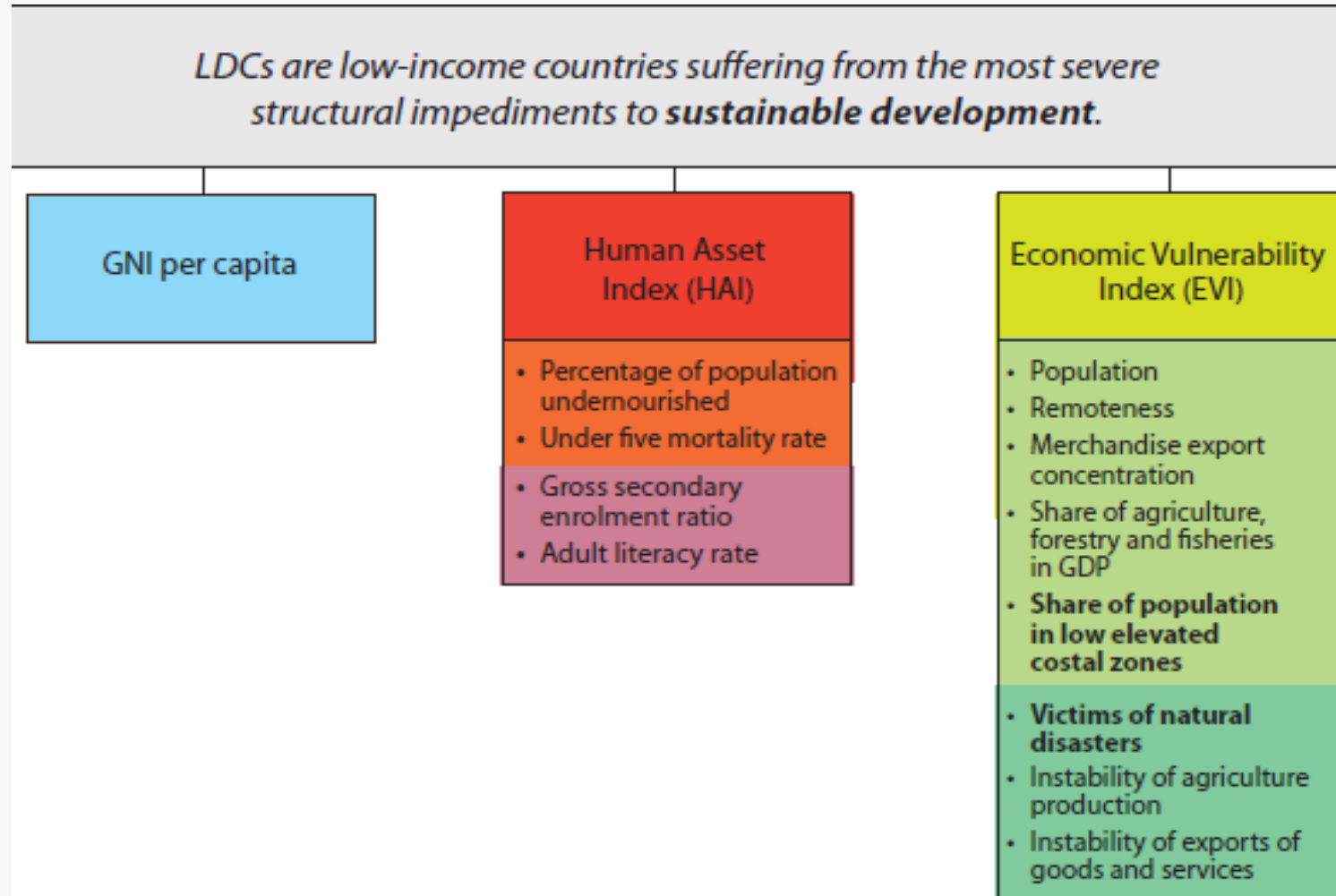National workshop
Graduation from the LDC category
Nay Pyi Taw, Myanmar, 9-10 December 2014

The LDC criteria and indicators

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Indicators of the LDC criteria

LDCs are low-income countries suffering from the most severe structural impediments to **sustainable development**.

GNI per capita

Human Asset Index (HAI)

- Percentage of population undernourished
- Under five mortality rate
- Gross secondary enrolment ratio
- Adult literacy rate

Economic Vulnerability Index (EVI)

- Population
- Remoteness
- Merchandise export concentration
- Share of agriculture, forestry and fisheries in GDP
- **Share of population in low elevated costal zones**
- **Victims of natural disasters**
- Instability of agriculture production
- Instability of exports of goods and services

Graduation

◆ In order to be eligible for graduation

➢ Country passes thresholds of any 2 criteria

  ➢ GNI and HAI

OR

  ➢ GNI and EVI

OR

  ➢ HAI and EVI

OR

➢ Income > double income graduation threshold

Data issues

◆ Data for all indicators are from international organizations

- United Nations, UNESCO, FAO, ...
  ➢ Ensures data is consistent and can be compared
  ➢ LDCs need to be compared to each other and other developing countries

◆ International organizations rely on national data

➢ Strong national statistical system critical

1. GROSS NATIONAL INCOME

GNI per capita (US$)
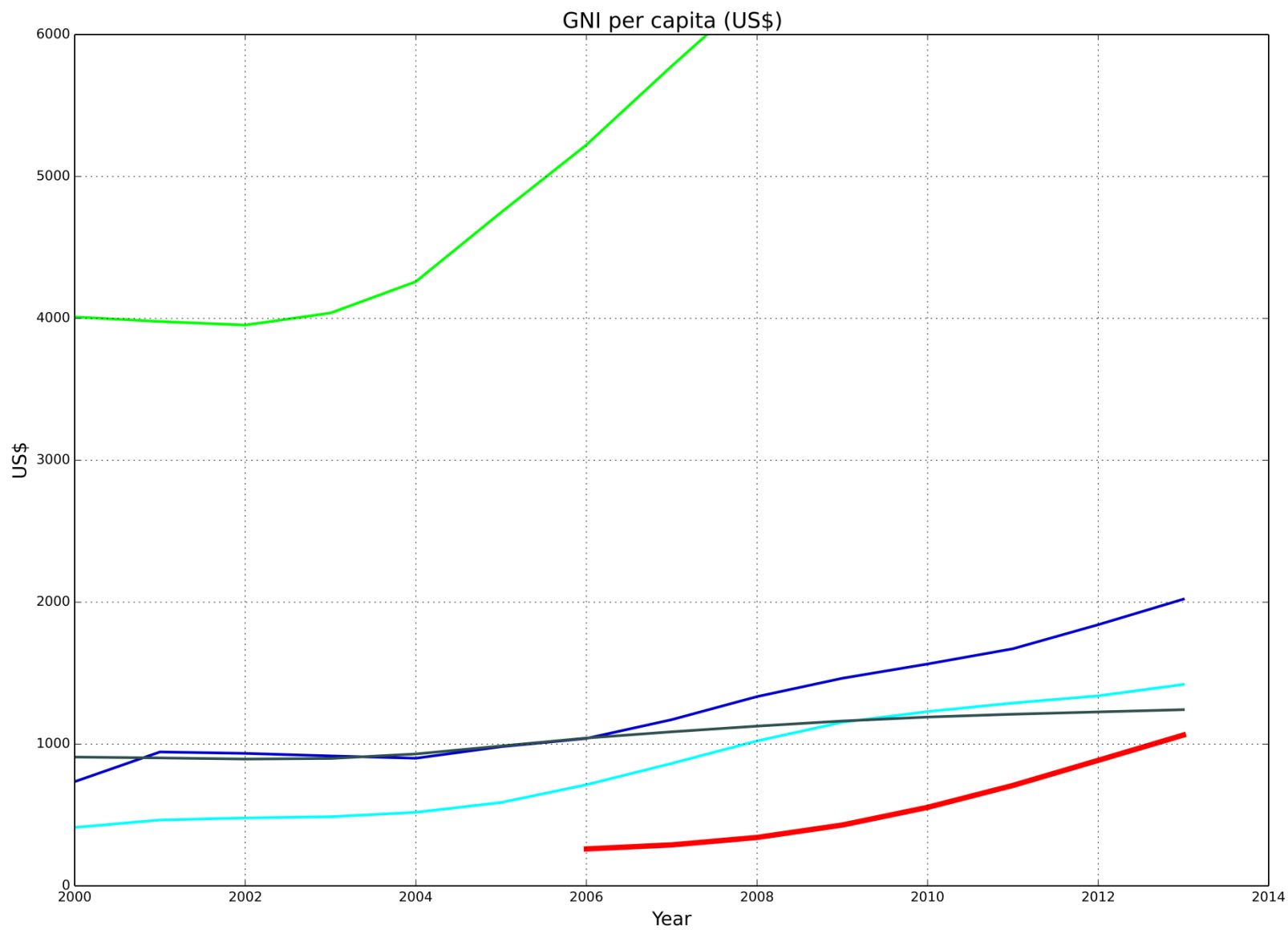
- All graphs in the presentation show the trend in LDC criteria and indicators by Myanmar and various country groups.
    - ESCAP: Asia Pacific countries
    - AP LDCs: LDCs in ESCAP regions
    - LDCs: All LDCs
  - Based on recent refinement of the criteria.
  - Use data available as of 1 December 2014.
- Note:
  - The data is different from past review data.
  - There are likely differences to the 2015 review data.

