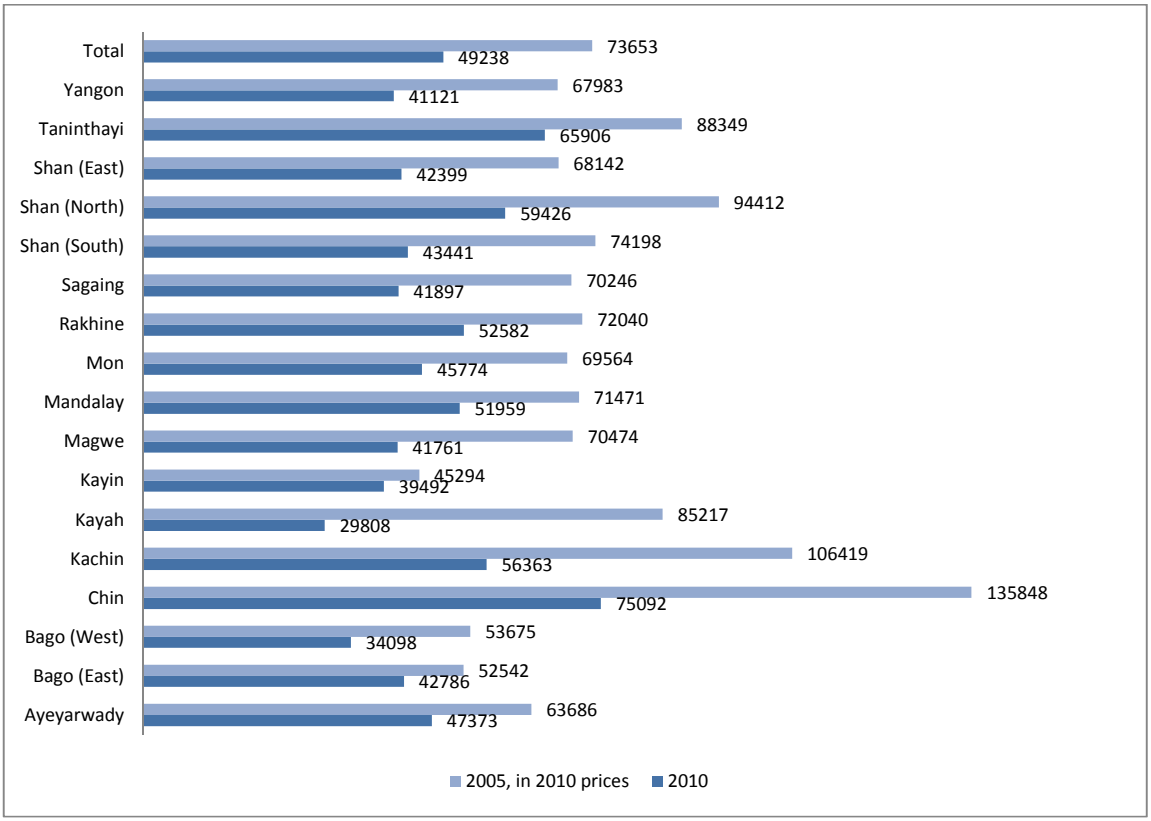
[8] Note that the standard deviation is very large (28.4).

[9] World Bank data. Note that different organisations assume different inflation rates for this period. See table A1: Inflation rates, in the annex.

[10] The average expenditure increased by only 0.7% annually, indicating a more equal expenditure distribution over the population.

[11] According to CSO data, 1 Pyi of Emata rice cost in 2005 318.74 Kyat, and in 2009 737.25 Kyat, which is an annual increase of 23.32%. As 2010 data are not available, it is assumed that its price increased from 2009 to 2010 roughly in line with overall inflation of 1.47% (World Bank data), yielding a compound price increase of 134.7%. Note that the IHLCS revealed an actual average price of Emata of 916 Kyat in 2010.

Figure 4: Poverty gaps in constant MMK 2005 and 2010



The average shortfall (at Union level) of 60,184 was more or less equivalent to 30 days of income per year (at 2,000 Kyat per day). This does first not appear unachievable to solve, if compared to India's 100 days programme. But it has to be seen on a per person level and needs to be adjusted to workdays per household member who can work (economic dependency ratio).

Adjusted poverty lines and gaps

Poverty can be reduced by increasing the income of the poor, or by reducing the cost of goods and services they consume. It must be noted that a fixed monetary poverty line could quickly lead to the assumption that only income increases of poor households can reduce poverty. This, however, is by no means the case: poverty is multi-facetted, and a poor household does not care about the absolute amount of income he receives, but about the purchase power of this income.

There are regional disparities in the purchase power of households, which are not sufficiently reflected in the establishment of one national poverty line. These cost differences have been accounted for at household level with the help of the 'Passche Price Index'. But for an accurate calculation of regional differences in the cost of living, information on regionally adjusted consumption baskets is necessary. As this information is missing, a statistically correct break-down of the poverty and food poverty line to State and Region level is not possible. Nevertheless, including the PPI in the poverty gap calculations can provide at least an indicator of direction, assuming that all States and Regions consume the same basket of goods.

Table 1: Actual average PPI by S/R and adjusted overall and food poverty lines

	Average PPI	Revised poverty line	Revised food poverty line
Myanmar	1,0	376151	274990
Kachin	1,1	341956	249991
Kayah	0,97	387785	283495
Kayin	1,09	345093	252284
Chin	1,01	372427	272267
Sagaing	0,98	383828	280602
Taninthayi	1,05	358239	261895
Bago (East)	0,97	387785	283495
Bago (West)	0,92	408860	298902
Magway	0,96	391824	286448
Mandalay	0,99	379951	277768
Mon	1,09	345093	252284
Rakhine	0,83	453195	331313
Yangon	1,06	354860	259425
Shan (South)	1,04	361684	264413
Shan (North)	1,1	341956	249991
Shan (East)	1,14	329957	241219
Ayeyarwady	0,94	400161	292543

Note: These PPI adjusted poverty lines do not reflect variations in the consumption baskets and are therefore only to be seen as rough approximations

In all S/R but Kachin, Kayin, Mon, Shan and Taninthayi, the de facto poverty gap experienced by the households is more severe than the calculated. The additional gap makes in average about 8% for those S/R where it is higher, with Rakhine (almost 21%) and Bago West (almost 13%) suffering the by far highest discrepancies.

Poverty and ethnicity

There are no significant variations between the expected and the actual poverty rate of ethnicities. As the IHLCS does not ask for the ethnic background of the respondents, the main language spoken was used as proxi for ethnicity. As expected, the median poverty gap is highest for the Chin speaking and lowest for the Kayah speaking people. For those S/R, where the mother tongue spoken is an indicator for the S/R, the ranking remains however roughly the same between S/R and mother tongue. Only the Kayin people do appear to be somewhat poorer as people than the average of the Kayin state. The sample is however too small to analyse further. Should the population census still be valid it appears as if the survey underrepresented the Kayin and the Hindi/other Indian and foreign languages, and overrepresented the other indigenous languages.

Table 2: Poverty gap according to mother tongue

Mother tongue	N	% of poor in survey	Mean	Median	Median poverty gap of S/R	Estimated population by census	% of survey
Kachin	95	2.25%	58580	46724	56363	1.4%	1.3%
Kayah	12	0.28%	51647	35648	29808	0.4%	0.4%
Kayin	129	3.06%	61905	50411	39492	6.2%	3.1%
Chin	251	5.71%	76864	71354	75092	2.2%	2.4%
Mon	65	1.54%	55310	47990	45774	2.4%	2.2%
Myanmar	2557	60.59%	55943	46632	n.a.	69.0%	71.1%
Rakine	167	3.96%	57299	49746	52582	4.5%	4.1%
Shan	387	9.17%	60590	50772	(East) 43441 (North) 59426 (South) 42399	8.5%	7.2%
Other indigenous language	298	7.06%	61866	55765	n.a.	0.1%	4.6%
Chinese	28	0.66%	68853	48617	n.a.	0.7%	0.8%
Hindi/other Indian language	34		56973	46610	n.a.		
Other foreign language	197	5.47%	60629	57787	n.a.	4.6%	2.9%
Total	4220	100%	58618	49238		100%	100%

Poverty dynamics

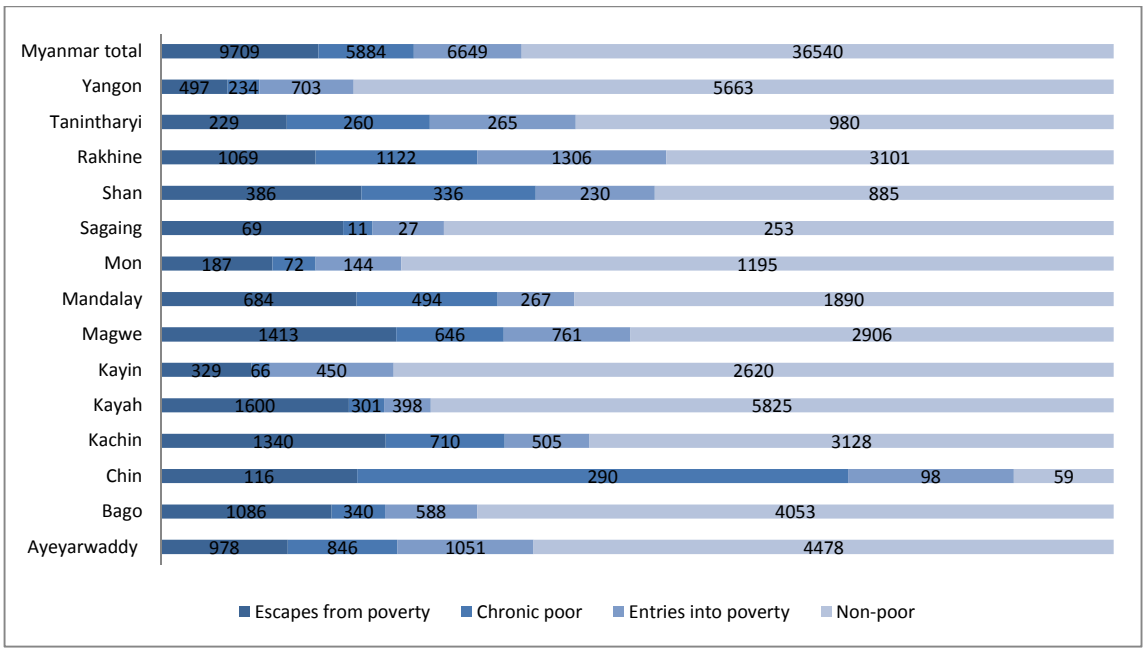
All considerations so far look at the poverty stock, missing out on the dynamics of poverty: while some people remain chronically poor, others do enter into poverty and exit from it (churn). It is usually more economical to help preventing that people do not fall into poverty, than getting them out of poverty.

As the survey can track only a part of the households surveyed in 2005 again in 2010, the available data do not allow in depth analysis.

Poverty dynamics and inertia

In most S/R there were more escapes from poverty than entries into poverty. Overall, the relation was about 1.5 to 1, that is, for every 1.5 persons escaping from poverty, one person entered poverty. Again, Chin has the highest percentage of entries into poverty, but the smallest number.

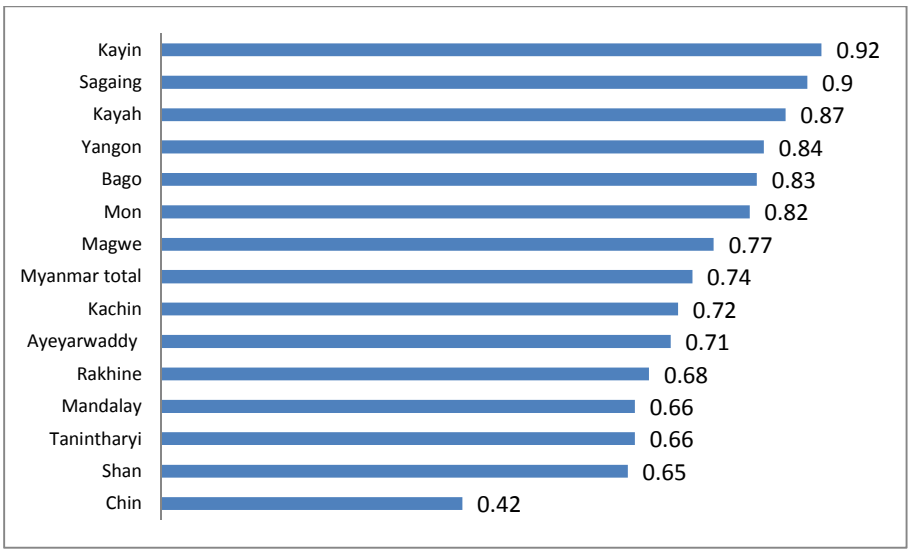
Figure 5: Poverty dynamics according to S/R



Note that the provided numbers show the cases in the survey, and not the total cases.

Poverty "inertia" appears to be mostly low. The comparison of entries and escapes in relation to the total poor shows the real poverty dynamics. Such dynamics can also reflect social and political choice: the fast movement up and down the business success ladder is promoted in countries like the USA, but countries like Japan do tend to prefer safer and slower movements. A low ratio (as in Chin) shows a rather stable society -by choice or not-, with little movement and much inertia. Development initiatives will have to start here much earlier to “pick the people up where they stand”. One the other hand, could expect that it is easier to get people out of poverty in the more agile environments of Mon, Bago and upwards.

