Measuring Inequality of Opportunity
in Asia and the Pacific

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Inter-regional EGM “Placing equality at the centre of Agenda 2030”

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Measures

- **14 opportunities**: Access to a good or service, which society accepts should be universal.
- **Circumstances**: gender, wealth, mother’s education, residence etc.
- **Data sources**: DHS, MICS, Gallup World Poll
- **2 unique methods (classification tree, D-index)**

Ideally: **circumstances ≠ access to opportunities**
**Research Questions**

**Issue #1:** Do circumstances matter? Who is left behind?

**Issue #2:** How high is inequality? Which circumstances matter most?
Issue # 1

Who is left behind?
The classification tree method is an algorithm that estimates the access to an opportunity (e.g. secondary education) by partitioning the sample into different groups based on the circumstances chosen (e.g. gender, residence).
Classification Tree for secondary education attainment in Mongolia

Source: SDD elaboration based on DHS and MICS data, latest year
Gap in Secondary Education Attainment

Source: SDD elaboration based on DHS and MICS data, latest year
Analyzing more than 900 trees....

14 opportunities

\[ \times 2 \text{ points in time (DHS/ MICS)} \]

\[ \times 22 \text{ countries in Asia-Pacific} \]

= 616 classification trees

+ 308 trees with ethnicity/religion
### Characteristics of those furthest behind/ahead

<table>
<thead>
<tr>
<th>Circumstances</th>
<th>Count (times)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom 40 of wealth distribution</td>
<td>80</td>
</tr>
<tr>
<td>Lower and primary education</td>
<td>74</td>
</tr>
<tr>
<td>Female</td>
<td>63</td>
</tr>
<tr>
<td>Living in a rural area</td>
<td>42</td>
</tr>
<tr>
<td>Age 15-24</td>
<td>33</td>
</tr>
<tr>
<td>Male</td>
<td>16</td>
</tr>
<tr>
<td>Age 50-64</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Circumstances</th>
<th>Count (times)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 60 of wealth distribution</td>
<td>69</td>
</tr>
<tr>
<td>Secondary and higher education</td>
<td>53</td>
</tr>
<tr>
<td>Male</td>
<td>50</td>
</tr>
<tr>
<td>Living in an urban area</td>
<td>46</td>
</tr>
<tr>
<td>Age 25-49</td>
<td>28</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
</tr>
<tr>
<td>Age 15-24</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: SDD elaboration based on DHS and MICS data, secondary education, latest year
Average progress over time conceals detailed picture
- Secondary education

Source: SDD elaboration based on DHS and MICS data, secondary education, latest year
How high is inequality?
The dissimilarity index, or D-index, measures how different groups fare in terms of accessing a certain opportunity:

$$D = \frac{1}{2p} \sum_{i=1}^{\text{n}} \beta_i |p_i - p|,$$

The D-index can be decomposed.
D-index in access to clean fuels

Source: SDD elaboration based on DHS and MICS data, latest year
Average D-index - ESCAP

- Most unequal: sanitation, clean fuels, education & full-time employment
- Most equal: water, electricity, children’s nutrition outcomes
Overlapping inequalities

Source: ESCAP (2018). Inequality in Asia and the Pacific in the era of the 2030 Agenda for Sustainable Development
Note: in red dots are countries with high risk of disaster and in green squares are countries in low risk (World Risk Index)
Policy Options

Reducing inequality requires...

Better data and research
Strengthen social protection
Tax policies
Political commitment
Public support & trust in institutions
Multi ministerial & stakeholder collaboration
Decent work creation and labour market interventions
Understanding the impact and drivers
Human rights-based approach

INEquality IN ASIA AND THE PACIFIC
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INEQUALITY IN Asia and the Pacific in the era of the 2030 Agenda for Sustainable Development
Thank you!

www.unescap.org/our-work/social-development

www.socialprotection-toolbox.org