Gross national income

◆ Gross national income (GNI) per capita, in $

 – Measures resources available for consumption and investment

 – Informs about economically productive activities

◆ Single indicator

 • Past levels of GNI matter

 • Economic growth matters

 • Exchange rate matters

 • Population matters

GNI per capita - definitions

◆ GNI=GDP + net primary income
◆ GDP= Sum of economic production/value added (+ taxes – subsidies)
◆ GDP=Consumption + Investment + Exports - Imports
◆ Net primary income: investment income plus compensation of employees
  – Compensation of employees: Income of workers that work abroad but still live in home country
    ◆ Transfers by people that live abroad are not considered primary income
  – Investment income: both direct and portfolio investment abroad
    ◆ High FDI inflows means lower future net primary income, when profits are sent home

GNI per capita - definitions

◆ National Accounts:

GNI=GDP + net primary income

◆ Balance of payments:

Current account= Exports – Imports
+ net primary income
+ net secondary income

➢ National accounts and Balance of payments should contain the same information on primary income

GNI per capita - methods

◆ World Bank Atlas Method converts national currencies into US $

    – Atlas method uses three-year averages of market exchange rates

    – Method adjusts for relative inflation (measured by GDP deflator) between a country and the major developed countries (US, EU, Japan, UK)

◆ CDP uses three-year averages of GNI per capita as criterion

       ◆ 2011-2013 for next triennial review

GNI per capita - thresholds

◆ Inclusion:
 – World Bank low-income threshold (3-year average)
 – For 2015, threshold will be $ 1,035

◆ Graduation:
 – 20% above inclusion
 – For 2015 review, threshold will be $ 1,242
 – Note: Becoming a middle-income country does not imply graduation from the LDC category

◆ 'Income only' graduation:
 – Twice normal graduation
   ◆ For 2015 review, $ 2,484

Note:
 – WB thresholds are updated with inflation
 – Thresholds are fixed over time in real terms

GNI per capita – data sources

- Gross national income in current prices in Kyat
  - Reported by the CSO to United Nations Statistics Division
  - For 2013, UNSD estimate based on IMF World Economic Outlook
- Atlas conversion factors/exchange rates
  - Official exchange rate for 2013 (from IMF)
  - For previous years, United Nations Operational Exchange rates
  - GDP deflator of Myanmar (reported by CSO)
  - GDP deflator of USA, EU, Japan and UK

GNI per capita – data sources

◆ Population data from United Nations Population Division WPP 2012
  – Estimate based on national sources
  – 2013: 53 259 thousand
  – Estimate higher than 2014 census, but lower than previous national estimates
  – 2014 census will be reflected in WPP 2015
  – Only small impact on GNI per capita

GNI per capita

◆ Provisional estimation
  – Likely to be different from final results!

|	2011	2012	2013
GDP (million kyat)	46,344,238	51,727,452	58,843,847
GNI (million kyat)	46,337,208	51,653,416	58,825,215
Atlas exchange rate	1,008.47	911.18	892.25
Population (thousand)	52,351	52,797	53,259
GNI per capita (Atlas $)	878	1,074	1,238

◆ 2011-2013 average: $ 1,063

2. ECONOMIC VULNERABILITY INDEX

Economic Vulnerability Index
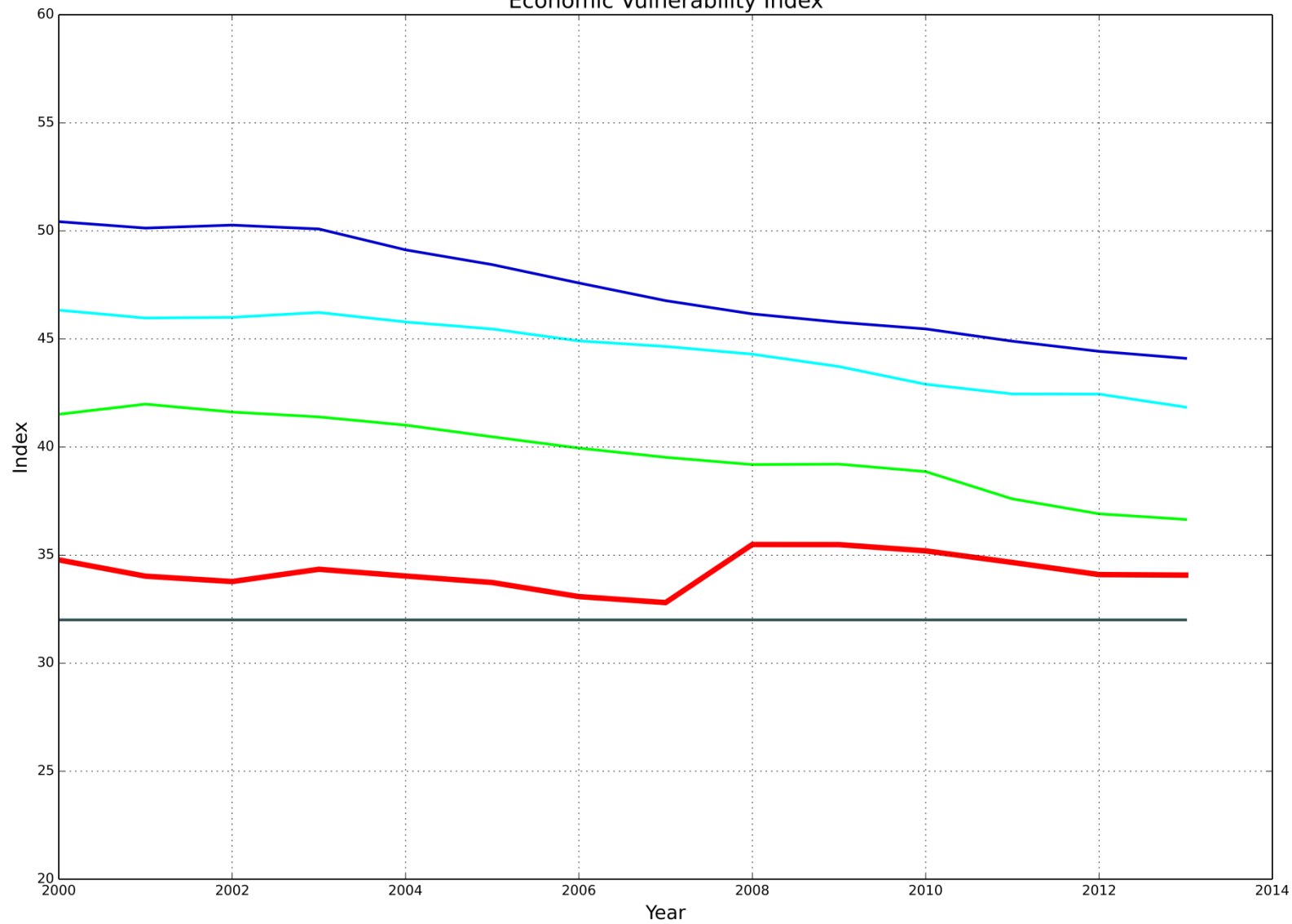
Economic Vulnerability Index