Figure 6: Poverty inertia by S/R



Reasons for poverty entry

The poverty dynamics report highlights some key reasons why people enter into poverty. These are predominantly the effects of storms, floods and stagnant water, and the lack of, loss of, or inability to work. This is not surprising. But entrants into poverty are also much less likely than the chronically poor to be associated with agriculture and more likely to be associated with manufacturing, construction, trades/repairs and other - presumably because of a loss of markets or job.

Based on an analysis of 2007, the following table shows which groups of people are most vulnerable and therefore likely to enter into poverty.

Table 3: Vulnerable groups by S/R

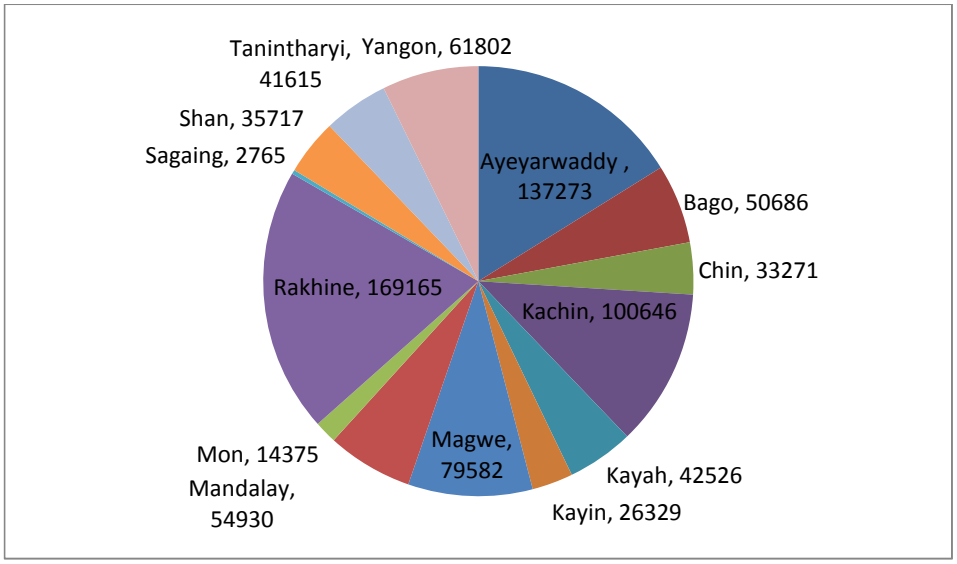
State/Regions (S/R)	Who
Non-poor State/Region	
Kayin	Young people
Mon	Community/women
Sagaing (Dry Zone)	Landless and marginal farmers; People along riverside
Ayeyarwady (Delta)	Fishermen/fisheries workers; marginal farmers and agricultural workers; households in flood prone areas
Poor State/Region	
Kayah	Internally displaced population (IDP), women, children
Rakhine	Farmers, fishermen, inhabitants of low-lying areas/riverbanks; fish pond owners, casual labourers; Muslim community, poor; fire-wood collectors
Mandalay (Dry Zone)	River side residents, landless, marginal farmers
Shan (S)	People in high rainfall area/soil erosion area; households with malaria or HIV
Magway (Dry Zone)	Landless/marginal farmers; truckers, boatmen, workers (timber processing/oil fields); migrants, students, sex workers
Kachin	Goldmine workers, loggers, timber smugglers, truckers, drug addicts, migrants, seasonal labourers; low land population; farmers
Shan (N)	As in Shan (S.)
Chin	Travellers/migrants; general population; poor/poorest; truckers; traders; farmers

Source: UNDP. Poverty, Food Insecurity and Vulnerability: Issues and strategies, based on UNDP (2007)

Hypothetical cost to eliminate poverty

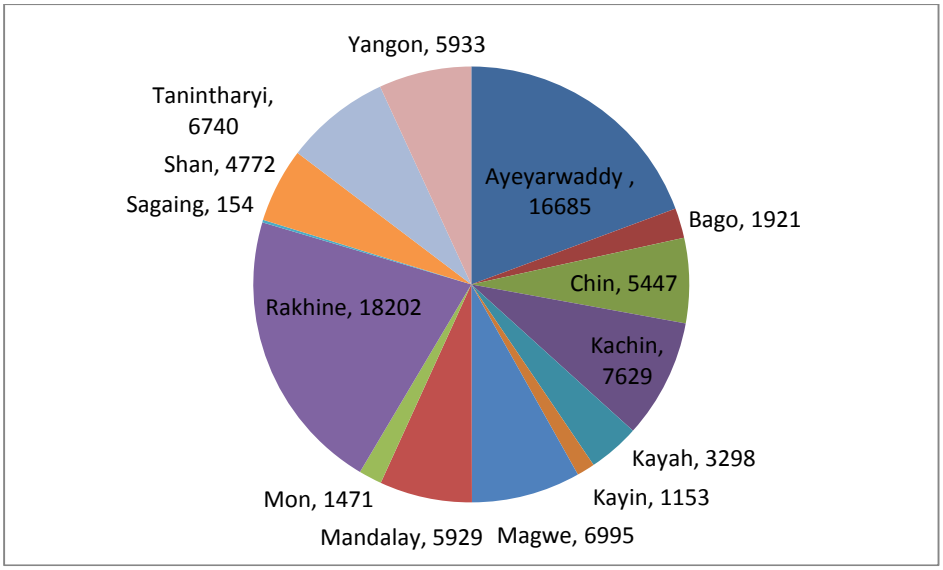
The total cost to overcome poverty would be annually 850,682 million Kyat, or 2.3% of GDP.[12] This needs to be added to the resources Myanmar is already investing into support for the poor. International experience shows however that perfect targeting of the poor exclusively is almost impossible. The actual resources needed to overcome poverty through direct cash transfer would therefore be significantly higher, potentially double.

Figure 7: Annual cost to overcome poverty through cash transfers (million Kyat)



Eradication of food poverty only would cost Myanmar 86,372 million Kyat, that is, one tenth of the above poverty budget.

Figure 8: Annual cost to overcome food poverty only through cash transfers



[12] Myanmar's GDP was in 2010 36,436.34 billion Kyat (Source: http://www.economywatch.com/economic-statistics/Myanmar/GDP_Current_Prices_National_Currency/)

From purely financial perspective, these charts set the benchmark for planning poverty reduction projects. Projects that cost more than the indicated amount per year should not enjoy priority. In other words, Chin, though being the poorest state , should only receive a maximal allocation of 33,271 million Kyat per year, as this would be the direct cost of cash transfer to bring all people to the poverty line (assuming perfect targeting). Costly infrastructure or similar projects might create more overall benefit in other states. Effective measures to get people out of poverty do likely differ between regions.

Income and poverty

Employment

Labour force

In absolute terms, poor households offer more labour than non-poor, whereas the average of urban and rural households is almost the same. But in terms relative to household size, poor households do actually offer slightly less labour (0.65 labour force per household member versus 0.67 for non-poor). The employment rate is high, and the female labour force participation rate is among the highest in the region (0.91).[13]

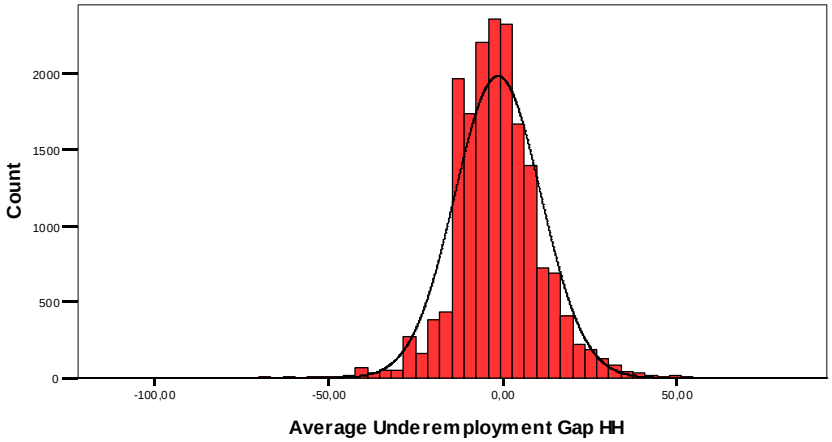
Work appears to be rather equally distributed over the months of the year, with a total average of 45,281 out of 95,021 surveyed people who worked every month, which would be equivalent to an average employment rate of 46.7%, and a maximum in October (48.5%) and a minimum in April (46.4%). The seasonal variations thus do not seem to be strong. These data are however lower than what national statistics as well as the IHLCA itself stated (Table A33, A34, A35).

Underemployment gap

Underemployment is a serious problem in Myanmar. Underemployment is defined as working less than 44 hours per week. But how does this reflect on the situation of the household? As within the economy as a whole, there might be some members within a household that are actually working more than 44 hours (in other words, they are “over-employed”), and others who work less. Aggregating such individual potential over- and underemployment across the household members at household level and dividing by the household’s labour force yields the average household underemployment gap per household member. The histogram shows that this is distributed like a normal curve with the peak at full employment throughout the Myanmar economy.

[13] Source: International Labour Organization. Key Indicators of the Labor Market (accessed 22 March 2012).

Figure 13: Underemployment gap



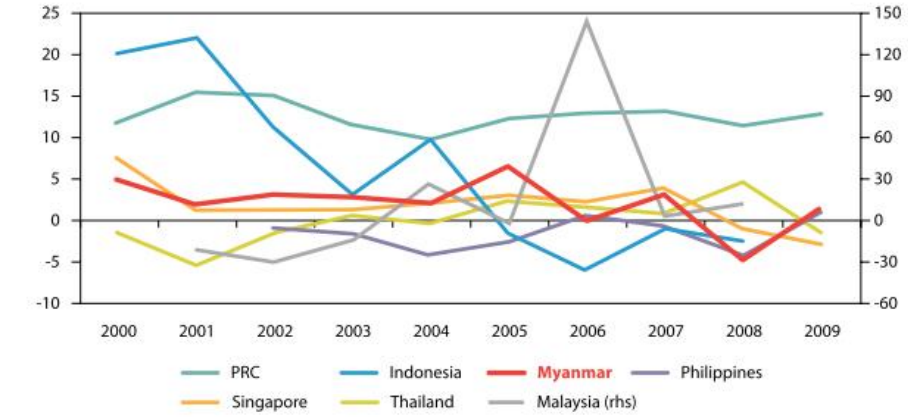
The whole economy generates more work than the available labour force can provide based on a 44 hour work week: projecting the survey results to the whole economy of 59.13 million people, the Myanmar people do work almost 60 million hours (precisely 58,864,343 hours) too much (or 1 hour per person)[14]. Expressed differently, **the economy could provide 1.34 million additional full time jobs, if work could be distributed equally.** The problem of underemployment is hence not one of insufficient labour demand, but of an unfavourable labour distribution.

As can be expected, the underemployment at household level is negatively correlated with household expenditure, though less than one might expect (only -0.11**). Yet, the average underemployment gap per household is only slightly lower for poor households than for non-poor. In fact: both are "over-employed", the poor household with 4.3 hours weekly (median: 6.0 hours), and the non-poor with 5.6 hours (median: 8.0 hours).

It can be concluded from this that it is not underemployment which leads to poverty, but the low return of employment received by poor (versus non-poor). In case of employed people, the low return is a result of low wages. In fact, since 2005, real wages have barely grown. In case of self-employed, it is likely a result of low productivity. Further, as the labour supply curve bents below a certain minimal income (the household offers more labour the lower the return, to make both ends meet), one can assume that poor people would offer more labour to make both ends meet, if more paid labour was available.

[14] The household survey collected data on 95,021 people, or 0.1607% of the population.

Figure 14: Growth rate of real wages



PRC = People's Republic of China.
Source: ILO-LABORSTA 2012

Source: ADB. 2012. Myanmar in transition: Opportunities and challenges

Growth creates employment. The wage employment elasticity of growth in developing Asia between 2001 and 2011 has been 0.57, i.e., for each percent of growth, employment grew by 0.57%. It reaches from 0.23 in Sri Lanka to 0.82 in Viet Nam.[15]

Between 2005 and 2010, the average household has reduced its workhours by over 7 hours, and the median about 4 hours per week. This appears substantial, especially considering that simultaneously, the household managed to reduce the poverty gap. This could indicate that a comparatively high productivity (and wage) increase took place.

The differences in the underemployment gap of female and male headed households is small. Yet, female headed households offer more labour per household member than male headed. And urban households do provide more work hours than rural, again indicating rather a lack of opportunity in rural areas.

Poor and non-poor work least in the agricultural sector, and most in hotels and restaurants. The distribution of the sectoral work loads can be regarded as roughly typical.

