Demographic Dividend and SDGs in AFRICA

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I. Context

II. Concept of DD monitoring index

III. Methodology of DD monitoring index

IV. Gap analysis and investment targeting

V. Senegal case study
**Populations are growing very quickly in Africa: 2.7% per year, twice faster than the world average, which is about 1.2% (AU. 2016)**

**Every year, about 10 to 12 million young people join the labor market (Afrique Expansion. 2016)**

**More than 25% of the worldwide population will be adult (UNFPA. 2016)**

**Youth without professional prospects can be considered a lost generation, which is a threat to social stability (ILO. 2014)**

**Based on projections for 2045, Africa's population will be the youngest in the world: 400 million young people (UNFPA. 2016)**

**60% of unemployed African people are 15-24 years old (UNFPA. 2016)**

**African youth (15-24 years): 37% of the population has attained working age (UNFPA. 2016)**
CONCEPT OF DD MONITORING INDEX (DDMI)
A synthesis tool that facilitates understanding of all information related to DD

A demographic dividend monitoring and evaluation system for different countries

A visual representation with synthesis index
Understanding DD progress in each country

Monitoring the evaluation of key indicators in different countries

Making comparisons at local, national and sub-regional levels
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<th>Basic Link</th>
<th>Theoretical Approach</th>
<th>Background</th>
<th>Dimensions</th>
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<td>Population structure</td>
<td>Lifecycle theory</td>
<td>NTA methodology</td>
<td>1: Economic dependency coverage</td>
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<td>Welfare theories of well-being</td>
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<td>P1</td>
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<td>Normative economy</td>
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<td>Poverty dynamics methodology</td>
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<td>Education</td>
<td>Human capital theory</td>
<td>HDI methodology</td>
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<td>P3</td>
<td>Health and wellbeing</td>
<td>Health</td>
<td></td>
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<td>P4</td>
<td>Rights. governance and youth empowerment</td>
<td>Institutions. governance</td>
<td>Institutional theory. regional economy theory</td>
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</tr>
</tbody>
</table>
The DDMI

Based on AU DD pillars

Monitoring tool

Set of demographic dividend indicators

Analysis and modeling tool

SDGs’ complementary monitoring tool

Opportunity to make public policy proposals

Innovative barometer

Scientific basis for effective and efficient advocacy

DD & SDGs strategic investment targeting
DDMI Strategic Interactions

15 SDGs taken into account by DDMI

6 aspirations related to DDMI
The synthetic index for demographic dividend monitoring includes five dimensions.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Synthetic Index</th>
<th>Sub Dimensions</th>
<th>SDGs Link</th>
</tr>
</thead>
</table>
### The Synthetic Index for Demographic Dividend Monitoring include 5 dimensions:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Synthetic Index</th>
<th>Sub Dimensions</th>
<th>SDGs Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty transition</td>
<td>Poverty exiting synthetic index (PESI)</td>
<td>Poverty trap</td>
<td>SGD1. SGD2. SGD3. SGD4. SGD10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Poverty-stricken</td>
<td></td>
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<tr>
<td></td>
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<td>Poverty exiting</td>
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<td></td>
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<td>Poverty free</td>
<td></td>
</tr>
<tr>
<td>Extended human capital</td>
<td>Extended human development index (EHDI)</td>
<td>Education</td>
<td>SGD1. SGD3. SGD4. SGD5. SGD10</td>
</tr>
<tr>
<td>Networks and territories</td>
<td>Synthetic index of networks and territories (SINT)</td>
<td>Urbanization</td>
<td>SGD2. SGD6. SGD10. SGD11. SGD16. SGD17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Migration</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Financial flows</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Basics infrastructure</td>
<td></td>
</tr>
</tbody>
</table>
METHODOLOGY OF DD MONITORING INDEX (DDMI)
**Economic Dependancy Coverage Index**

- **Objective**: Measure the capacity of a country to respond to social demands related to the young- and old-age lifecycle deficits


- **Main Source**: (UN-NTA 2013). Lee & Mason (2011)

- **Normative Method**

\[
E.D.C.I = \frac{\text{surplus}}{\text{deficit}(\text{youth deficit} + \text{seniors deficit})}
\]
Quality of Living Environment Index

**Objective:** Living environment refers to all elements that are part of a person’s life and how this environment influences the quality of life


**Main Source:** OCDE 2011. 2013

**Normative Method**

*Weighted average of the standard sub-dimensions index*
Poverty Exiting Synthetic Index