◆ Economic vulnerability index (EVI) is a measure of structural vulnerabilities to economic and environmental shocks
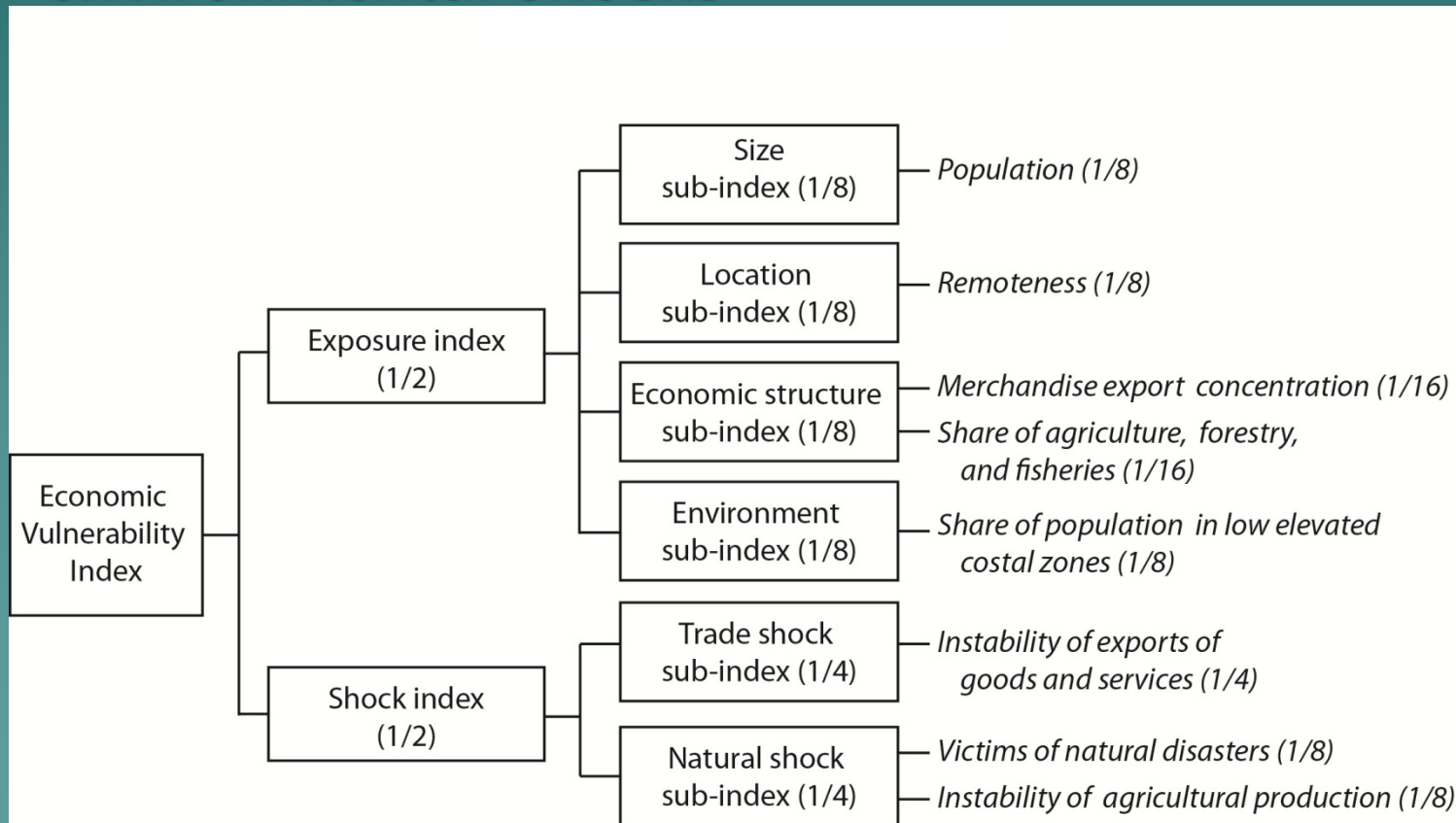
Numbers in brackets denote weights in overall EVI

EVI - basics

◆ EVI is a composite index
- Lower EVI scores are better
- Indicators are converted into indices using the 'Max-min procedure'.
- Max and min values are based on distribution of scores for all developing countries.
- Upper and lower bounds are used to reduce effect of outliers.

Max-Min procedure

◆ Export concentration, 2015 review (preliminary)

	Myanmar	Lower bound	Upper bound
	0.39	0.1	0.95

Myanmar: $I = 100 \times \frac{0.39 - .1}{0.95 - .1} = 34.7$

EVI calculation

◆ EVI score is the weighted average of the eight individual scores
  – Myanmar, 2012 review

| Indicator	Score	Weight	Weighted score
Population	11.2	1/8	1.4
Remoteness	46	1/8	5.8
Share of agriculture in GDP	27.4	1/16	1.7
Export concentration	63.2	1/16	4.0
Share of population in LECZ	36.8	1/8	4.6
Victims of natural disaster	58.5	1/8	7.3
Agricultural instability	10.5	1/8	1.3
Export instability	75.8	1/4	19.0

Total EVI score for Myanmar   45

EVI - thresholds

◆ Inclusion: 36   Graduation: 32

◆ Until 2012, the thresholds were relative

- Set on basis of distribution of scores within a reference group of LDCs and other low-income countries
  - Number of non-LDC low-income countries shrinking: 25 in 2001; 4 in 2012