[15] Asian Development Outlook 2012

Table 9: Mean under- and overemployment according to sector

	Poor	Non-poor	Total
Agriculture, hunting and forestry	-0.366	2.15012	1.502122
Fishing	-3.12575	-9.8655	-7.65422
Mining and quarrying	-4.49438	-10.23	-8.53974
Manufacturing	-18.7976	-12.7435	-14.1761
Electricity, gas and water supply	-4.76923	-16.2031	-14.2727
Construction	-8.46111	-10.9202	-10.2932
Wholesale and retail trade incl. repairs	-12.5939	-17.1144	-16.4296
Hotels and restaurants	-19.2619	-31.0923	-28.9958
Transport, storage & communications	-12.5833	-13.6751	-13.5042
Financial intermediation	-7.6	-9.8	-9.48571
Real estate, renting and business activities	-5.71429	-19.4308	-17
Public administration	-17.5417	-9.337	-10
Education	10.95	0.244444	1.206742
Health and social work	-6.6087	-7.01739	-6.94928
Other community, social and personal services	-10.6923	-10.0433	-10.248
Activities of private hhd as employers	-8.10345	-11.5878	-10.9563
Extra-territorial org. and bodies	-19	-16.6818	-16.96

Note: Main occupation of the household head only, related to underemployment gap of the whole household.
Note as well, that a "-" indicates over-employment.

The underemployment gaps between the S/R do not differ much. At household member level, poor and non-poor both have an higher underemployment-gap in Kachin and Kayah states, and are "overemployed" in Bago (East) and Yangon (beyond +/- one standard deviation) (Table A36 to A42).

Table 10: Average household underemployment gap per household member and S/R

	poor		non-poor		Total	
	Median	Mean	Median	Mean	Median	Mean
Kachin	(+) 3.78	(+) 3.77	(+) 1.33	(+) 1.81	(+) 2.00	(+) 2.44
Kayah	(+) 2.50	(+) 4.64	(+) 3.27	(++) 4.17	(+) 3.20	(+) 4.21
Kayin	0.45	-0.51	0.67	-0.09	0.67	-0.14
Chin	-1.17	-0.41	-3.00	-2.41	-2.00	-1.17
Sagaing	1.63	1.67	0.93	0.23	1.00	0.43
Taninthayi	-3.33	-1.80	-3.56	-2.28	-3.33	-2.15
Bago (East)	(- -) -8.00	(-) -5.85	(-) -6.00	(-) -4.10	(-) -6.00	(-) -4.40
Bago (West)	1.50	1.96	(+) 1.33	0.82	(+) 1.33	0.97
Magway	1.00	1.66	1.00	1.10	1.00	1.24
Mandalay	(-) -5.00	(-) -4.68	-4.00	-3.64	-4.00	(-) -3.88
Mon	-4.40	-2.86	-2.00	-1.54	-2.40	-1.72
Rakhine	-0.14	0.89	1.00	0.97	0.67	0.94
Yangon	(-) -5.25	(-) -4.92	(-) -4.75	(-) -5.83	(-) -4.82	(-) -5.70
Shan (South)	-1.33	-0.79	-2.67	-1.13	-2.62	-1.07
Shan (North)	1.33	1.29	-4.00	-3.52	-2.00	-1.92
Shan (East)	-2.00	-0.50	-2.50	-1.27	-2.40	-1.00
Ayeyarwady	-3.00	-1.49	-4.00	-2.60	-4.00	-2.28
Total	-1.26	-0.47	-1.58	-1.14	-1.39	-0.89
Stdev	3.21	2.95	2.74	2.51	2.68	2.51

Migration

Based on survey figures there were about one million migrants in 2010.[16] This does possibly exclude the emigrants – those who settled abroad or in other regions without an intention of return. This figure is highly likely on the very low side: alone in Thailand there were about 1.45 million migrant workers officially registered in 2012. As unofficial migration is likely to be significantly higher than official migration, the apparent discrepancy is large.

But only 6.3% of the households have migrant workers, with poor households being about 30% more likely to have migrant workers than non-poor households. But there are strong variations between the S/R: Chin, Taninthayi and Kayin do, for example, have up to five times more migrant sending households as the national average. As well, they would send by far the most migrant workers out per household.

Remittances are very important for those households who receive them: at Union level, remittances make up about 57% of overall household expenditures (or 1.1 million Kyat per year), with 75% for rural and 45% for urban households. But at Union level, the importance of remittances does not appear very high, as it is only 3.4%. Based on these figures, the whole country would have received about US$ 80 million in 2010, lower than the World Bank's estimate of US$ 133 million, which itself was however assumed to be a very low estimate.

[16] All information based on UNDP. 2013. Role of remittances in economic wellbeing and poverty. Note that these results must be treated with much care: the survey is unlikely to be really representative, and the data base for such analysis appeared to be very small.

Overall, remittance receiving households have 6% higher consumption expenditures as those without, ranging among the S/R from 14% less (Taninthayi) to 30% more (Mandalay). Among remittance receiving households, remittance income increases (not uniformly) from about 500,000 Kyat annually for the poorest decile, to 1.6 million Kyat for the richest – over the whole population this translates into 20,000 Kyat to 110,000 Kyat.

But throughout the Union, food poverty, general poverty, and the poverty gap is higher for remittance receiving households than for non-receiving. If correct, this would indicate that especially the poorest of the poor send workers out for migration, confirming the poverty alleviation function of migration and remittances. These poorest, however, are likely to be very low skilled, and only able to afford migration to the least favourable areas, thus being able to send only marginal amounts back home.

There appear to be very strong variations between the S/R. Though Chin, Taninthayi and Kayin appear to receive per migrant worker less remittances –pointing to potentially lower skills- they receive in average per household over the whole S/R the by far highest amounts: about three times the national average for Kayin and Chin, but also for Mon, and about two times the average for Taninthayi. In Chin, the poorest state of all, this average amount (of over 186,000 Kyat) is about 12% of the overall household consumption expenditures, and 40% of the total expenditures of remittance receiving households (Table A43).

Main occupation

Over 50% of the households are engaged in agriculture as their main business. Wholesale, retail trade and repairs is the second largest business with over 15%. All other sectors can be considered as small to irrelevant. Across the major businesses, poor and non-poor are almost equally distributed. As can be expected, poor are slightly more active in low-skilled jobs such as agriculture, fishing mining, and construction, while non-poor are more present in more skill intensive jobs such as hotels and restaurants and transportation.

One sector deserves special attention: wholesale, retail and trade, which is significant in size and where poor are much less represented as could be expected. The reason can be found in the spatial distribution of the expenditure quintiles: the lower the income quintile, the higher is the likelihood to live in a rural area. But retail businesses require a certain market volume to become profitable. This market volume is much likelier in urban areas, despite the higher competition. It can be observed that in the first three quintiles the shares are relatively equal, but that they remain constant in rural areas, and ‘take off’ in urban areas. One might be able to conclude that the chances to grow with a retail business are much higher in urban areas. Though in total less people live in urban areas, there are more retail businesses (almost 60%).

Given the above argument of the limited market size in rural areas, interventions that support retail or service business creation in rural areas might cement rather than reduce poverty, and will certainly reduce the profit margins of all other businesses active in the same sector and village.

Other community, social and personal services seem to be even more a business of the poor, and one which does not provide strong income generation and growth potential even in urban areas: the percentile distribution in urban areas is rather equal, while in rural areas the business is predominantly focused on the poorer section of the population.

Table 11: Trade or business as main job of first household member

	Poor	Non-poor	Total
Agriculture, hunting and forestry	57,3%	49,1%	51,0%
Fishing	4,1%	2,5%	2,9%
Mining and quarrying	2,2%	1,6%	1,7%
Manufacturing	4,1%	4,0%	4,0%
Electricity, gas and water supply	,3%	,5%	,4%
Construction	4,5%	3,9%	4,0%
Wholesale and retail trade incl. repairs	10,6%	17,5%	15,9%
Hotels and restaurants	1,0%	1,4%	1,3%
Transport, storage & communications	3,3%	5,2%	4,8%
Financial intermediation	,1%	,2%	,2%
Real estate, renting and business activities	,3%	,5%	,5%
Public administration	,6%	2,0%	1,7%
Education	1,0%	3,0%	2,5%
Health and social work	,6%	,9%	,8%
Other community, social and personal services	8,6%	5,6%	6,3%
Activities of private hhd as employers	1,4%	2,0%	1,8%
Extra-territorial org. and bodies	,1%	,2%	,1%
	100,0%	100,0%	100,0%

Men are much more likely to be engaged in agriculture or fishing; women are more likely to be engaged in trade, education, other services and, interestingly, manufacturing. But split for businesses ran by poor households, many of the differences disappear: the only remaining are that also poor women-headed households are more substantially likely to be engaged in manufacturing and trade.

Checking for differences in expenditure quintiles of men and women in manufacturing businesses shows that there are none: the percentages are quite equally distributed among all. But including spatial distribution as explanatory variable shows, again, that urban businesses do better.

There are some smaller concentrations of business sectors across the S/R. Below table marks those important sectors which are above or below one standard deviation. It shows that, e.g., Chin state has some over-reliance on agriculture, despite its unfavourable climate, but has too less transport related businesses, despite its urgent need. Bago (East), where the future airport shall be constructed, has very little construction skills available. Mandalay and, clearly, Kayah (because of biased selection) and Yangon are the potential manufacturing power houses. And Ayeyarwady has a stronger reliance on services, which have, as seen, lesser potential for advancement to higher quintiles.

Table 12: Sectoral concentrations across S/R

	Agriculture, hunting and forestry	Manufac-turing	Construc-tion	Wholesale and retail trade incl. repairs	Transport, storage & communi-cations	Other community, social and personal services
Kachin	54.31	1.76	2.99	12.48	(-) 1.93	6.68
Kayah	49.34	(+) 6.58	(+) 7.24	15.79	(+) 9.21	(-) 2.63
Kayin	51.60	1.74	4.36	16.72	(+) 7.56	7.85
Chin	(+) 66.23	3.90	2.60	(-) 9.74	(-) 0.97	5.52
Sagaing	59.75	3.16	3.82	12.19	2.79	3.63
Taninthayi	(-) 36.40	2.49	5.12	15.79	4.39	6.29
Bago (East)	53.71	5.43	(-) 2.10	16.94	5.43	4.10
Bago (West)	64.00	2.58	3.32	15.11	2.83	(-) 2.21
Magway	60.67	2.26	2.85	11.71	3.68	4.69
Mandalay	43.70	(+) 8.34	5.00	17.10	5.38	7.23
Mon	45.21	3.72	(+) 7.05	19.95	5.05	5.98
Rakhine	41.06	1.81	2.47	16.98	5.11	(+) 13.52
Yangon	(-) 17.65	(+) 8.78	(+) 6.78	(+) 31.48	(+) 11.39	6.87
Shan (South)	64.01	2.99	3.81	11.61	2.82	4.48
Shan (North)	(+) 64.92	2.40	4.92	11.80	5.25	(-) 2.84
Shan (East)	73.14	(-) 1.73	3.29	11.61	2.77	(-) 2.08
Ayeyarwady	48.68	3.15	2.96	16.63	4.54	(+) 10.14
Total	50.97	4.03	4.01	15.90	4.77	6.29
StDev	13.50413	2.253918	1.632549	4.97854	2.644386	2.987998

Own account workers

Overall, 22% of the household members –or one person per household- work on own account (median: 16.7%). But 42.4% of the households are without any own account worker. Should each of the own account workers effectively run a different business and register it, Myanmar's business density rate would be 220 (220 businesses per 1000 population), which is about sevenfold the world average of around 30. This average takes however only registered businesses into account, and the global informal sector can be assumed to be at least double the formal sector in terms of numbers (i.e., a hypothetical density rate of about 90 to 100). Still, Myanmar's business sector appears to be at least twice the global average. One can conclude that the vast majority of Myanmar's businesses are so called 'necessity businesses', which is a clear sign of poverty and lack of opportunity.

The percentage of household members working on own account is not correlated with the household expenses. In fact, in the poorest expenditure quintile the share of own account workers is lower than in the other quintiles. The share of own account workers in rural areas is higher than in urban areas, showing also that employment is more difficult to obtain in rural areas.

Men and women headed households have on average similar shares of own-account workers, but the median for male headed is about 17%, it is 0% for female headed households. This shows a slightly more two poled distribution of own-account workers among female headed households than

among male: over 50% (50.8%) do not have any own-account workers in the household (versus 40.3% for male), and those who have, have a high share (Table A44 to A56).

Especially the Shan and the Chinese speaking stand out as having a high percentage of own-account workers.

Table 13: Own account workers as % of households by language spoken

Mother tongue	Mean	Median	N
Kachin	,22446	,14286	247
Kayah	,28576	(+) ,25000	83
Kayin	,22745	,16667	569
Chin	,25833	(+) ,25000	447
Mon	,22281	,20000	411
Myanmar	,20627	,14286	13229
Rakine	,19571	,14286	755
Shan	(+) ,33747	(+) ,25000	1336
Other indigenous language	(+) ,31594	(+) ,25000	850
Chinese	(+) ,35442	(+) ,33333	151
Arabic	,20051	,20000	19
Hindi/other Indian language	,19759	,16667	140
Other foreign language	(-) ,07860	(-) ,00000	372
Total	,22171	,16667	18609
Standard deviation (unweighted)	,073	,081	

Agriculture

Land ownership

About 45% of the people own land, with an average acreage of 6.25 and a median of 4. Though there are ten times more rural than urban based land owners, the rural population also makes up 70% of the total population, thus, effectively leading to 14% of the urban and 59% of the rural population being landowners. It is interesting to note that the average landholding does not differ much between urban and rural populations.

