Building Analytical Capacity For Regional Development: 
The Nepad Spatial Development Programme (SDP)

DR PAUL JOURDAN
MINTEK

COMESA/IPC/PCHPA
LUSAKA; MAY 2007
Africa’s Natural Resources

- **Agriculture**
  - Contributes 40% of African GDP;
  - Provides livelihood for 60% of population;
  - Largest user of scarce water
  - Agri-commodities exported without processing (beneficiation)

- **Minerals**
  - World’s top producer of several mineral commodities;
  - World’s greatest resources of many more.
  - But exported as ores, concs, metals: Need > beneficiation.

- **Forestry**
  - 22% of African land is forested (650m hectares= 17% of world total);
  - Deforestation: Africa’s net change highest globally = -0.78% p.a;
  - Logging accounts for 79% of loss

- **Fishing**
  - Decline in catch rate;
  - 68% of African marine protected areas under threat
  - Aquaculture still nascent

- **Tourism**
  - Major potential (world’s greatest diversity: culture, flora, fauna, geomorphology)
    - Increasingly important source of livelihood
  - NEPAD: Promote ecotourism, adventure tourism
Nepad Spatial Development Programme
SPATIAL DEVELOPMENT PROGRAMME

• Background
  – Internal/domestic SDIs in South Africa;
  – Regional SDI Programme in Southern Africa;
  – The SDI methodology, its utility and applicability in a NEPAD context;
  – Sharing of best practices across Africa in infrastructure development and unlocking Africa’s inherent economic potential; and
  – It is a tool to enhance implementability of national and regional economic growth and development plans, strategies and other initiatives.
Sharing of Best in Practices in Southern Africa SDIs/Dev.Corridors

Based on UNREALISED economic potential
**SPATIAL DEVELOPMENT PROGRAMME**

*What it is*

- A tool for configuring, prioritizing and promoting inter-related infrastructure and large-scale economic sectoral investments in defined geographic areas usually along transport corridors as a means to:
  - *promote* trade and investment led economic growth,
  - *optimise* the utilisation of *infrastructure*,
  - encourage *value-added processing* (beneficiation), and
  - *enhance* the *competitiveness* of African economies;
What it is (Continued)

- A means to facilitate integrated economic development platforms based on the promotion of key large-scale anchor investments & related upstream and downstream investments;
- A strategy to catalyse sustainable sectors (agriculture, tourism, resource-processing) and
- A tool for introducing a spatial focus to planning for Africa’s infrastructure and economic development (E-W ↔ N-S integration).

- **What it isn’t:** A panacea to substitute all other development strategies, especially social delivery!
Inherent economic potential: Natural resources (agri & mineral);
Configuration of investments to ensure infrastructure viability through sustainable revenue streams;
Crowding-in of private sector investment;
Promotes PPPs where feasible;
Secure political commitment and provide the necessary conducive environment; and
Ensure rapid planning and delivery projects and programmes (momentum).
SDP methodology: Synchronous INVESTMENT CONFIGURATION

infrastructure needs

ID
Viable resource investment projects

Addresses 4 market failures:
1) Infra econ-of-scale
2) Sync users (time)
3) Political borders
4) Information/data

Dimension requisite infrastructure with revenue stream

est. of sustainable infra
THE SDP APPROACH: What value does it add?

• Addresses the urgent need for effective investment prioritization based on sound economic rationale;
• Links and synchronises private sector economic investment project opportunities with key infrastructure projects;
• Promotes the realisation of wider development potential (densification) catalysed by infrastructure provision and anchor investments; and
• Provides spatial focus for strategies to promote regional economic development and integration.

• It is only one component of an integrated growth & development strategy!
RATIONALE & PRIMARY DRIVERS OF THE SDP
African Context:
Start from what we are!