◆ For 2015 and beyond, thresholds are absolute
  – Fixed at their 2012 level
    ◆ Adjustments possible if indicators or data sources change
  - Eligibility no longer depends on progress or regress of other countries
  - Increases predictability for countries
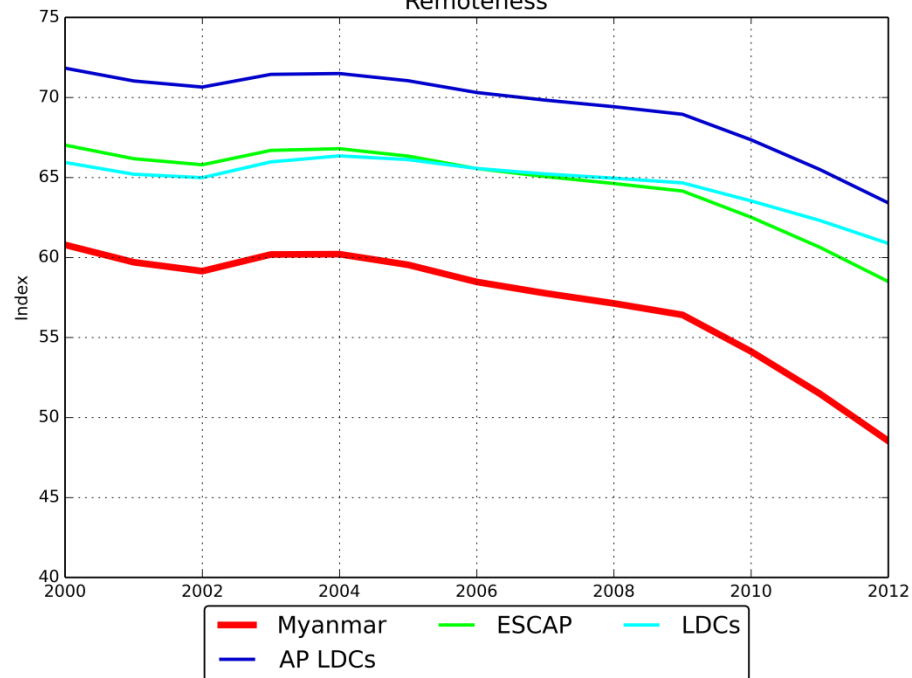
EVI indicators (A)
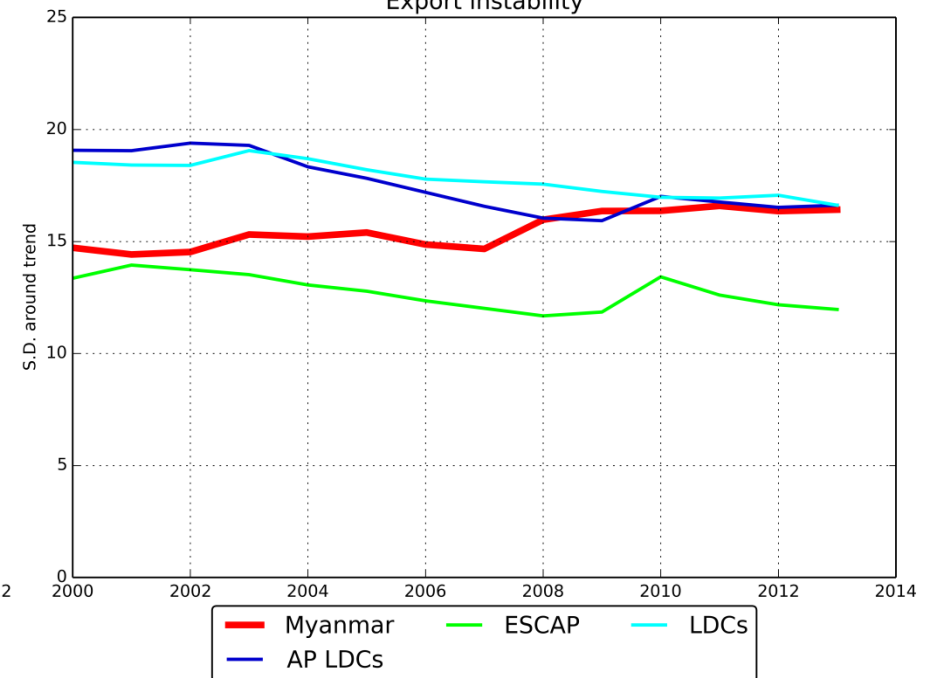

Share of agriculture, fisheries and forestry
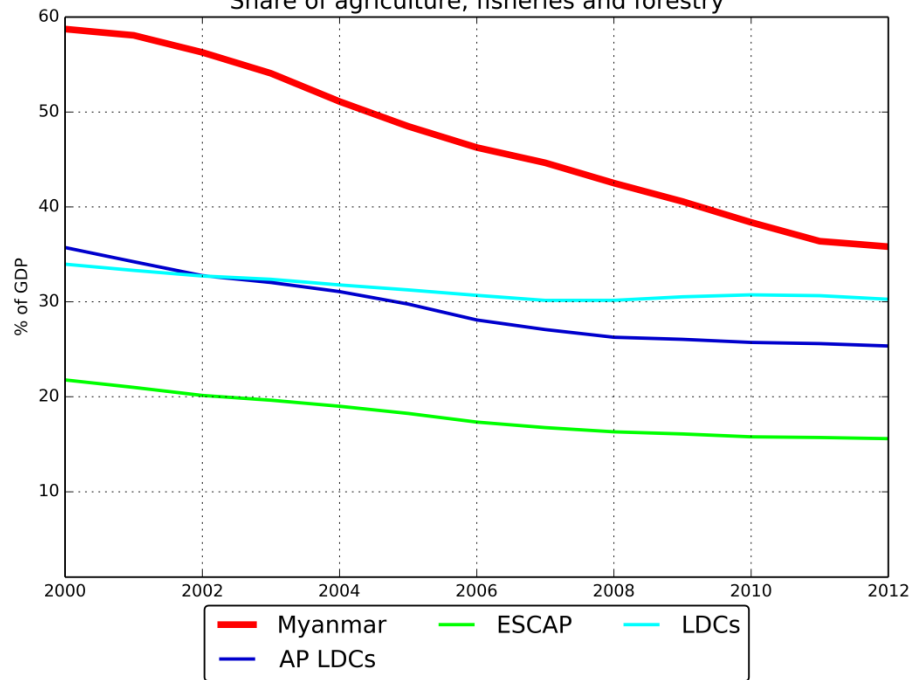
Export concentration
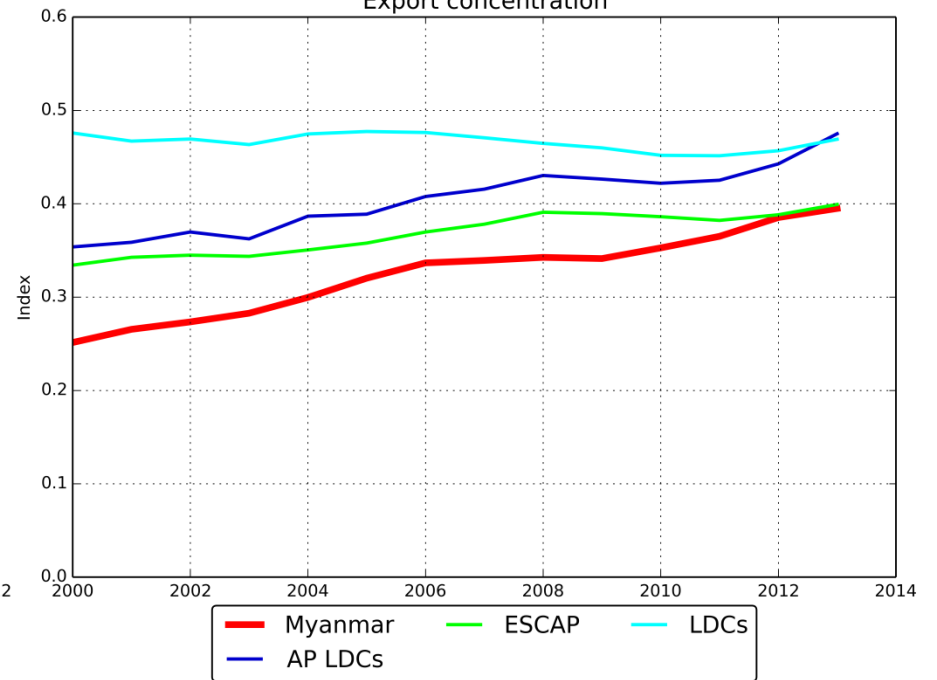
Remoteness