Chin has the smallest average and median rural land holding (2.1 and 2.0 acre, respectively), being about 34% and 50% of the overall mean and median. This is followed by Shan (East), and, in terms of median only, Rakhine, Kachin, Kayin, and Shan (South). All others have at least 4 acres mean/median landholding.

Table 14: Landownership and landlessness by S/R

		Landowners			
		Mean	Median	Landless %	Spatial %
Kachin	URBAN	4.76	3.00	0.57	0.17
	RURAL	5.44	3.00	0.29	0.83
Kayah	URBAN	5.36	4.25	0.75	0.12
	RURAL	5.31	4.00	0.19	0.88
Kayin	URBAN	12.02	2.85	0.83	0.09
	RURAL	4.83	3.50	0.39	0.91
Chin	URBAN	2.22	1.50	0.63	0.14
	RURAL	2.10	2.00	0.05	0.86
Sagaing	URBAN	6.71	5.00	0.83	0.08
	RURAL	7.76	6.00	0.31	0.92
Taninthayi	URBAN	9.88	6.00	0.69	0.19
	RURAL	7.68	5.00	0.56	0.81
Bago (East)	URBAN	8.04	6.25	0.92	0.06
	RURAL	9.22	6.00	0.56	0.94
Bago (West)	URBAN	6.59	5.50	0.83	0.10
	RURAL	6.21	4.00	0.49	0.90
Magway	URBAN	5.25	3.00	0.85	0.07
	RURAL	5.19	4.00	0.35	0.93
Mandalay	URBAN	4.18	3.00	0.95	0.06
	RURAL	5.64	4.00	0.50	0.94
Mon	URBAN	10.43	7.00	0.79	0.12
	RURAL	9.49	6.10	0.51	0.88
Rakhine	URBAN	5.43	1.50	0.88	0.08
	RURAL	4.26	3.00	0.52	0.92
Yangon	URBAN	17.78	10.00	0.99	0.06
	RURAL	8.65	7.00	0.65	0.94
Shan (South)	URBAN	2.90	2.00	0.84	0.07
	RURAL	4.34	3.50	0.20	0.93
Shan (North)	URBAN	3.50	2.00	0.74	0.10
	RURAL	4.82	4.00	0.14	0.90
Shan (East)	URBAN	2.73	2.00	0.58	0.15
	RURAL	3.34	2.20	0.13	0.85
Ayeyarwady	URBAN	15.19	8.00	0.90	0.07
	RURAL	9.10	6.00	0.55	0.93
TOTAL	URBAN	6.66	3.30	0.86	0.09
	RURAL	6.21	4.00	0.41	0.91
	TOTAL	6.25	4.00	0.55	0.52

As expected, the size of the landholding is positively correlated with the household expenditures. Male headed households have about 50% larger landholdings as female headed (mean and median).

All households of the survey sample together own 52,747 acre. Extrapolated to whole of Myanmar this would be equivalent to 32.892 million acre[17] or 13.1 million hectare under private ownership.

30% of the poor are reported to have land holdings of 5 acre or larger. In fact, there are households with up to 60 acre of land that do still fall under the category "poor". In comparison, the LIFT baseline study[18] found that 1.3% of households with landholdings of 5 acre and above reported a monthly average income of below 25,000 Kyat (or 80% of the poverty line), and 7.8% below 50,000 Kyat. Poverty despite such larger landholdings might be a sign of either infertile land, or no resources to cultivate the land. 240 poor households have 3 acre which is also the median landownership. The modal value of poor is 2 acre (289 households).

A landholding of 3 acre might be seen as indicator to be the minimal landholding required to be able to break out of poverty, based on agriculture alone. The table shows that agriculture as main source of income increases from the landholding category ">0 to 1" to ">3 to 4" acre, and hovers thereafter around 90% (with the last two size groups as exceptions, probably induced by the low sample size). It thus appears to be that a farm of above 3 acre might roughly generate sufficient work and income to be seen as the major job. On the other hand, the average land holding of poor agricultural households is 4.4 acre, while that of non-poor is 7.3 acre, indicating that probably at least 5 acre are required to break out of poverty (Table A57 to A60).

Table 15: Landholding, poverty and farming

	Poor in general		Poor with agriculture as main income		Poor farmers as % of poor
Landholding	Frequency	Cumulative Percent	Frequency	Cumulative Percent	
>0-1	324	17.36334	244	15.83387	75.3%
>1 to 2	420	39.87138	322	36.7294	76.7%
>2 to 3	332	57.66345	276	54.63984	83.1%
>3 to 4	216	69.23901	190	66.9695	88.0%
>4 to 5	193	79.58199	168	77.87151	87.0%
>5 to 6	91	84.45874	82	83.19273	90.1%
>6 to 7	70	88.21008	65	87.41077	92.9%
>7 to 8	44	90.56806	37	89.81181	84.1%
>8 to 9	31	92.22937	28	91.62881	90.3%
>9 to 10	50	94.9089	43	94.41921	86.0%
>10 to 15	61	98.17792	57	98.11811	93.4%
>15 to 20	23	99.4105	21	99.48086	91.3%
>20 to 30	9	99.89282	6	99.87021	66.7%
>30 to 60	2	100	2	100	100.0%

[17] 52,747 / 0.1607%
[18] LIFT Baseline Survey Report 2012

Mechanization

Only 2.1% (133) of the surveyed households were mechanised (ownership or co-ownership of tractors), and thereof only 9 poor households.[19] Mechanisation of the farm is positively correlated with household expenditure, though with a surprisingly low coefficient of 0.108** (Table A61 to A63).

Most significant problem

Drought, followed by pests and floods are seen by the respondents as the most significant problems. The multiple-choice answers provided by the survey are partially overlapping: irrigation is, e.g., the principal answer to droughts, and low crop yields are the consequence of a variety of problems.

It is intriguing that 'access to credit' and 'access to markets', commonly identified as a major problems for farmers, have only been mentioned by 1.3% and 0.4%, respectively, of those who stated that they have a problem (all minus 'none'). Similarly, lack of labour has only been stated by 1.1%, although it was frequently mentioned in discussions.

The diversity of problems as faced by poor farmers is large: in some S/R, like Kachin, Bago, Mon, Rakhine, Yangon and Shan (East), and to a lesser degree also in Shan (North and East) and Taninthayi, one can identify a rather diverse structure of comparatively evenly identified major problems. This hints towards problems rather at the individual farm, instead of structural problems affecting the whole S/R. On the other hand there are S/R with very clearly identified major problems: in Chin 'vermin/insects infection' (41% of the total respondents), Sagaing, Magway, Mandalay and Shan (South) and to a lesser degree Kayah 'drought' (35%, 61%, 64%, 39% and 15%). Dual peaks occur in Ayeyarwady with 'floods' (11%) and 'vermin/insects infection' (13%), and Kayin with 'low selling price of crops' (15%) and 'vermin/insects infection' (14%) (Table A64).

[19] A closer look at land ownership versus mechanisation shows however that the reply to the corresponding questions is likely to be very incomplete: most larger land holdings would not own or co-own a tractor; between 30 acres and 400 acres only one out of 93 households, and between 10 acres and 30 only 24 (out of 1145).

Table 16: Most significant problem for farmers (poor only)

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago (East)	Bago (West)	Magway	Mandalay	Mon	Rakhine	Yangon	Shan (South)	Shan (North)	Shan (East)	Ayeyarwady
Flood/ very heavy rain	7	0	20	7	54	25	19	17	39	17	6	20	4	9	24	13	86
Drought	14	15	5	15	404	2	9	9	511	626	3	18	2	147	22	5	15
Crop diseases	4	4	2	11	17	4	3	11	13	7	12	5	3	2	1	11	18
Quality of land	5	1	7	15	3	8	7	3	8	4	6	11	0	5	10	21	10
Access to land	6	0	8	4	10	0	4	1	0	10	1	3	0	0	0	3	4
Access to agricultural credit	9	2	5	0	2	0	2	0	3	3	2	5	3	0	0	0	13
Lack of labour	6	0	1	11	3	1	2	2	3	3	1	1	0	1	0	1	4
Access to market	0	0	3	0	4	0	0	0	2	1	1	1	0	0	0	3	0
Prices of inputs	4	2	0	0	2	1	17	1	3	4	2	0	3	0	2	1	5
Low selling price of crops	1	2	50	0	3	1	9	14	6	2	1	1	0	2	4	1	18
High cost of hired labour	5	0	1	2	5	0	1	0	5	0	2	4	0	0	0	9	4
High cost of renting equipment	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
High cost of renting draft animals	8	0	3	0	5	0	1	0	2	0	1	8	1	2	2	0	1
Vermin/insects infection	14	0	46	94	10	25	6	3	44	9	13	16	3	3	54	6	95
Low crop yields	8	1	17	9	18	3	12	6	6	8	8	17	5	16	45	20	23
Lack of irrigation	12	0	4	3	16	1	6	1	10	19	1	3	1	0	3	8	4
Advanced payment	0	0	1	0	0	0	2	0	0	1	0	1	1	0	1	0	1
Access to equipment/ machinery	0	0	3	0	0	0	1	0	0	2	1	1	1	0	0	1	4
Other	12	5	2	0	8	2	2	1	2	6	2	3	2	2	4	0	4
None	276	64	162	61	587	197	216	280	184	254	231	288	109	190	460	360	440

Crop losses

Myanmar loses on average annually almost 8% of its harvest due to natural calamities (storm, flood, drought, pests). Considering that agriculture's net-output in 2010/11 was, according to the CSO, 6,288 billion Kyat (excluding fisheries), an effective protection could in other words increase the value by about 532 billion Kyat, or over 60% of the total funds required to lift all Myanmar people out of poverty.

Floods, droughts and pests – conditions against which modern agriculture can be protected comparatively efficiently, are also the worst calamities. S/Rs particularly strongly affected by flood are Ayeyarwady, by drought Sagaing, Magway and Mandalay, and by pests Chin (and also somewhat Kayah, Kayin and Ayeyarwady). Overall, the S/R worst affected by calamities are Magway, Mandalay, Ayeyarwady and Sagaing, each losing annually around 10% or more due to calamities.

Storms, floods and stagnant waters are also closely associated with entries into poverty, though high standard errors urge caution in the interpretation of these comparisons (Table A65).

Table 17: Average annual losses in %

	Storm	Flood	Drought	Pests	Total
Kachin	0.16	1.49	0.75	0.77	3.17
Kayah	0.12	0.51	2.68	3.60	6.91
Kayin	0.31	1.67	0.50	3.65	6.13
Chin	0.23	0.33	0.91	4.29	5.76
Sagaing	0.02	1.78	5.58	1.71	9.08
Taninthayi	0.17	2.33	0.04	1.09	3.63
Bago (East)	0.07	0.99	0.28	0.73	2.07
Bago (West)	0.22	2.02	0.25	0.50	2.99
Magway	0.18	2.27	10.74	2.83	16.01
Mandalay	0.00	1.17	12.00	2.13	15.31
Mon	0.67	1.08	0.21	1.37	3.34
Rakhine	1.07	1.84	0.91	1.75	5.57
Yangon	0.60	2.58	0.33	1.24	4.74
Shan (South)	0.14	0.51	2.46	0.50	3.61
Shan (North)	0.02	0.35	0.56	1.69	2.61
Shan (East)	0.05	0.41	0.12	0.47	1.05
Ayeyarwady	3.75	4.17	0.10	3.40	11.42
Average	0.52	1.60	3.76	1.91	7.82

Conclusion: poverty in Myanmar

As there are many reasons for poverty, so does Myanmar have many options to lift people out of poverty. As the poor are less productive, and their existing productive capacity is also used to a lower extent, poverty hampers the current and especially long term productive potential of the country. It is therefore not only in the humanitarian but also economic interest to reduce poverty.

According to the national poverty line, Myanmar reduced its overall poverty, its food poverty, and its poverty gap, but the real improvements since 2005 in terms of purchase power were rather small. There are also indications that the uniform national poverty line is grossly misrepresenting the situation at S/R level: in 12 out of the 17 observed regions, the actual poverty rate might partially significantly be higher.

50,000 Kyat per year are needed to lift one (median) poor out of poverty. This can be achieved through reducing the cost of goods and services the poor require or through increasing that person's income by that amount. Compared with India's 100-day programme for the poor, Myanmar would only require in average about 30 paid days per poor.

Assuming perfect allocation and no transaction cost, it would annually cost Myanmar 850 billion Kyat in cash transfers, or 2.3% of GDP, to lift all people out of poverty, and about a tenth of this to avoid food poverty. The budget allocation for the individual S/R can serve as benchmark for the assessment of poverty relevant projects.

Notably apart from Chin State, poverty inertia is mostly low. This means that there is usually a comparatively high churn, and a comparatively low chronic poverty. Measures that reduce the chance of people entering into poverty (usually the more cost-effective way) would therefore have a higher development impact as directly addressing the poor. From cost efficiency perspective, the focus should therefore be more on the vulnerable than the poor, which would automatically reduce the poverty rate as well.

