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 coastal zones
- Victims of natural disasters
- Instability of agriculture production
- Instability of exports of goods and services
Graduation

In order to be eligible for graduation, the country must pass thresholds of any 2 criteria:
- GNI and HAI
- GNI and EVI
- HAI and EVI
- 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
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:**
  \[
  \text{GNI} = \text{GDP} + \text{net primary income}
  \]

- **Balance of payments:**
  \[
  \text{Current account} = \text{Exports} - \text{Imports} + \text{net primary income} + \text{net secondary income}
  \]

- 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!

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

**2011-2013 average: $ 1,063**
2. 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.
Export concentration, 2015 review (preliminary)

<table>
<thead>
<tr>
<th>Myanmar</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.39</td>
<td>0.1</td>
<td>0.95</td>
</tr>
</tbody>
</table>

Myanmar: $I = 100 \times \frac{0.39 - 0.1}{0.95 - 0.1} = 34.7$
**EVI score is the weighted average of the eight individual scores**

– Myanmar, 2012 review

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

**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
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
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 (HAI) is a measure of human capital available for development.
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)**

<table>
<thead>
<tr>
<th>Myanmar</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>50.5</td>
<td>10</td>
<td>175</td>
</tr>
</tbody>
</table>

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

**Literacy rate, 2015 review (preliminary)**

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<thead>
<tr>
<th>Myanmar</th>
<th>Lower bound</th>
<th>Upper bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>92.6</td>
<td>25</td>
<td>100</td>
</tr>
</tbody>
</table>

Myanmar: \( I = 100 \times \frac{92.6-25}{100-25} = 90.2 \)
**HAI score is the average of the four individual scores**

- Myanmar, 2015 review (preliminary)

<table>
<thead>
<tr>
<th>Undernourishment</th>
<th>U5MR</th>
<th>Literacy</th>
<th>Gross secondary enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>80.5</td>
<td>75.5</td>
<td>90.2</td>
<td>44.7</td>
</tr>
</tbody>
</table>

\[
\text{HAI} = \frac{1}{4} \times (80.5 + 75.5 + 90.2 + 44.7) = 72.7
\]
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
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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