Export instability

Legend: Myanmar, ESCAP, LDCs, AP LDCs

Share of agriculture, fisheries and forestry in GDP

- Share of agriculture, hunting, fisheries and forestry in total value added
  - Standard national accounts indicator
- High share means high exposure to shocks, as the sector is prone to natural and economic shocks
- Three-year averages
  - 2011-2013 for next triennial review
- Reported by CSO to United Nations Statistics Division
  - 2013 value estimated by UNSD

Export concentration

◆ Measures sectoral dispersion of exports
  – 'Herfindahl Index'
  – Varies between (approx.) 0 and 1
    ◆ 0: Same small amount of every product
    ◆ 1: Only one product is exported
  – Uses 3-digit product classification
  – Covers merchandise trade only
◆ High index means high exposure to sector-specific shocks
◆ Three-year averages
  – 2011-2013 for next triennial review
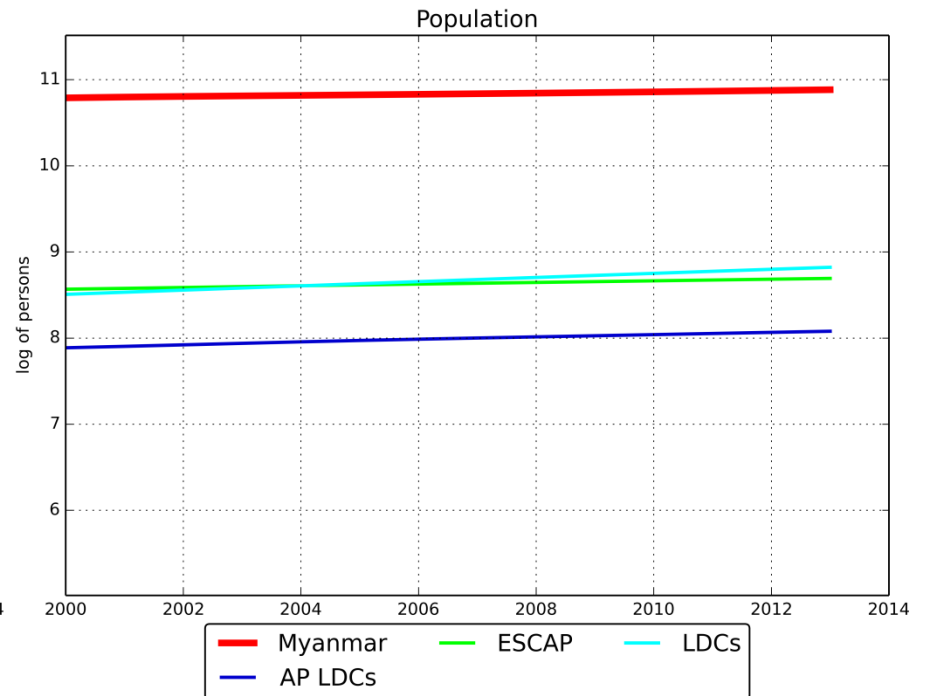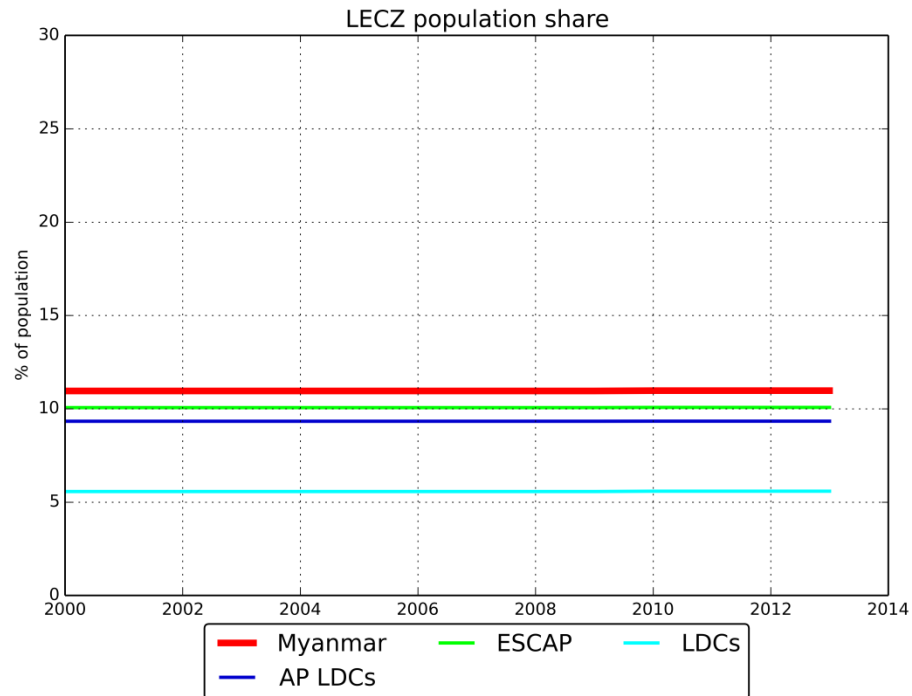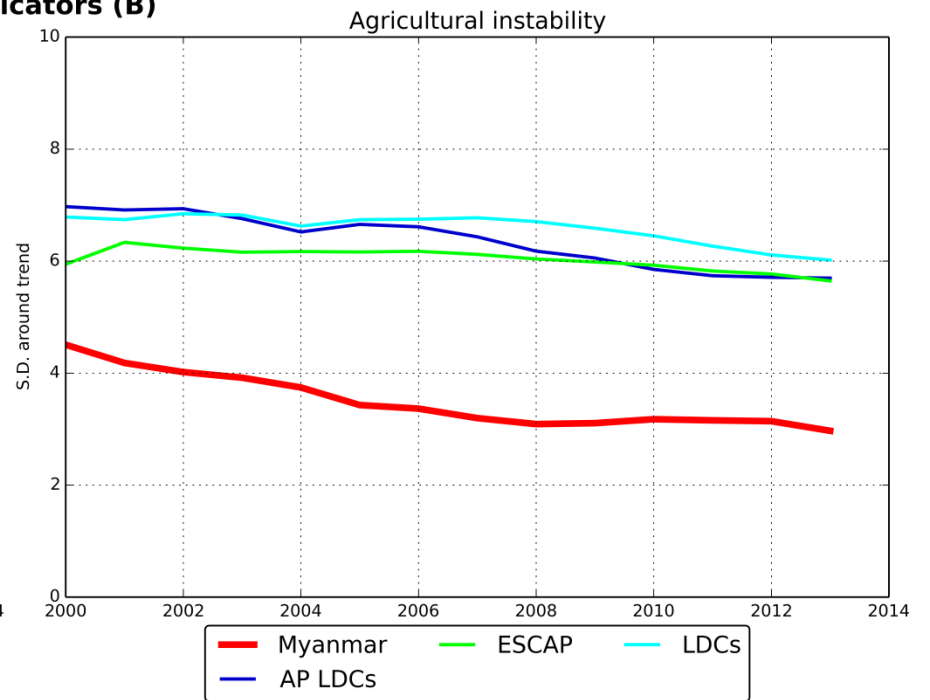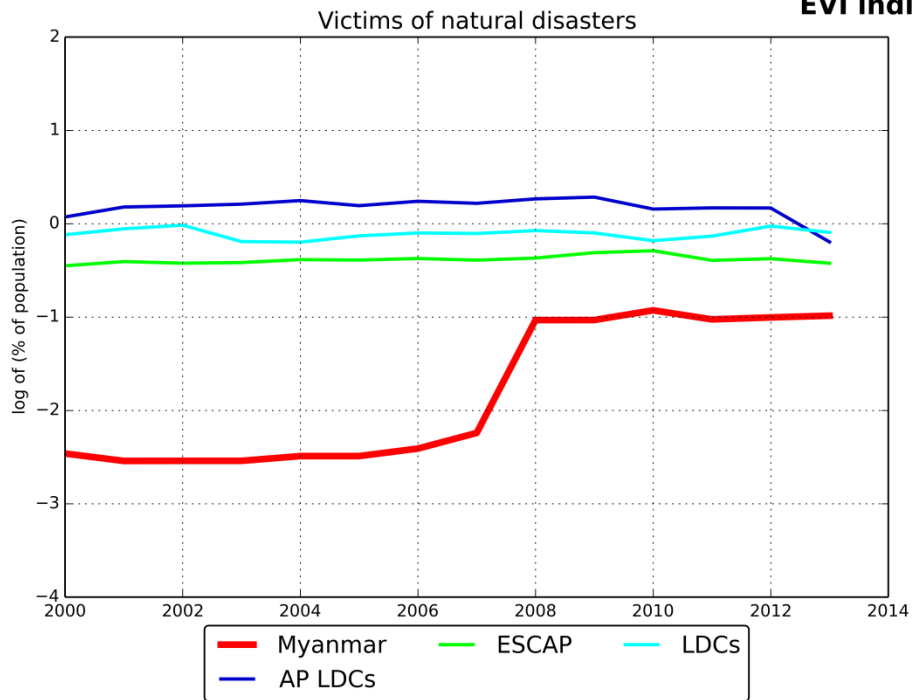◆ Indicator published annually by UNCTAD