Myanmar's poverty is larger, but shallow, with the median income only 25% above the poverty line. Small improvements can thus bring a large number of people out of poverty, but already small shocks can also bring an even larger number of people into poverty. Because Myanmar is exposed to many natural –but in principle preventable- calamities, costing annually 8% of agricultural output, it needs to invest into mitigation and adaptation strategies. And because the country's economic development depends strongly on natural resources with volatile prices, it needs to diversify its production and export base.

Myanmar's inequality is extremely low. GDP increases in countries with low income (or consumption) inequality have high impact on poverty reduction. But GDP growth is also likely to temporarily increase Myanmar's inequality. As Myanmar starts from a low inequality level, its concern should be focused on GDP growth, while trying to keep inequality growth in limits.

The problem of Myanmar's labour market is neither unemployment, nor underemployment. Rather, the work is not equally distributed and paid for. In fact, as a whole the Myanmar people do work weekly 60 million hours too much, i.e., if the workload would be perfectly distributed, Myanmar could provide jobs for additional 1.34 million people.

Most poor are therefore working poor, indicating too low return on their work, i.e., too low productivity. To reduce poverty it is therefore dominantly important to increase the productivity of work –or the wages, should they be below the marginal productivity- instead of creating more jobs. Retail, community service and similar businesses predictably yield a very low return on investment in rural areas. Their establishment should not be further promoted in these areas.

The median poor household spends about 24% of its total consumption on rice; the average for the Union is almost 20%. Given the low ratio of median income to poverty line, a price increase or decrease of rice by only 10% can therefore bring 150,000 people into poverty, or lift them out of poverty. Productivity increase in rice production, handling and transport, or reasonably priced imports, are therefore very relevant.

The median poor consumes daily 365g of rice; the overall average is 445g. As the MOAI estimate is 11% higher than this result, it might be that the rice sufficiency is actually higher than usually estimated.

With a very high likelihood, a land holding below 3 acre appears to be bring or keep an agricultural household in poverty. 3 acre need to be seen as the minimal threshold, and about 5 acre as a safe likelihood to provide a chance to escape from poverty. These values do only represent Union averages.

Those who request a credit, get it. Poor and non-poor have a similar structure of credit sources and collaterals, but poor, and especially food poor, take up loans mostly for consumptive purposes, while non-poor do so for investive purposes. Over 40% of the households –and almost 50% of the poor- are indebted, with an overall average of 200,000 Kyat, and for a median the poor of almost 50,000 Kyat. Depending upon the interest rate paid -20% per month, quarter or half year- up to the half poverty gap of the poor household. In other words, if poor did not need to take up credit, Myanmar's poverty rate would be halved.

Connection to the public grid does apparently not lead directly to a reduction in energy expenditures, but seems to increase income generation by about 10,000 Kyat per person and year. In other words, full public grid connection could lift 20% of the poor out of poverty, without calculating for multiplier effects. Local transport is a significant expense for the median poor household, at about 70% of the value of a poverty gap. Obviously, transport expenses decrease with a higher road density.

For the median poor household, health care and education expenses are only a small expense. But poor spend significantly less than non-poor on education, which could cement, in the medium term, their low earning abilities and their poverty status. Education and health care expenses are comparable across all S/R. But health care expenses show large variations at district level. As health care should be free, it might be advisable to look closer at those districts where health care cost are much above average.

Second Part

Development potentials for the selected states and regions

Development potentials for the selected states and regions

The development strategies for each S/R depend on the starting condition as well as the competitive potentials. In the following, the starting position of all S/R will be visualised, and then potential development strategies for each of the seven selected S/R briefly presented. In principle, these presentations are summaries of key points as described in separately drafted proposals for regional development strategies,[20] combined with the above results.

Technical note

Twelve key criteria have been selected to visualise each S/R from poverty perspective in a radar chart. Usually, the data do refer only to the poor part of the population (versus the total population), and reflect median values. All criteria have been transformed so that the national average takes the value five, and the highest values at national level represent more or less the 10, and the lowest the zero (so a relative structure). Higher values represent a better situation.

The indicators are grouped in three pillars: the first pillar describes the state and dynamics of poverty (and inequality) in the S/R and contains six indicators. The second pillar describes the cost structure of a poor household, comprising the three major expenditure categories. The last pillar describes the income structure and potential of a poor household, and contains as well three categories.

First pillar: State and dynamics of poverty and inequality

Poverty rate

The poverty rate reflects the percentage of people living in poverty. A lower number is therefore better. Because the poverty rate and the food poverty rate are highly correlated, it was not required to visualise a separate food poverty rate.

Poverty decline

The poverty decline reflects the percentage change in the poverty rate between 2005 and 2010. It shows how much the S/R succeeds in fighting poverty. More is better.

Poverty gap

The poverty gap shows how far away from the poverty line the median poor is. The lower the poverty gap, the closer is the median poor to the poverty line, and hence, the more shallow is the poverty.

PPI

The 'Passche Price Index' is here calculated as an average and provides an indicator for the actual level of prices in a S/R. The lower the prices, i.e., the higher the index, the more can a given poor afford for the same amount of money (given the same consumption basket).

Poverty inertia

[20] See U San Thein, Dolly Kyaw, Khin pwint oo

The poverty inertia shows the rate at which people enter into and escape from poverty. The higher the rate, the more likely it is that vulnerable groups fall into poverty, but, from a policy perspective, the easier it is as well to reduce poverty by preventing vulnerable groups to fall into poverty in the first place. A higher value shows a lower inertia, and is hence better.

Inequality

The indicator used here for inequality is the ratio of the median normalised adult equivalent expenditures of the poorest quintile as ration of the richest quintile. A higher value shows more equality and is hence usually been seen as better.

Second pillar: Expenditures of a poor household

Food share

As food is an important part of the expenditures, a separate indicator has been assigned to the median share of food expenditures of poor in relation to their total expenditures. A lower share is better.

Utilities share

Telephone, transport and energy make up a mentionable share of the expenditures of the poor. This indicator describes the median share for a poor household, with less being better. The indicator can serve as a rough measurement in how far governments succeed to improve the infrastructure which, hence reduces the respective cost.

Indebtedness

This indicator visualises the indebtedness of the average poor household. As it includes both, indebted and non-indebted households, and as in average only 40% of the households have a loan, a median value would have resulted in a zero for various states. A lower level is better.

Third pillar: Income potential of a poor household

Underemployment gap

This is the median of the average household underemployment gap per household member, i.e., the aggregate of the over- and underemployment gaps of all household members belonging to the labour force, divided by the household labour force, and limited to poor households. Usually, one would assume that a lower gap, i.e., more actual working hours, is better. But as most poor households in Myanmar are already actually overemployed, a low gap, i.e., a higher overemployment, actually reflects a very low return on labour (wages, profits), forcing poor households to offer more and more labour to make both ends meet. Therefore, the indicator is designed to show that underemployment is positive: if a poor households achieves a similar level of expenditure with less work time, its return on labour is higher. It further provides the state with better chances to create additional income through employment creation.

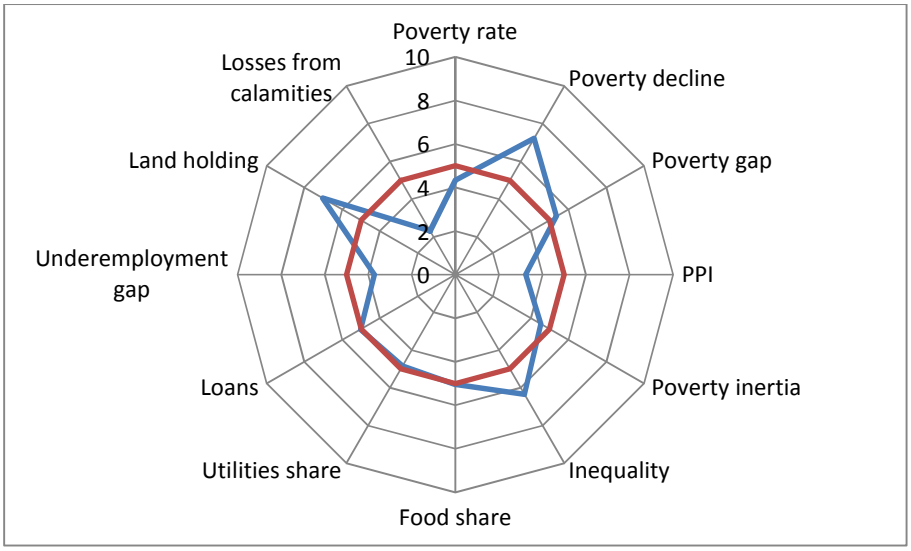
Land holding

A larger median land holding is better than a smaller one, as it provides chances for scale economies and mechanisation.

Losses from calamities

The final indicator shows the exposure of the S/R to calamities. It only reflects the situation of the median poor. Lower values are better.

Ayeyarwady



[21]In relation to most other S/R, Ayeyarwady's radar chart looks rather balanced. It performed well in terms of poverty and reduction and inequality, and its larger landholdings provide space for some mechanisation and scale economies. Its major problem, however, are the calamities due to which the State loses on average 11.4% of the harvest. Given the specific geographic location and the presence of the delta, it will be very costly to protect a substantial part of the agricultural land against floods - the flood prone area increased significantly in recent years. And it is almost impossible to protect the fields against storms. But alone by a sustained fight against pests, Ayeyarwady could reduce its losses to 8% only. Flood and storm prone agricultural production should therefore slowly shift to those areas which are, or can be, protected. An encouragement of farming in the negatively affected areas, well-meant as it is, will only contribute to many bankruptcies and impoverishments of farming households. Would the State Government provide full crop insurance to affected farmers, thus taking the risk of farming on its own budget?

Ayeyarwady is often referred to as the rice bowl of the country, which again was once the rice bowl of Asia. But Myanmar's revealed competitive advantage (RC) in rice is not large, and rather delicate. And while Ayeyarwady's paddy yield per acre belongs to the highest in the country, it is not necessarily the most productive. According to figures of the Settlement & Land Records Department (2012), Ayeyarwady has no, or rather negative, land available for development. This implies that improvements in agricultural output can only occur through productivity increases, and through further land consolidation. Though the State has already achieved national average in terms of median landholding, more could and would have to be done.

[21] This chapter's recommendations draw on the work of Dolly Kyaw

One of the strongest comparative advantages of the State is its proximity to Yangon and its export infrastructure. While other harbours are being constructed, it is the Yangon harbour which is likely to be predominantly used as gateway between the Union and the rest of the world. It is hence obvious that Ayeyarwady could exploit this proximity by focusing more on export quality rice. This would require a shift to high yielding varieties (HYV), and the intensified use of double cropping. To facilitate this shift, the Government might consider the establishment of seed farmers –together with the private sector and the Myanmar Rice Federation- and arrangements with fertiliser and pesticide providing companies to allow easy and comparatively moderately priced access to these inputs, together with embedded farm extension services. As the HYV are under the given situation both, more risky and less profitable for farmers (because of high credit cost), soft credit and insurances would need to be provided, at least in the initial phase.

Smaller farmers might switch to more profitable products such as black gram, soybean and vegetables. Aquaculture, again away from flood prone areas, would be an important additional asset for the State. To exploit this to the fullest, fish processing and fish freezing plants would have to be established, into which the private sector could be attracted if the Government provides the required infrastructure. Again, proximity to Yangon's harbour is key. Such processing plants would nudge the industry towards more complex production processes through the acquisition of the adequate skills and experiences.

A prerequisite for all these developments is the establishment of a more reliable electricity supply, and improvements in infrastructure.

The shift share analysis has shown that Ayeyarwady over-proportionally attracted a number of industries, most of which are however rather small: Electricity, gas & water supply; construction; hotel and restaurant; transport, storage & communications; activities of private HH as employer or SMEs; and extra-territorial organizations & bodies. While the latter two are rather an indicator of a critical development path, likely due to Nargis, it is mentionable that with the construction, storage and hotel services, Ayeyarwady gained experiences in some of the areas which it needs for its advancement in the agro-industrial sector, and for tourism development.

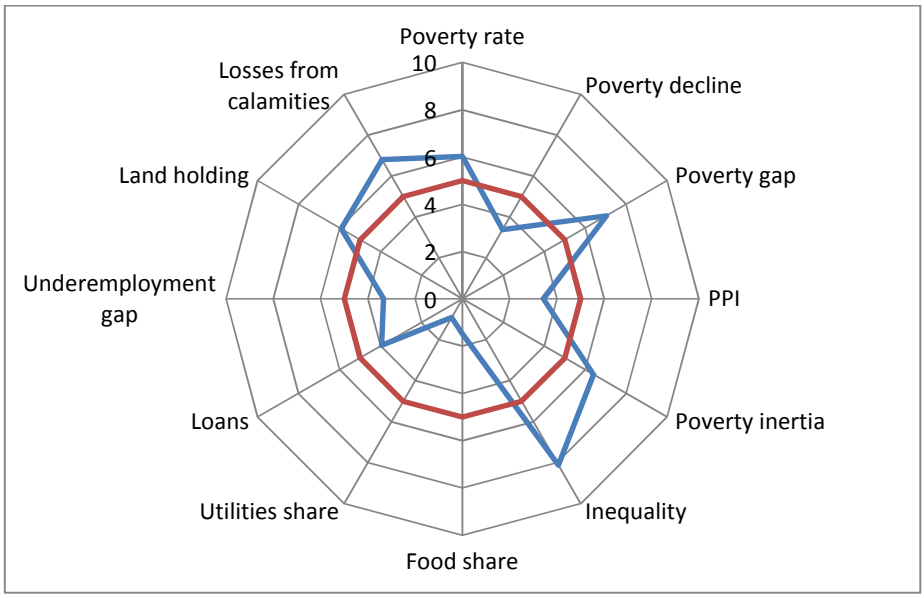
Ayeyarwady does not have an internationally acknowledged major tourism site, but it provides a convenient escape for Yangon residents and business traveller, the latter of which make up about half of all Myanmar tourists. The road and tourism infrastructure should hence cater for this target group.