Objective: Synthesize the level of poverty transition within populations

Welfare theories of well-being


Normative Method

\[
P.E.S.I = \left( \frac{P \rightarrow NP}{NP \rightarrow P + P \rightarrow NP} ; \frac{NP \rightarrow NP}{NP \rightarrow NP + P \rightarrow P} \right)^{1/2} ;
\]

P = Poor; NP = Non Poor
Extend Human Development Indicator

Objective: Know the level of human development of a country or a region

Theory: Human Capital Theory

Main Source: Schultz, Becker, Sen, and UNDP (2015)

Normative Method

\[ E.H.D.I = 3\sqrt{IH \times IE \times ICons} \]

IH = Health index
IE = Education Index
ICons = Consumption index
Networks and Territories Synthetic Index

Objective: Collect information about territorial mobility by describing the attractiveness of zones, human migration, financial flows, goods and services flows as well as the distribution of infrastructures in a territory.


Normative Method

Weighted average of the standard sub dimensions index
All indicators used in DDMI framework are first normalized between 0 and 1

DDMI is a synthetic index which is computed as geometric average of the five previous indices

The following method is used to calculate DD Monitoring Index (DDMI)

\[
D.D.M.I = \sqrt[5]{EDCI \times QLEI \times PESI \times EHDI \times NTSI}
\]
How to interpret the DDMI SCALE?

- **HIGH:** country harnesses DD & attains SD
  - Between 80% and 100%

- **MEDIUM:** country needs investment to harness DD & attain SD
  - Between 50% and 79%

- **WEAK:** country doesn’t harness DD or attain SD; several strategies and investments are needed
  - Between 0% and 49%
GAP ANALYSIS & INVESTMENT TARGETING
CHOOSING THE TARGET

DDMI GRAPH

Target:
- < 50%
- 50% - 80%
- > 80%
GAP ANALYSIS

Current Situation

Factors of Change

Dream Situation

Action Plan
SECTORAL AND STRATEGIC INVESTMENTS TARGET

Extend human development index: EHDI

Sub-dimension: Education

MSD & ESD

Elasticity to historical budget

<table>
<thead>
<tr>
<th>Expected schooling duration (ESD)</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium schooling duration (MDS)</td>
<td>β</td>
</tr>
</tbody>
</table>
CASE STUDY OF SENEGAL
### Recap *(amount in billions XOF)*

<table>
<thead>
<tr>
<th>Deficit</th>
<th>Youth (0-26 ans)</th>
<th>Seniors (63 years and above)</th>
<th>Surplus 27-62 years</th>
<th>Overall lifecycle deficit</th>
<th>EDCI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.608.03 (96% of deficit)</td>
<td>100.02 (4% of deficit)</td>
<td>1.228.54</td>
<td>1.479.51</td>
<td>45.4%</td>
</tr>
</tbody>
</table>

Overall lifecycle deficit: 22% of GDP
DIMENSION 3 RESULTS

IN POVERTY

PESI: 53.8%

NPNP, 38%

NPP, 18%

PNP, 21%

PP, 23%

CHRONIC POVERTY

FALLING INTO POVERTY

EXITING FROM POVERTY
**DIMENSION 4 RESULTS**

**IS:** Health index; **IE:** Education index; **Icons/T:** Consumption per capita index

**IDHE/EHDI:** Extended human development indicator

- **IDHE:** 48.7%
- **Icons/T:** 50.0%
- **IE:** 43.0%
- **IS:** 63.0%
DIMENSION 5 RESULTS

Urbanization index

Migration index

Basic infrastructure index

Financial flows and capacities index

Indice urbanisation

Indice migration

Indice infrastructures de base

Indice flux et capacité financiers

Urbanization index

Migration index

Basic infrastructure index

Financial flows and capacities index
DDMI RESULTS FOR SENEGAL

**DDMI = 39.3%**

**SR = 61%**

- **Economic Dependancy Coverage Indicator**: 37.1%
- **Quality of Life Environment Indicator**: 63.3%
- **Poverty Exiting Synthetic Indicator**: 53.8%
- **Synthetic Indicator of Networks and Territories**: 15.3%
- **Extended Human Development Indicator**: 48.7%
## DDMI BY REGIONS IN SENEGAL