Remoteness

- Index measuring physical distance to world markets
  - Distances are weighted with shares of partners in world trade
    - Having large trading nations as neighbors reduces remoteness
  - Landlockedness increases index
- Remoteness increases transportation costs and limits economic diversification
  - More remote countries are more vulnerable
- Three-year averages
  - 2011-2013 for next triennial review
- Calculated by CDP Secretariat
  - Exports and Imports data from UNSD (National accounts)
  - Data on distances between capitals from CEPII

Export instability

- Variability of exports around trend
  - Standard deviation of econometric regression
    - 'Mixed trend' regression
- High variability often due to external shocks
- Twenty years of data considered to calculate trend and instability
  - 1994-2013 for next triennial review
  - For short periods, reliable trends cannot be established
- Calculated by CDP Secretariat
  - Export data from UNSD (National accounts)
    - Data are reported by CSO in kyat (constant prices)
    - Adjustment needed due to change in exchange rate regime

EVI indicators (B)

Victims of natural disasters

Agricultural instability

LECZ population share

Population

Legend: Myanmar — ESCAP — LDCs — AP LDCs

Victims of natural disaster

- Average share of population that has been killed or affected by natural disasters
  - Affected means required immediate assistance
  - Weather and climate disaster
    - Flood, storm, landslide, drought, …
  - Geophysical disaster
    - Earthquakes, volcanoes, Tsunamis
- Measures disasters and their impacts
- Twenty years of data
  - 1994-2013 for next triennial review
- Single events can still have strong impact
- Calculated by CDP Secretariat
  - Number of victims from EMDAT
    - EMDAT uses multiple sources
  - Population data from UN Population Division (WPP 2012)

Agricultural instability

- Variability of agricultural production around trend
    - Production measured in volume, not value
    - Standard deviation of econometric regression
        - 'Mixed trend' regression
- High variability often due to external shocks
- Twenty years of data considered to calculate trend and instability
    - 1993-2012 for next triennial review
- Calculated by CDP Secretariat
    - Production data from FAO
    - Data based on national agricultural reporting

# Share of population living in low elevated coastal zones

- **LECZ:** Area contiguous to coast below certain elevation threshold
  - For 2015, 5m threshold
- High share indicates heightened vulnerability to climate change
  - Sea level rise, storm surge, …
- Published by CIESIN (Columbia University)
  - Gridded population data
    - Census data, projections
  - Satellite data on elevation
  - Latest data is for 2010

Population

◆ Number of people living in a country
◆ Larger countries less exposed to shocks
◆ Data is available from UN Population Division for every year in its World Population Prospects (WPP)
  – Next review will use 2014 figures
◆ Estimates based on national data and projection models
  – Census, surveys etc.
◆ WPP is updated biannually
  – Current version: WPP 2012
◆ WPP 2015 scheduled for summer 2015
  – WPP 2015 will reflect recent census in Myanmar
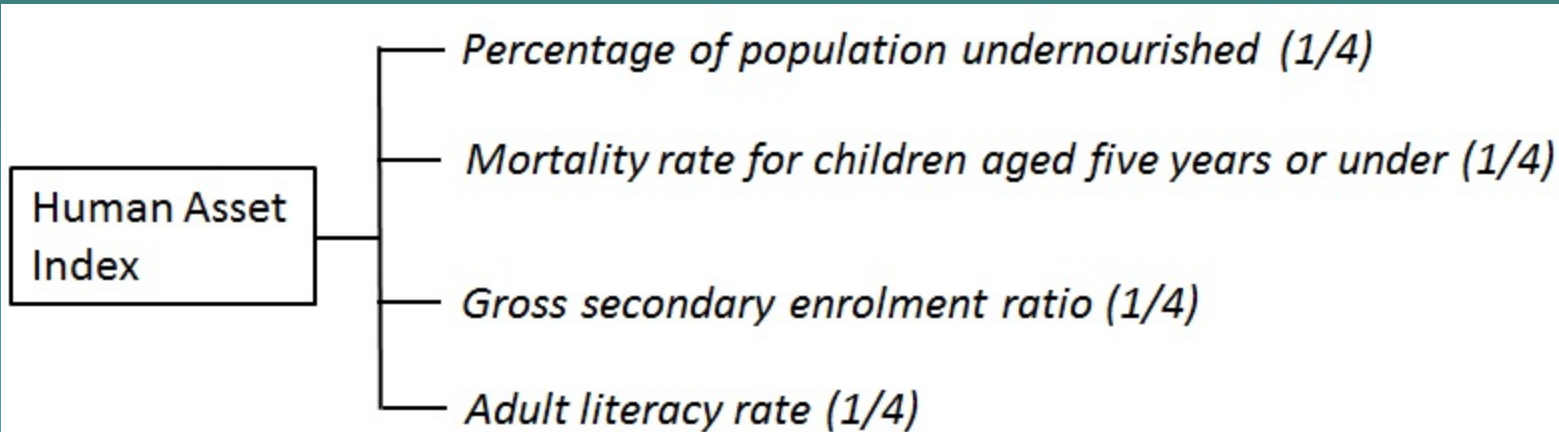 – WPP 2012 estimate higher than 2014 census, but lower than previous national estimates