Finally, the State could again use its proximity to Yangon to develop industries and industrial zones in sufficient proximity to Myanmar's economic powerhouse.

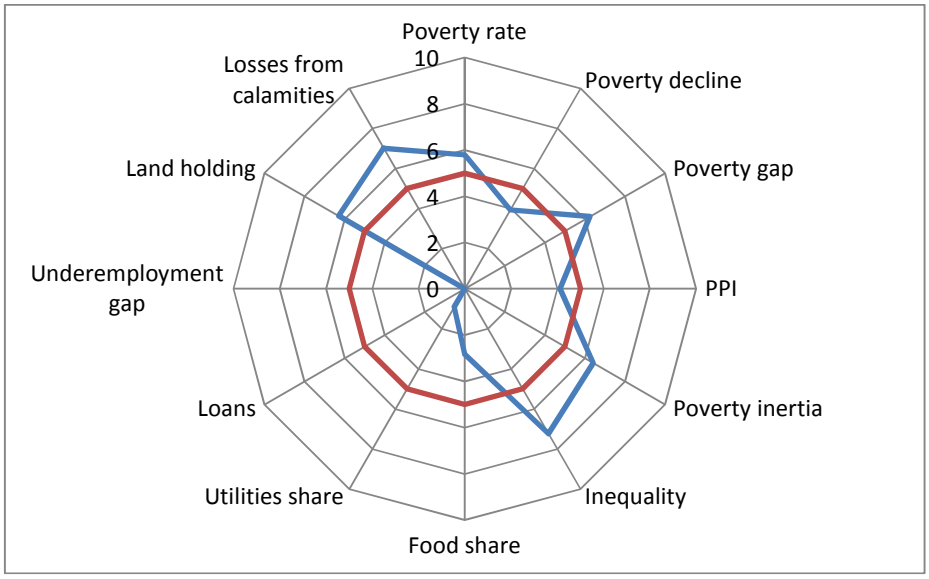
As benchmark, the Government of Ayeyarwady could invest about 140 billion Kyat annually to eliminate poverty.

Bago

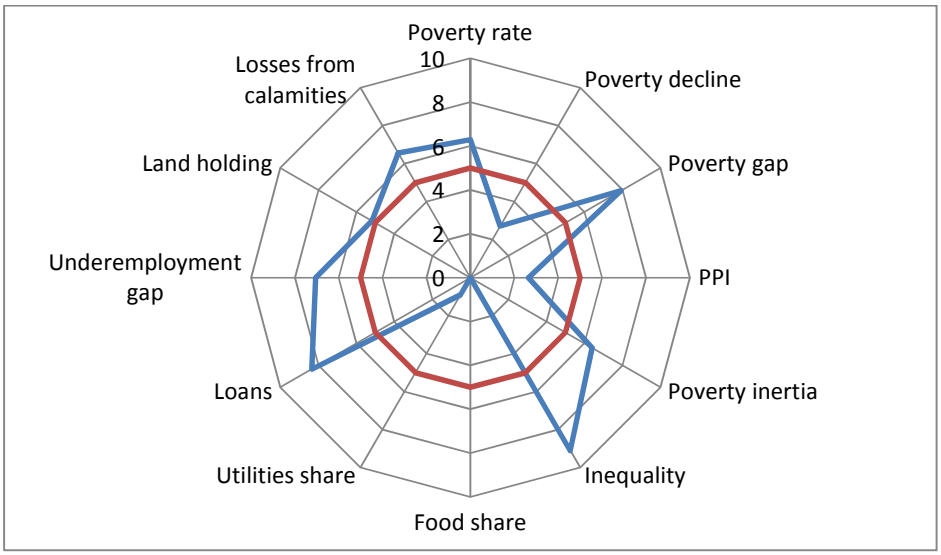
Bago



Bago (East)



Bago (West)



[22]Bago's radar chart, especially Bago (East), is very unbalanced. Overall, Bago has been an underperformer in poverty reduction, though it has been better than average at poverty alleviation. Its comparatively high prices especially indicate inefficiently functioning local markets, onto which the Government would have to put emphasis. Given Bago's proximity to Yangon, such discrepancies should not occur.

Better functioning markets require both, improved institutions (including the regulatory environment and competition laws), and a higher density of businesses of reasonable size. If the government managed to improve this, it is also likely that employment would be created and poverty decreased: such business environment could exploit the high fluctuation of poverty in Bago, helping to reduce the entry into poverty by vulnerable people, and thus reducing overall poverty. Food and utilities are very expensive, which is another sign of market imperfections.

The loan burden is surprisingly diverse: while poor households in the West are very little burdened by loans, households in the East appear to be highly indebted, perpetuating poverty. The payment of unproductive interest rates will not allow the affected households to escape poverty. In social terms, this might lead to conflict. It is necessary to check the reasons for this high indebtedness beyond the means of this household survey. Note that Microfinance programmes are neither active in the East nor in the West, so easier access to credit should not be the reason.

The sad picture for Bago (East) is confirmed by the high over-employment of the people (i.e., a low ranking): as it appears, wages and returns are so low that people need to work over-proportionally hard to make a living. This means as well, that productivity increases are a must in Bago (East), and/or that local exploitative behaviour through low wages need to be addressed.

The high median landholding sizes and the low losses from calamities speak for some additional efforts for agricultural development in the East: only 2% of production is lost annually, and the risks and the problems faced by farmers are rather diversified. As each farmer knows best the individual

[22] This chapter's recommendations draw on the work of Nick Maddock, U San Thein, Dolly Kyaw, and Khin pwint oo

problems, it is important to push for a clear implementation of the freedom to farm any product the farmer decides on. A push for some mechanisation on the farms, especially in the East, is necessary, as labour might in the future become ever more scarce.

The reason for this scarcity is the construction of Hanthawaddy International Airport, which is likely to absorb a large number of local labourers, but which will also attract migrants. Most local labourers can be drawn the comparatively high rate of landless agricultural labourers in Bago.

But Bago (East) is likely to either need to attract many migrants, or to quickly educate numerous skills: currently, Bago has people employed in the construction sector far below national average. This, however, is not only needed for the airport construction but for the construction and maintenance of all infrastructure associated with it. Parts of this infrastructure could be cool-houses.

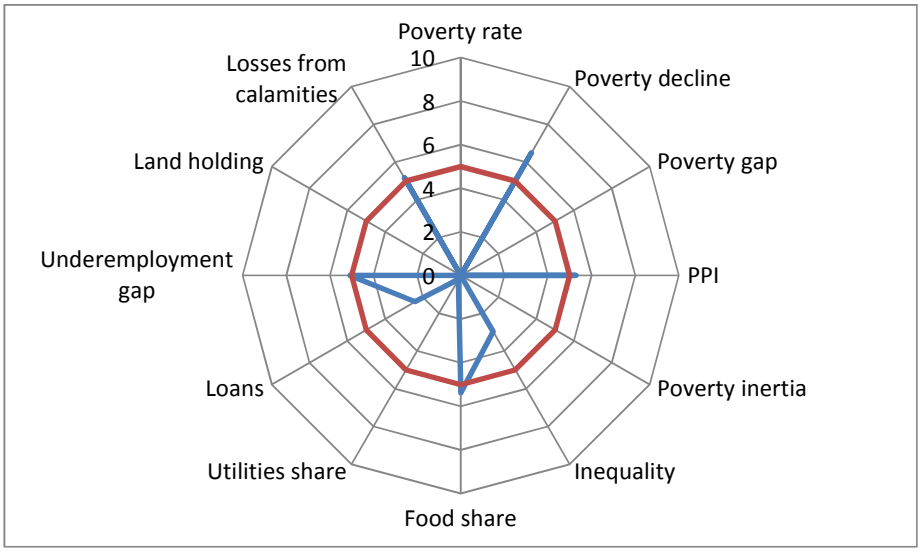
Because of the proximity to the airport and the low risk of calamities, more delicate agricultural and aquacultural products such as vegetable and prawns could be produced and directly shipped. So Bago could maintain a leg in agriculture, while increasing its product space through airport related industries and services (including, e.g., logistic and tourism services).

But, again, Bago does not have in any of these a competitive positioning: the shift share analysis showed some competitiveness only in electricity, gas & water supply, and hotel & restaurants. As Bago is embarking on a serious structural change, the Government must anticipate these skill and resources requirements with the adequate means.

Areas of Bago closer to Yangon are likely to become part of the Yangon conurbation, with the provision of well equipped industrial space. In this aspect it would be important to target from the first moment the creation of agglomeration advantages (clusters). The Industrial Zone in Pyay missed this chance.

As benchmark, the Government of Bago could invest about 50 billion Kyat annually to eliminate poverty.

Chin



[23]Chin's radar diagram is certainly the most unbalanced of all. As Chin State is almost in every aspect an outlier, the possibility cannot be excluded that the survey results are not really representative. Yet, an explanation shall be attempted.

Chin's poverty rate and poverty gap seem to be highest in the country, yet, poverty shall be declining rather fast. What certainly is an important characteristic is the high degree of chronic poverty as visible from the high poverty inertia. Chronic poverty, as chronic unemployment and as malnutrition, are very difficult to overcome, as people do not only lose skills and resources, but also hope and drive. In this sense, Chin needs first a strong social push to sustainably bring people up to a level from where they would be able to move on by themselves.

The high and persistent poverty goes in line with a high indebtedness. A pilot project could be started to first convert existing informal loans into formalised loans (e.g. through microfinance organisations), and then into soft loans. As shown, this might free a very large percentage of the household expenses for other purposes. The goal should be to convert a credit, or rather: debt-driven State into a savings driven State: poor would access their savings at the beginning of the planting season, and repay at the end. Also for consumption smoothing, access to own savings is the much better way, given financial education. This requires as well the establishment of convenient savings possibilities.

The very low median landholding is part of Chin's poverty problem: no farm of this size can generate sufficient income to sustain a household. The effect of these low landholdings is also a low rate of landlessness. The result is a State wherein no one can generate sufficient scale and income to provide employment and to advance the State's economy.

Many farmers cultivate subsistence crops, mostly rice. Besides the soil, climate and water, mechanisation is important especially for crops like rice. This is often stimulated by an inadequate policy of rice self-sufficiency, even in States like Chin where rice yields are very low. Should the

[23] This chapter's recommendations draw on the work of Khin pwint oo

Government decide to nevertheless pursue this policy, it should encourage the sale or at least lease of land to generate larger units. This must go in line with employment creation measures. The goal is to create farms that can use scale, as well as small companies that can provide employment.

Otherwise, the productivity of the small farms needs to be exploited to the fullest through the cultivation of higher value crops, and through additional side activities: vegetable cultivation and perennial crops could be introduced, the production of elephant yam, and in some areas potentially also tea. In the large areas that are not arable, livestock could be held, for example, mython. The State has additionally potential for some aquaculture, bee-keeping, and for (re-)establishing a silk industry. This latter would however require complementary investments.

But as long as the development path is oriented towards an agricultural based development –for which Chin does not have the most feasible climate- it is essential that the Government supports farmers in their fight against vermin and insects infections: median poor households lose 4% of their harvest to pests, which is avoidable in modern agriculture.

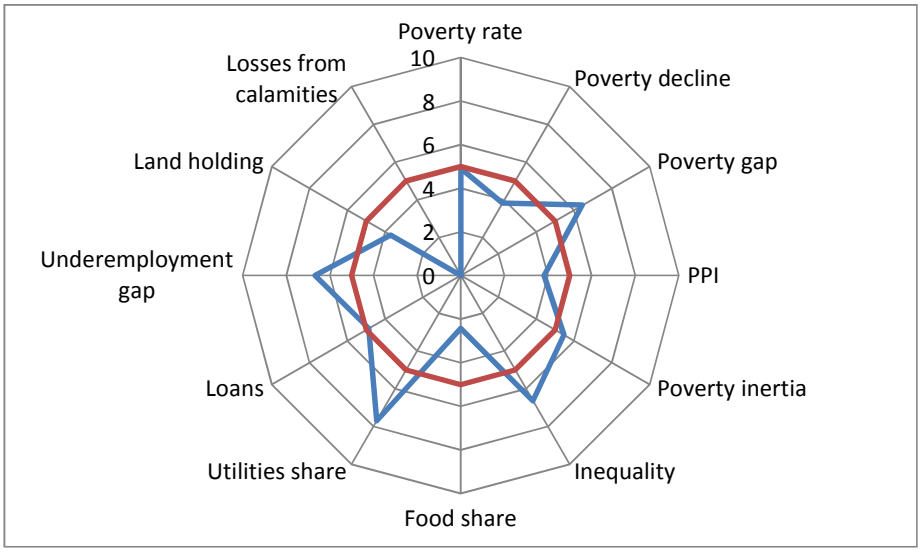
The employment based shift share analysis shows Chin has a competitive advantage in agriculture, hunting and forestry, which needs to be seen here with care: Chin created here above average employment because of its inefficiencies. Interestingly, the shift share also shows a competitive advantage in Mining & Quarying; real estate, renting and business Activities; and manufacturing.