1. Resource-based exporter of minerals/metals (oil & gas, gold, coal, iron ore & ferro-alloys, bauxite/aluminium, copper, diamonds, etc. (>80% of Africa’s exports);

2. Resource-based exporter of agri & agri-based commodities (cocoa, cotton, fruit & juices, sugar, grains, wood & paper/pulp, wool, meat, fish, etc.);

3. Insignificant exporter of manufactured goods; and

4. Very weak HR base (skills) except for a few niche competencies.
Thus, Africa’s short to medium term potential lies in our **natural comparative advantage**: Resource-based industries (competitive platform for finished products in the longer term and market for resource inputs industries)

- Agricultural
- Mineral
- Forestry
- Tourism
- Fishing/Aquaculture
- Energy (coal/gas & HEP)

**Raw Mat. - Int. Product - Semi-Manufacture - Finished High-Value Products**

- capital
- HR/HRD
- capital goods
- marketing
- energy
- transport
- services
- etc...
Agriculture could be the best driver of development

• Why is agriculture struggling?
  – Prices/subsidies/Doha…
  – Access to finance (collateral/title)
  – Access to inputs (Infrastructure)
  – Access to markets (Infrastructure)
  – Information (extension services)

*Infrastructure is a necessary but not exclusive enabling factor!*
Due to the global market distortion of First World agri-subsidies (Doha), mineral-based opportunities are generally the only ones with requisite rents to pay for the provision of infrastructure (transport & energy) for the development of other sectors (agriculture, tourism, etc.)

For this reason the indicative NEPAD SDP “anchor” projects tend to be mineral or energy based. The provision of this infrastructure then underpins the viability of projects in other sectors (densification).

The NEPAD SDP goes beyond the “colonial” paradigm (resources to coast) to integrated growth & development using resources to catalyze the process.
Subsidies to Agriculture depress agri-commodity prices

Domestic Government Support to Agriculture (per capita) vs. African GDP (per capita)

Average GDP per Capita in Sub-Saharan Africa = $575
Commodity Boom

Price of metals have increased at much higher rate than that agricultural commodities
Asian Boom: New "scramble for resources"?

Global Steel Consumption t/$1 million GDP (proxy for all metals)

- **High intensity, sellers market:** Colonial system
- **Low intensity, buyers market:** stagnation & instability

Deflated GDP to 2004 $ terms

Failure of global growth (Minority World hegemony)

Majority World takes off

Post WWII Minority World Growth

High intensity, Africa’s new opportunity?
How long will boom last?

However, prices will fall with increasing supply over the medium-long term, but at a higher level (lower grades).

Steel Intensity

China + India > 2X pop’n of First World!

Data Source: IMF.
Africa is well-endowed with mineral resources

Mineral Production & Known Resources (‘04)

(However, much of Africa is still un-surveyed)

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Production</th>
<th>Rank</th>
<th>Reserves</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGMs</td>
<td>54%</td>
<td>1</td>
<td>60+%</td>
<td>1</td>
</tr>
<tr>
<td>Gold</td>
<td>20%</td>
<td>1</td>
<td>42%</td>
<td>1</td>
</tr>
<tr>
<td>Chromium</td>
<td>40%</td>
<td>1</td>
<td>44%</td>
<td>1</td>
</tr>
<tr>
<td>Manganese</td>
<td>28%</td>
<td>2</td>
<td>82%</td>
<td>1</td>
</tr>
<tr>
<td>Vanadium</td>
<td>51%</td>
<td>1</td>
<td>95%</td>
<td>1</td>
</tr>
<tr>
<td>Cobalt</td>
<td>18%</td>
<td>1</td>
<td>55+%</td>
<td>1</td>
</tr>
<tr>
<td>Diamonds</td>
<td>78%</td>
<td>1</td>
<td>88%</td>
<td>1</td>
</tr>
<tr>
<td>Aluminium</td>
<td>4%</td>
<td>7</td>
<td>45%</td>
<td>1</td>
</tr>
</tbody>
</table>

Resources: also U (20%), Fe (17%), Cu (13%), etc.
However, many of the gaps correspond to zones of low geo-data.
Known Agri-mineral deposits in Africa (excluding gas/coal)

Agri-minerals:
1. Commercial plants (distribution?)
2. Artisanal operations for local consumption (“rocks 4 crops”)
Global warming, >climate variability & over-usage pose frightening threats to African agriculture.
APPLICATION OF THE SDP METHODOLOGY:
SOME EXAMPLES
Mature SDP Example: The Maputo Development Corridor

- Coal-based Power Station 2 transmission lines to Matola completed
- Joburg-Maputo Highway PPP- BOT completed
- Port of Matola/Maputo Upgrades, PPP
- Joburg to Maputo Railway line: Upgrade
- Liquid Fuels & Petrochemicals: Sasol
- Pande-Secunda Gas line. PPP Sasol completed
- AI smelter 500ktpa BHPB completed
Mature SDP Example:
The Maputo Development Corridor