3. HUMAN ASSET INDEX
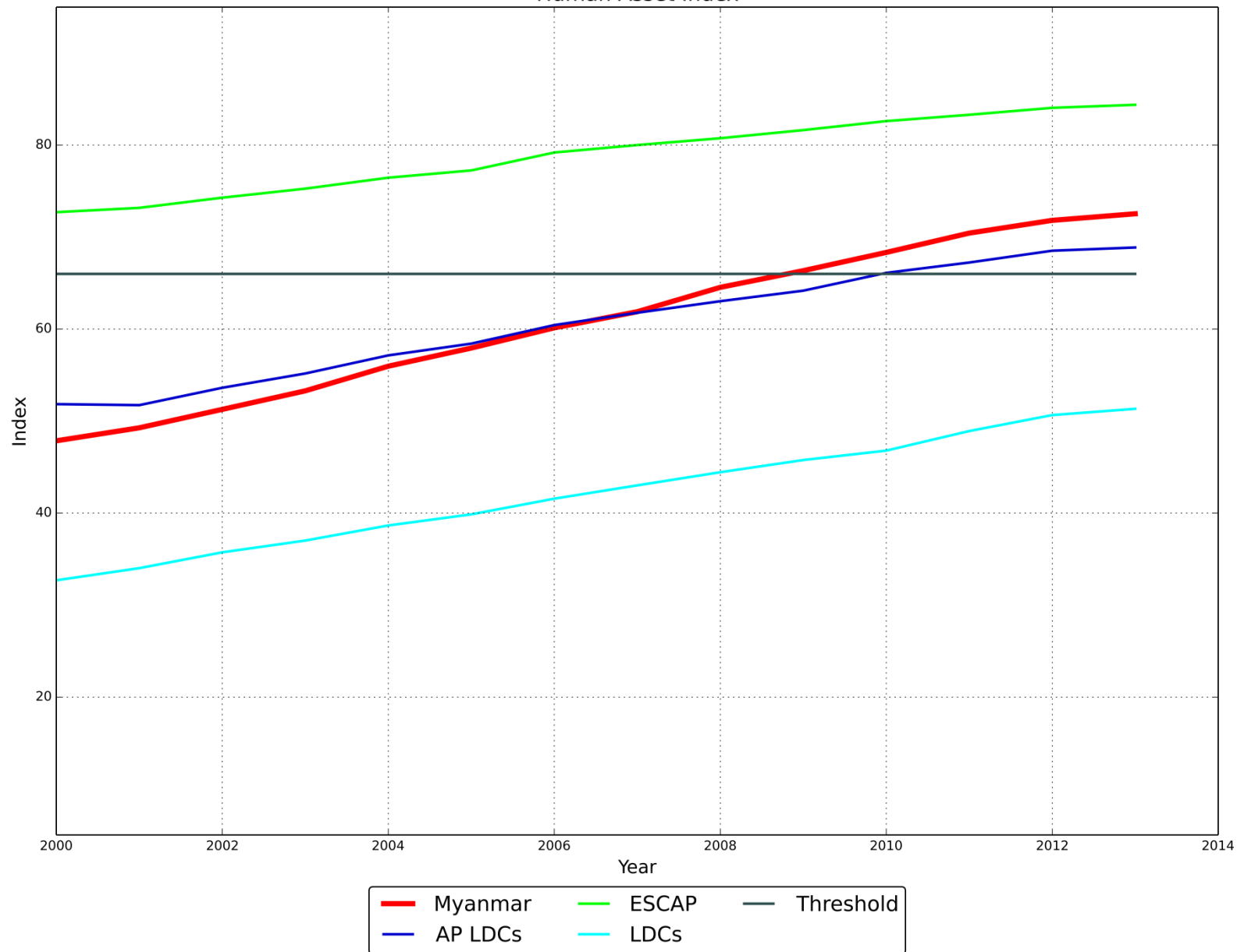
Human Asset Index

Human Asset Index

◆ Human asset index (HAI) is a measure of human capital available for development

Human Asset Index
— Percentage of population undernourished (1/4)
— Mortality rate for children aged five years or under (1/4)
— Gross secondary enrolment ratio (1/4)
— Adult literacy rate (1/4)

HAI - basics

◆ HAI is a composite index
  - Higher HAI scores are better
  - Indicators are converted into indices using the 'Max-min procedure'.
  - Max and min values are based on distribution of all developing countries.
  - Upper and lower bounds are used to reduce effect of outliers.

Max-Min procedure

◆ U5MR, 2015 review (preliminary)

	Myanmar	Lower bound	Upper bound
	50.5	10	175

Myanmar: $I=100 \times \frac{175-50.5}{175-10} = 75.5$

◆ Literacy rate, 2015 review (preliminary)

	Myanmar	Lower bound	Upper bound
	92.6	25	100

Myanmar: $I=100 \times \frac{92.6-25}{100-25} = 90.2$

HAI calculation

◆ HAI score is the average of the four individual scores

– Myanmar, 2015 review (preliminary)