Again, note that the shift share is purely employment based, and can therefore lead to questionable results: the State will still be a long distance away for starting industrial development. Nevertheless, it should at least attempt to create wherever possible larger business units which could then further develop their potential. Should India once manage to clarify the situation at its Eastern most border, Chin would suddenly be able to orient itself even stronger, and more efficiently, to this part.

That utilities are expensive and do therefore swallow a larger share of the expenses of a poor household is understandable, given the remote location of the State and its difficult terrain. This difficult terrain will continue to be an obstacle to development for Chin State. But as the examples of the Alps in Europe show, however, good governance, planning and development can also cope effectively with a difficult terrain. But the first and foremost approach will be to decentralise governance and utilities wherever possible, and to invest heavily in non-road dependent infrastructure such as tele-communications and the internet. This reduces transport necessities and hence transport cost.

As benchmark, the Government of Chin could invest about 30 billion Kyat annually to eliminate poverty.

Magway



[24]In the poverty and equality based indicators, Magway shows average results. Interestingly, though, its slightly below average PPI does not seem to justify its far below average share of food expenditures. As Magway is more of a trading hub, the apparently high food prices could indicate market inefficiencies or monopolisation, or incorrect data. The share is confirmed by the relatively high price for rice as stated by households.

Besides the share of food expenditures, the very high losses from calamities stands out in Magway's profile. Magway is the S/R with the highest crop losses due to calamities: over 16% of the annual harvest is lost - 11% alone from droughts. But the devastating effects of drought can be counteracted with irrigation. Losing annually 16% of production is extremely wasteful - no manufacturing company could survive.

Interestingly, in those years where there is no drought, Magway is doing very well in terms of rice yield. But as the longer term planning and security counts, it would make sense for the Government to incentivate a larger scale switch to especially pulses, which are also more drought resistant. Magway has even internationally a competitive advantage in, e.g., pigeon and chickpea, and black and green gram, especially since farmers are more and more adopting high yield and drought resistance varieties. Magway is furthermore competitive in sunflower seeds, chilies and potato, though in the latter, Shan's vast potato harvests will not allow Magway to obtain a dominant market position.

Magway's farmers appear to be comparatively fast in taking up new varieties. Not only in pulses, but also in paddy do they adopt at increasing scale hybrid varieties, though consumers do not necessarily follow this trend. For this, the Government should maintain and expand its seemingly good seed farm in Pwintphyu township, and potentially demonstrate its business model to other S/R. But until consumers accept new tastes, it appears best to orient hybrid and high yielding varieties mainly to the export market, and leave traditional varieties for the local market. Once the central and all the regional governments gave up their economically highly sub-optimal insistence on rice self

[24] This chapter's recommendations draw on the work of Dolly Kyaw

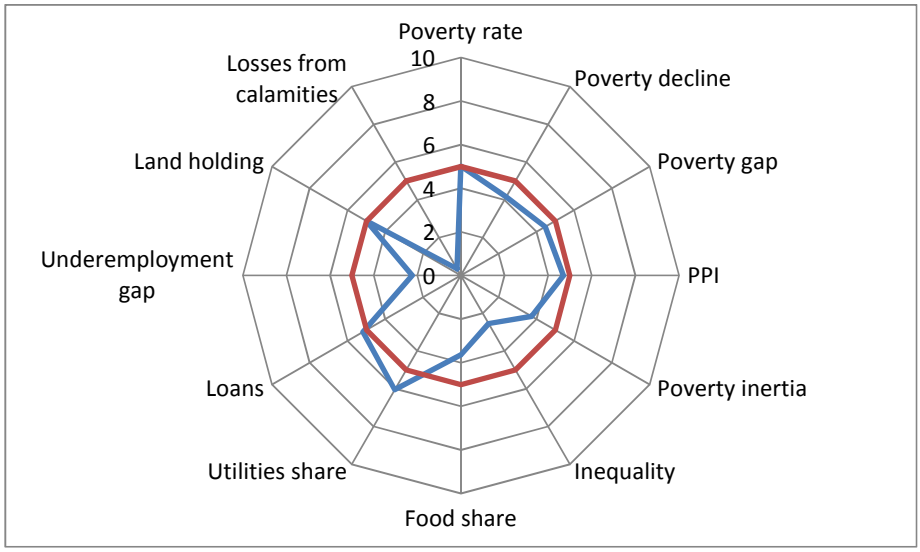
sufficiency, farmers could switch in larger numbers to newer varieties, thus pushing up the price for traditional varieties with the effect of providing farmers who stick to traditional varieties with a decent return, and simultaneously inducing many consumers to switch to the more efficient rice varieties. As in many modern areas, maintaining tradition is more expensive.

Given the dry zone characteristics of Magway, livestock production has a comparative advantage. Magway is already now Myanmar's largest producer of cattle, sheep, goat, pig and chicken. Livestock has the large advantage of being not that climate dependent. Livestock induces not only the development of slightly more complex slaughtering and freezing houses, but would also give the potential to develop industries based on the animal's waste products such as skin and bones. Besides, it can supply parts of the country's needs for eggs and dairy products. As outlined before, the market for meat, especially chicken, is likely to grow in line with GDP per capita growth, thus providing sound expansion potential. Commercialisation of livestock farming would have to expand further, and the corresponding infrastructure needs to be established.

But the focus of development should not be on agriculture and livestock alone. Magway has high potential in the machinery, household goods and jute-based sub-sectors, as the growth rates of those businesses demonstrate. It can further act as a trading hub between North and South, and East and West, wherein it has to share this role with Mandalay. Providing its businesses with a really enabling business environment is a start.

As benchmark, the Government of Magway could invest about 80 billion Kyat annually to eliminate poverty.

Mandalay



[25]Within the poverty and equality pillar, only Mandalay's inequality stands a bit out: it is higher than national average. But as the reference position is an extremely equal society, and some economist even argue that some inequality is required for economic development, it should not -yet- be seen as a reason for major concern.

Despite its very central location, Mandalay's workers do not seem to achieve a sufficient return of their work. This might be a consequence of inadequate skills or of market imperfections, but more likely the former. If so, Mandalay's anti-poverty strategy would certainly include not only investments into skills development, but into the development of the right skills. This does require the establishment of a labour market information system, along with an appropriate representation of the private sector as major employer.

As Magway, Mandalay is the S/R that suffers by far most from agricultural losses due to calamities. And as Magway, those calamities are almost exclusively related to drought, which costs the farmers annually 12% of their output. Paddy yield is low, especially in non-irrigated areas. Nevertheless, the Government appears to be driving rice self sufficiency for the whole region, although rice could be easily purchased from more productive S/R in Myanmar, like Mon, Bago and Ayeyarwady. Driving rice self-sufficiency at S/R level is clearly a very sub-optimal policy, which drives many farmers into poverty instead of helping them -and the S/R as a whole- to get out of it.

Mandalay's comparative advantages are rather in pulses, some culinary crops such as chilli and onion, fruits, vegetable, and, potentially, maize. Also potato can be grown with sufficiently high yields, but cannot achieve the market share of Shan.

The oil seed processing industry requires structural adjustment but has potential. This adjustment does not only include technological and skill upgrading, but also institutional organisation -none of the actors in the edible oil value chain has trade associations-, supporting services such as certification, and the development of new markets. China appears to be focussing on the import of

[25] This chapter's recommendations draw on the work of U San Thein

raw materials only to domestically capture the value added of the processing. On the other hand, adequate quality and food safety control measures for imported products would protect Myanmar's consumers from Chinese food imports of questionable quality, simultaneously providing its own producers a kind of infant industry advantage. And Mandalay's producers need to be able to tap into the growing market demands for cholesterol free vegetable oil.

Other sectors that do promote rural as well as industrial development are sugarcane and cotton. Though the sugar cane industry is facing a number of problems, SME sugar processing plants are growing. Cotton, planted at nearby river pumping sites, could provide the base for a revived and restructured weaving industry.

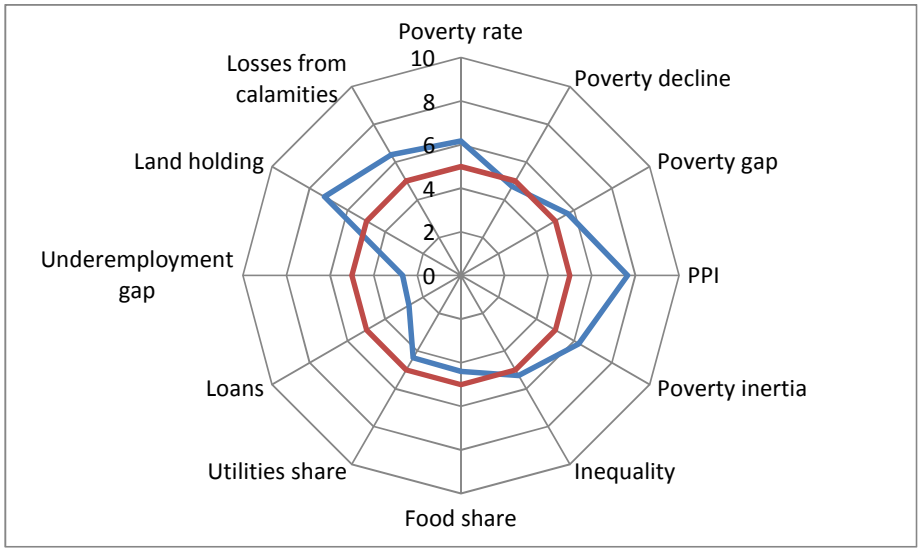
Together with Kayah and Yangon, Mandalay has the potential to become the manufacturing power house of Myanmar. The shift share analysis does not show this potential, because, in fact, most of Mandalay's manufacturing businesses were shrinking in the past five years. But despite the problems the sector experienced, the skills and the institutional infrastructure are in place, at least to a larger degree as in most other S/R of Myanmar. Based on its experience with jeep assembly, the Division could, e.g., develop a local motor bike industry for which demand is likely to boom in the years to come. The accumulation and expansion of these skills and networks form the basis of slowly moving the economy more and more from the edges of a product space to its centre. It is in the Government's hands not to let these resources slip away.

Mandalay is in the centre of regional connectivity and trade demand. Trade has been a growth driver of Mandalay's regional development, and transit trade has large potentials. This requires the further development of logistic services and multi modal transport systems and hubs to ensure physical as well as institutional connectivity.

The revival or establishment of all these industries requires governmental action: first of all, the transport infrastructure needs to be improved and expanded, and electricity supply needs to be reliable. Secondly, the Government needs to establish a predictable and facilitating business environment, which allows the private sector to reliably plan for many years ahead and invest accordingly. Third, the government should directly or indirectly foster the required business services. These include basic research on optimal seeds and cropping systems -a typical governmental task-, but also the provision of financial services needed for the complex and costly modernisation processes, and market research and information.

The increased productivity and competitiveness gained will allow raising wages, attract further skills, and reduce poverty. As benchmark, the Government of Mandalay could invest about 55 billion Kyat annually to eliminate poverty.

Mon



[26]Mon State's radar chart shows a favourable local price index which should, de facto, further reduce its already slightly better than average poverty gap and poverty rate. As with Kayon and Tanintharyi, the favourable index might have to do with the State's proximity to Thailand. Outstanding loans are below national average, providing Mon's people with some financial leeway for other consumption and for investment. But it seems that the people need to invest much labour, many hours, to obtain this slightly better than average poverty gap: they receive a low return of their labour. This might be the result of a skills level which is below national average, or market imperfections for example through monopolistic structures. The above average median land holding and the lower than average losses from calamities (only 3% of the harvest is lost) indicate some scope for agricultural development.

Two agricultural products stand out in Mon's structure: rubber and fishing. The world market for natural rubber is highly promising, and Mon's rubber plantations are internationally competitive. But more care needs to be taken that these rubber plantations' competitiveness can be sustained and that their negative spill over effects do not spoil other development prospects of Mon: the vast expansion of the rubber plantations risk destroying a delicate ecological balance with potentially serious consequences for Mon's other industries. The Government needs to look at expansion plans from a more holistic and long term State perspective. It should then foster the development of natural rubber based industries by, e.g., producing tyres for locally made motor bikes, whose market will certainly boom in the next years. Alternatively, it could invite rubber based FDIs.