<table>
<thead>
<tr>
<th>Regions</th>
<th>EDCI</th>
<th>QLEI</th>
<th>PESI</th>
<th>EHDI</th>
<th>NTSI</th>
<th>DDMI</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saint Louis</td>
<td>100</td>
<td>56.0</td>
<td>56.1</td>
<td>63.6</td>
<td>19.7</td>
<td>52.4</td>
<td>1er</td>
</tr>
<tr>
<td>Dakar</td>
<td>21.1</td>
<td>63.8</td>
<td>71.5</td>
<td>76.3</td>
<td>45.4</td>
<td>50.6</td>
<td>2e</td>
</tr>
<tr>
<td>Diourbel</td>
<td>58.3</td>
<td>61.0</td>
<td>52.8</td>
<td>55.3</td>
<td>19.4</td>
<td>45.8</td>
<td>3e</td>
</tr>
<tr>
<td>Kaolack</td>
<td>76.8</td>
<td>57.0</td>
<td>38.0</td>
<td>63.7</td>
<td>17.9</td>
<td>45.3</td>
<td>4e</td>
</tr>
<tr>
<td>Louga</td>
<td>48.4</td>
<td>58.3</td>
<td>72.4</td>
<td>59.2</td>
<td>15.7</td>
<td>45.3</td>
<td>4ex</td>
</tr>
<tr>
<td>Thiès</td>
<td>26.5</td>
<td>65.3</td>
<td>58.7</td>
<td>64.4</td>
<td>21.6</td>
<td>42.7</td>
<td>6e</td>
</tr>
<tr>
<td>Kaffrine</td>
<td>57.2</td>
<td>58.0</td>
<td>38.0</td>
<td>48.6</td>
<td>14.3</td>
<td>38.8</td>
<td>7e</td>
</tr>
<tr>
<td>Ziguinchor</td>
<td>36.5</td>
<td>60.4</td>
<td>30.2</td>
<td>63.4</td>
<td>20.8</td>
<td>38.8</td>
<td>7ex</td>
</tr>
<tr>
<td>Tamba</td>
<td>66.2</td>
<td>59.0</td>
<td>23.2</td>
<td>50.5</td>
<td>16.7</td>
<td>37.7</td>
<td>9e</td>
</tr>
<tr>
<td>Kolda</td>
<td>42.9</td>
<td>61.8</td>
<td>32.7</td>
<td>48.0</td>
<td>15.3</td>
<td>36.4</td>
<td>10e</td>
</tr>
<tr>
<td>Matam</td>
<td>12.5</td>
<td>54.8</td>
<td>55.3</td>
<td>51.1</td>
<td>17.2</td>
<td>31.9</td>
<td>11e</td>
</tr>
<tr>
<td>Fatick</td>
<td>97.6</td>
<td>59.4</td>
<td>6.3</td>
<td>54.6</td>
<td>14.9</td>
<td>31.3</td>
<td>12e</td>
</tr>
<tr>
<td>Sédhiou</td>
<td>22.8</td>
<td>59.4</td>
<td>32.7</td>
<td>44.6</td>
<td>14.8</td>
<td>31.1</td>
<td>13e</td>
</tr>
<tr>
<td>Kédougou</td>
<td>23.1</td>
<td>55.2</td>
<td>23.2</td>
<td>51.4</td>
<td>10.7</td>
<td>27.7</td>
<td>14e</td>
</tr>
</tbody>
</table>
## INVESTMENTS & ELASTICITIES

**Case of EHDI Senegal**

### Extended Human Development Indicator

**Sub-dimension:** Education

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Investment (10^6 CFA D)</strong></td>
<td>2943.65</td>
<td>2943.65</td>
<td>2943.65</td>
<td>2943.65</td>
<td>2943.65</td>
<td>2943.65</td>
</tr>
<tr>
<td><strong>Total Investments</strong></td>
<td>2943.65</td>
<td>5887.30</td>
<td>8830.95</td>
<td>11774.60</td>
<td>14718.25</td>
<td></td>
</tr>
<tr>
<td><strong>MSD Index</strong></td>
<td>0.36</td>
<td>0.37</td>
<td>0.38</td>
<td>0.39</td>
<td>0.40</td>
<td>0.41</td>
</tr>
<tr>
<td><strong>EDS Index</strong></td>
<td>0.50</td>
<td>0.52</td>
<td>0.54</td>
<td>0.55</td>
<td>0.57</td>
<td>0.59</td>
</tr>
<tr>
<td><strong>EDUCATION INDEX</strong></td>
<td>0.43</td>
<td>0.45</td>
<td>0.46</td>
<td>0.48</td>
<td>0.49</td>
<td>0.50</td>
</tr>
</tbody>
</table>

### Elasticity

- **EDS:** 0.008
- **MSD:** 0.006
GAP ANALYSIS: RECOMMENDATIONS AND INVESTMENTS
Current situation 48.7% | GAP 51.3% | Dream situation 100%

Recommandations

- Raise awareness and promote education for all, especially girls
- Reform education by identifying the real manpower needs of the economy
- Tailor the education system to the needs of the labor market
- Invest in the sector of general education but also and especially in vocational training
THANK YOU