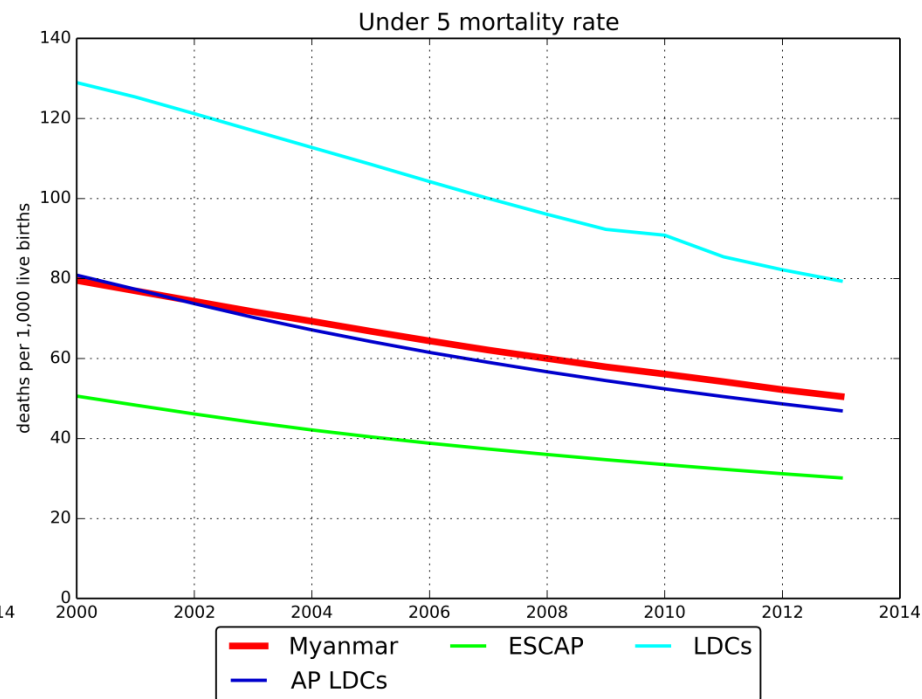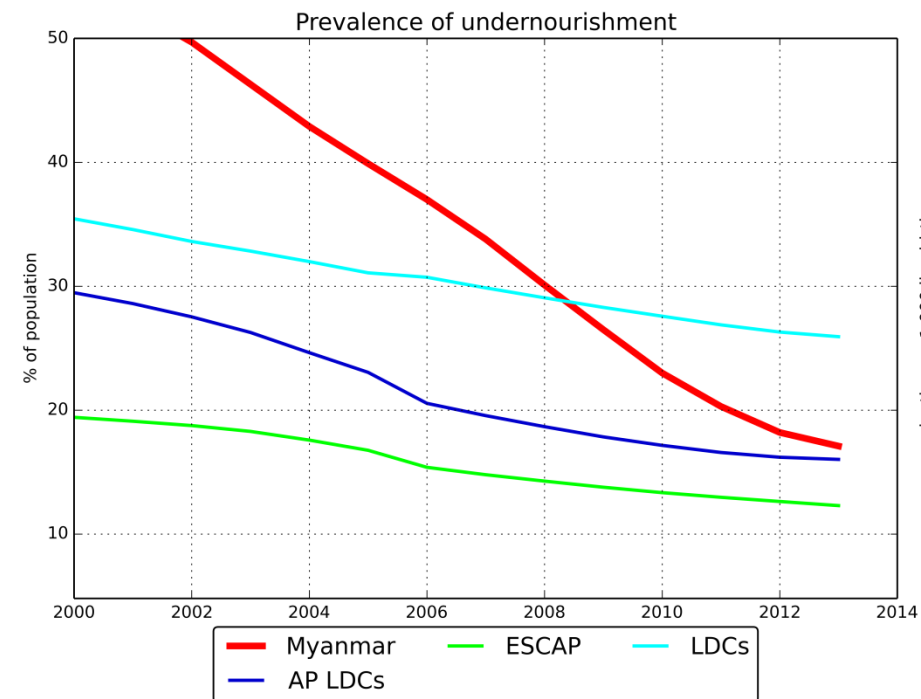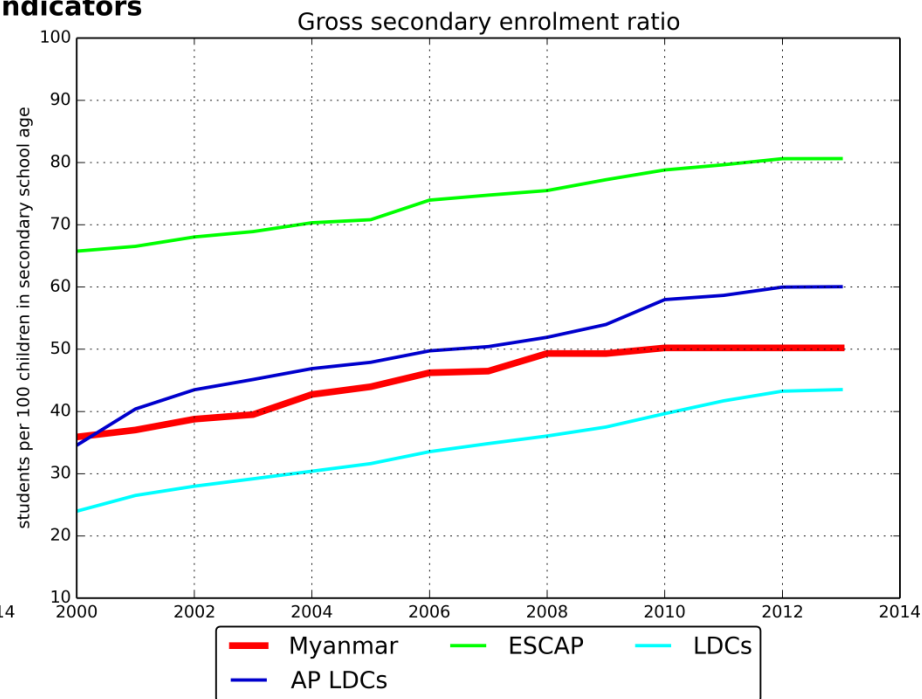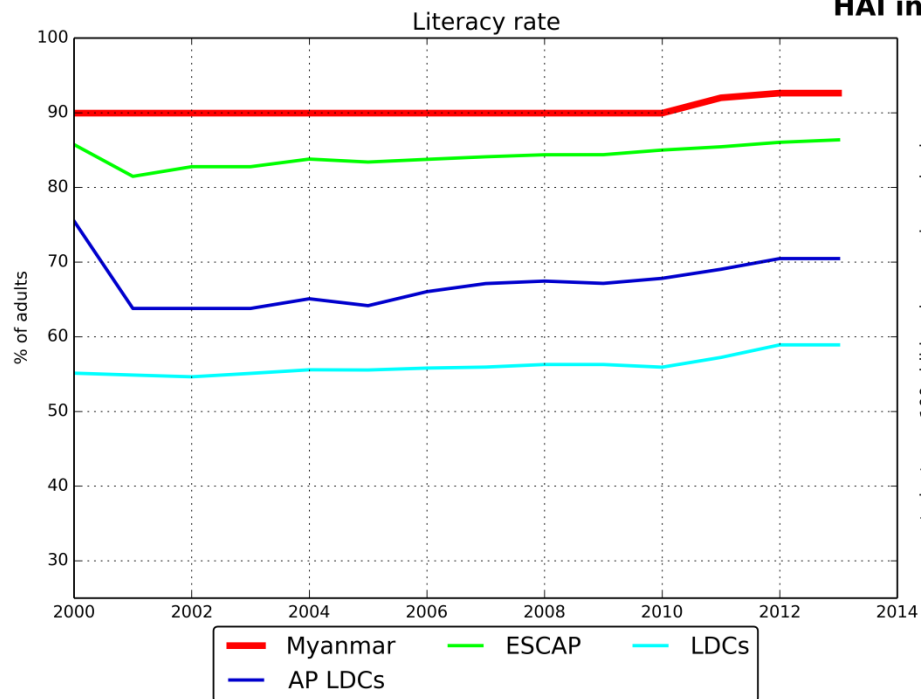| Undernourishment	U5MR	Literacy	Gross secondary enrolment
80.5	75.5	90.2	44.7

HAI = 1/4 x
(80.5+75.5+90.2+44.7)=72.7

HAI - thresholds

◆ Inclusion: 60   Graduation: 66

◆ Until 2012, the thresholds were relative

- Set on basis of distribution of scores within a reference group of LDCs and other low-income countries
  - Number of non-LDC low-income countries shrinking: 25 in 2001; 4 in 2012

◆ For 2015 and beyond, thresholds are absolute

- Fixed at their 2012 level
  - ◆ Adjustments possible if indicators or data sources change

- Eligibility no longer depends on progress or regress of other countries

- Increases predictability for countries

HAI indicators

Literacy rate
(% of adults)

Gross secondary enrolment ratio
(students per 100 children in secondary school age)

Prevalence of undernourishment
(% of population)

Under 5 mortality rate
(deaths per 1,000 live births)

Legend: Myanmar, ESCAP, LDCs, AP LDCs

Adult literacy rate

◆ Percentage of population of age 15 or older that can read and write
◆ Data can be from surveys or censuses
◆ Latest data for Myanmar is from 2012
◆ Estimate by UNESCO based on
  – MICS survey from 2000
  – Demographic projection model

Gross secondary enrolment ratio

◆ Students in secondary school divided by people in secondary school age

◆ Indicator published by UNESCO

◆ Data on students from national education ministries

   – Latest questionnaire received from Myanmar in 2011 (School year 2009/10)

   – Newer enrolment data could lead to higher ratio

◆ Population data from United Nations Population Division WPP 2012

Under-five mortality rate

◆ Probability of dying between birth and age 5
  – Unit: Deaths per 1,000 births
◆ Indicator published annually by UN IAEG on Child Mortality Estimates
  – UNICEF, WHO, UN Population Division, World Bank
  – Latest data is for 2013
◆ Estimate based on estimates from various data sources:
  – Vital registration, MICS Surveys, Census, other surveys

Proportion of population undernourished

◆ Share of population that consumes less than their calorie needs

◆ Indicator published FAO
  – Latest data for 2012-2014 (three year average)

◆ Estimate based on various inputs
  – Food balance sheets
    ◆ Published by FAO
    ◆ Food supply, trade and utilization
    ◆ Food quantities converted into calories
    ◆ Mainly from agricultural surveys
  – Minimum dietary requirement
    ◆ Based on population data on sex and age
  – Distribution of food consumption
    ◆ Based on household surveys
      – Myanmar: HIES 2006

Thank You

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United Nations

email: brucknerm@un.org
http:// www.un.org/en/development/desa/policy/cdp