Myanmar as a whole has reached its sustainability limits in catch fish and is, in fact, already beyond the natural replenishment rate of fish and shrimps. The only way to sustain the industry is to limit the overall amount that can be caught in agreement with other Divisions bordering the sea. It then needs to develop aquaculture, and set up value added industries. As has been shown, there is a large regional and world market for frozen fish and fish fillets, which Myanmar so far failed to tab. This

[26] This chapter's recommendations draw on the work of Khin pwint oo

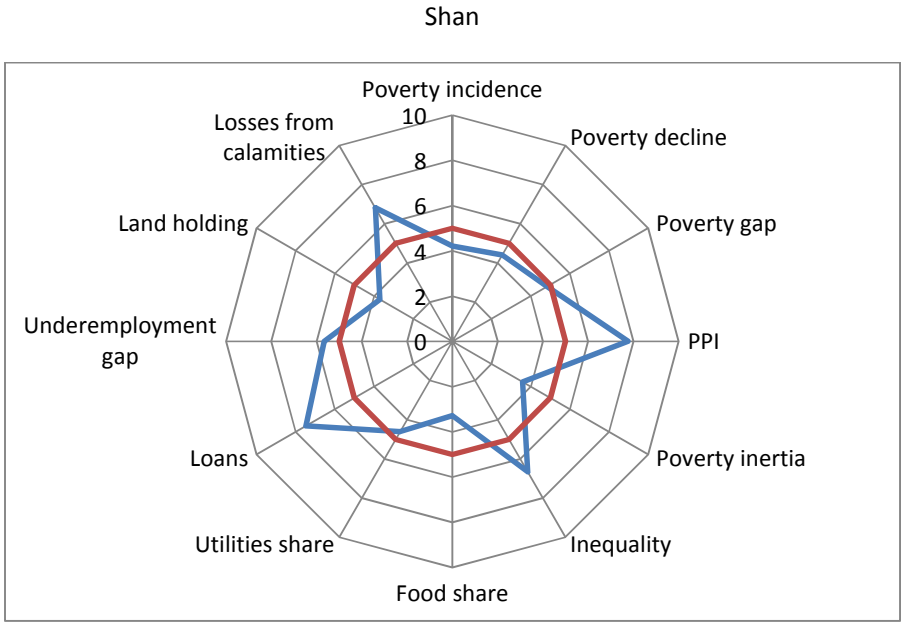
does, of course, require the establishment of functioning value chains, from hatching to overseas marketing, as well as a supporting institutional and quality infrastructure.

The development of aquaculture requires additional protection from floods which can be effectively facilitated by mangrove rehabilitation. Such rehabilitation will attract wildlife and could become a special tourist attraction for Mon State. Tourism development needs to be seen in a very holistic manner, from the moment of arrival to potential side activities (such as those mangrove trips) to healthcare and security.

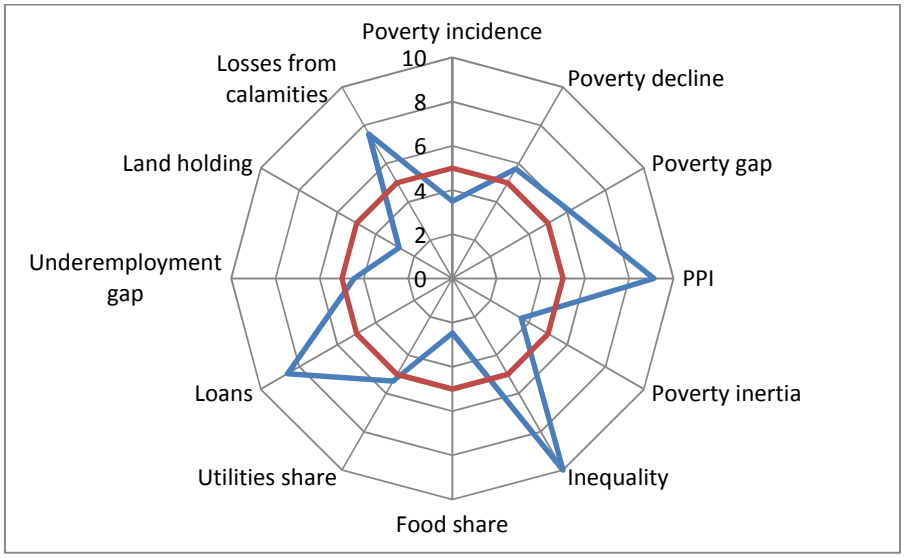
Finally, Mon might benefit from some trading activities, especially en route between Thailand and Yangon, and could also develop some value added activities around its minded gold.

As benchmark, the Government of Chin could invest about 14 billion Kyat annually to eliminate poverty.

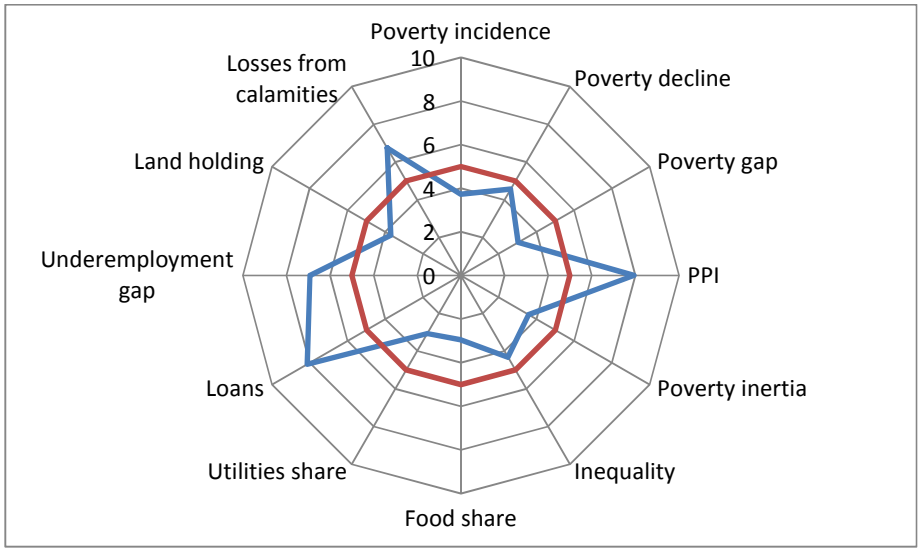
Shan



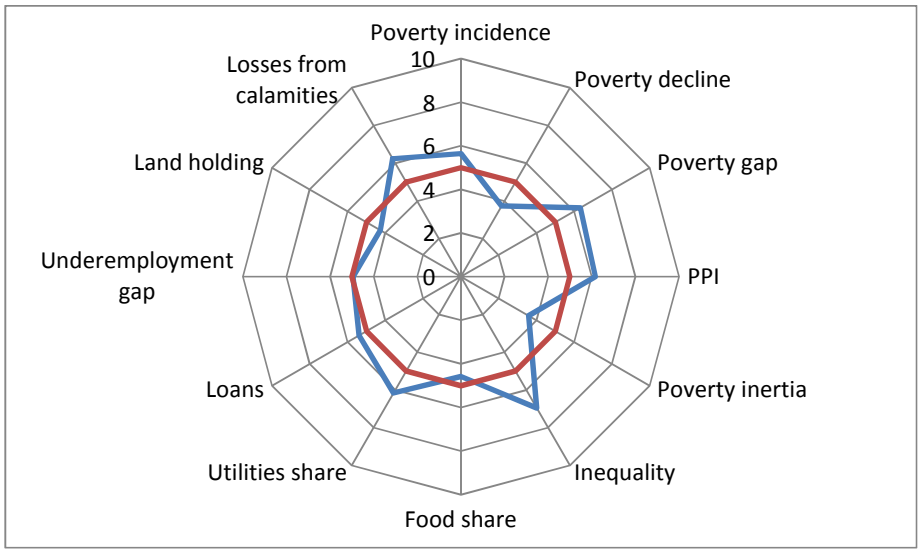
Shan (East)



Shan (North)



Shan (South)



[27]Shan State is Myanmar's largest and does therefore also show strong intra-regional disparities. Poverty is above national average in the East and North, but below in the South. It decline everywhere about average, but the poverty gap is particularly high in the North, and rather low, again, in the South. The purchase power favours the State as a whole, as goods and services, measured at the national consumption basket, are comparatively cheaper. Poverty inertia is all over the State comparatively high, meaning above average chronic poverty, explicable by the remoteness of most of the State. Finally, within the poverty pillar, inequality is very low in East and South, but above national average in the North.

The favourable PPI is reflected in the below average share for food expenditures, although Shan East suffers the highest rice price in the Union, and Shan North and South are not far behind. Potentially, rice is partially substituted by potato where Shan has the lowest price. But the expenditure share for

[27] This chapter's recommendations draw on the work of U San Thein

utilities diverts especially between North and South, where it is low in the former and high in the latter. The low share in the North might however also be explicable by low opportunity.

A serious problem for all parts of the State is the over-indebtedness of the poor. This over-indebtedness might also explain the comparatively high inertia, and will certainly lead to long-term structural problems of poverty. In terms of poverty alleviation and reduction, the Government should see this as a priority to tackle, through the conversion of existing informal high interest loans into formal loans with lower interest rate. Notably, South Shan, where UNDP/PACT's micro finance programme is active, has the lowest over-indebtedness of all parts. This might be coincidental and unrelated, but it might also have some causal relation.

The median size of the poor's landholding is everywhere below average, and in the East strongly below. Communal systems have their role to play, but for modern agricultural development such small landholdings are in growth and poverty-reduction inhibitor. Sufficient and sustainable income can only be generated if the farmers do either switch to higher, yet also more risky, value products, if they increase the effective landholdings through functioning cooperation, or if they let market forces allocate the land through lease or even transfer systems. But as in the case of Chin, a low median land size goes hand in hand with Myanmar's lowest rate of landlessness. From the viewpoint of calamities, Shan State is promising, as losses are small.

Being a large State, Shan has diverse potentials for the development of competitive resource based industries.

Shan (especially Shan South) has a revealed competitive advantage in soybean production. Its development requires varietal improvement, followed by improvement in the agronomic techniques. Soybean based industries can follow immediately: soybean meal, e.g., is much in need in the fishing industry of Ayeyarwady and other aquaculture based S/R.

Southern Shan also has a revealed competitive advantage in potato production, and is by far the largest potato producer in Myanmar (58% of the total). But the productivity is not uniform across Shan: the yield in the Northern and Eastern parts is significantly below national average. And in unfavourable weather conditions, potato crops often suffer from pests: for larger scale commercialisation, more resistant varieties need to be developed, e.g. by the Yezin Agriculture University, and introduced to the farmers.

Maize is another promising crop, especially for the animal feed industry. Markets are not only in Shan itself, but especially in more livestock oriented S/R located in the dry zone. For its introduction, the systems introduced by the Thi CP group could be replicated. The maize cobs -waste products of maize- could be turned into biofuel, thus reducing electricity shortages.

Vegetable of the Aungban and Pindaya areas appear to have a large demand in Korea, Japan and other ASEAN countries. Pineapple and associated juice industries could be located in Kyauk area.

Turning to plantation crops, tea is probably the most important. It has been an important product in the past, but the plantations (especially in Namsan/Kyaunme) require a multi-dimensional approach for rehabilitation: unproductive tea plants need to be replaced, and planting and management techniques need to be improved and possibly organic tea introduced. As it may take 10 years to restore the plantations, this is a very long term project requiring long term soft loans and efforts. Also the payment systems for both, the tea pickers as well as the sale of tea needs to be adjusted to

the requirements of the markets. Tea picking is a low paid and highly seasonal job, but it could provide additional incomes to poor. Further potentials for agricultural and industrial development are seen in sugar production, for which the achievement of scale economies is substantial, and in the North and the border areas rubber plantations.

Shan State is also well suited for livestock. Land is available, there just appears to be a necessity to reassess the grazing land, whose demarcation dates back to the British colonial government.

Built upon the existing mineral deposit of the State, a cement industry for the expected construction boom should be fostered, as well as pig iron industry and low grade coal mining.

Further advancing from these comparatively low value added industries, Shan could exploit its locational positioning at the cross of four important Asian Highway Routes. These routes will not necessarily convert Shan into a trading hub, but allow its industries to access markets in Thailand, India (Highway AH1/2) and China (Highway AH2/3/14). Its industrial development should therefore be oriented towards the demands in these nations, and towards input products and the potential competition from them.

As in all other S/R, the Government needs to provide the enabling conditions for the economy to develop, including hard and soft infrastructure (roads, electricity, institutions, regulations) and supporting services.

Final remarks

Nowadays, Myanmar shows low levels of development in all dimensions, even with a reasonable poverty headcount measured in terms of expenditure or consumption of the households. At the same time, very low inequality –characteristic of more traditional or agrarian societies- is also accounted in the household surveys. The Gini coefficients, both for 2005 and 2010, are one of the lowest found worldwide.

However, when the regional dimension is included, the level of disparity in all indicators becomes high, especially in terms of expenditures.

The development potentials are also very heterogeneous among regions and states, as is explained in the second part of this document, but none of them seems to have a high level of unviability for reducing poverty and promotion of inclusive growth.

The scope for policy interventions in order to improve the livelihood of the population is wide open, due to the lack of previous actions, but also because one of the most acute problems in the remote areas is the lack of stable and well remunerated employment. A State action oriented to either employ in the off season, or complement incomes (conditional cash transfers as child allowance or support to the elderly), can be very helpful in improving material conditions in the States and Regions.