Major investments to date: >$5bn

New MDC Potential Projects:

- Greater Limpopo Trans-frontier Park (underway)
- Mozal III (Al: $1bn)
- Corridor Sands (Ti & Fe: >$0.3bn)
- MMC: Maputo Metallurgical Complex (Fe & Steel: >$1bn)
- MMC (Ti & Fe: $0.3mn)
- Fertiliser complex (Phos & Nitrogen)
- Chlor-alkali complex (Cl, TiO\(_2\), NaOH)
- Numerous mega-project inputs industries
- Tourism Investments (Cluster: >$0.3bn)
MDC phase II: Maputo Metallurgical Complex

(Ti/V) Magnetite Sep. & conc. plant
- magnetite
- ilmenite

High Cu Magnetite dumps > 300 MT

Magnetite (>Cu) dump upgrading plant

Possible Ti/Fe From Chibuto

Slurry pipeline

Possible Ti/Fe From Chibuto

Elec transmission

Pande Gas Pipeline

Other Potential:
- Ilmenite smelter Ti/Fe Fertiliser plant N/P Chlor-alkali plant Na/Cl

MMC:
- Iron (DRI) & Steel Plant

Fe pelletising plant

Fe exports

Railway
- Major Road
- Duvha
- Power Lines
- Pande Gas
- Pipeline
Under implementation -

The Zambezi Valley Development

Moatize coking and steam coal (CVRD):

Possible BOF Muambe Fe ore & coking coal

Moatize Thermal Power Station

Elec transmission

Sena Rail Rehab

Potential Al Smelter

Beira Port Rehab

Alternative bulk (coal) rail route

Rehab of peasant cotton (ex-prazos)

Mt Mulanje bauxite
DESK-TOP ANALYSIS:

“An indicative assessment to determine the prospects for a NEPAD Spatial Development Programme”

2006

WWW.NEPAD.ORG

(Mr Godwin Punungwe)
<table>
<thead>
<tr>
<th>Region</th>
<th>No.</th>
<th>SDP</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Africa</td>
<td>1</td>
<td>Maghreb Coastal</td>
<td>Morroco, Algeria, Tunisia, Libya, Egypt</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Red Sea-Nile</td>
<td>Egypt, Sudan</td>
</tr>
<tr>
<td>West Africa</td>
<td>3</td>
<td>Niger (Dakar-Port Harcourt)</td>
<td>Senegal, Gambia, Mali, Niger, Nigeria</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Conakry-Buchanan</td>
<td>Guinea, Liberia, Cote D’ivoire</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Sekondi/Takoradi-Ouagadougou</td>
<td>Ghana, Burkina Faso</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Gulf of Guinea</td>
<td>Nigeria, Benin, Togo, Ghana, Cote D’Ivoire, Liberia</td>
</tr>
<tr>
<td>Central Africa</td>
<td>7</td>
<td>Douala-N’djamena</td>
<td>Cameroon, Chad</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Libreville-Lomie</td>
<td>Gabon, Republic of Congo, Cameroon</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Bas-Congo</td>
<td>DRC, Republic of Congo, Angola</td>
</tr>
<tr>
<td>East Africa</td>
<td>10</td>
<td>Mombasa</td>
<td>Kenya, Uganda, DRC, Sudan</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Djibouti</td>
<td>Djibouti, Ethiopia, (Kenya)</td>
</tr>
<tr>
<td>Southern Africa</td>
<td>12</td>
<td>Madagascar</td>
<td>Madagascar</td>
</tr>
</tbody>
</table>
NEPAD indicative Spatial Development Program First Pass!

Current SDIs RSDIP

NEPAD SDP: 1st Pass
POTENTIAL SDPs IN THE 4 REGIONS
Maghreb Coastal SDP
Countries: Morocco, Algeria, Tunisia, Libya, Egypt
Anchors: Oil/gas & PC industry, iron & steel (gas),
tourism (coastal & heritage), phos & fertilisers, agric,
fishing & aquaculture, gen. industry (HCs)
Infra: HC grid, elec grid, coastal highway, cabotage
Niger SDP:
Countries: Senegal/Gambia, Mali, Niger, Nigeria
Anchors: Resource: Fe (Faleme) & iron/steel, Au (Loulou), U (Niger), Oil/gas (Delta), GTL (Escravos), Al (Alscon), Ti (Dakar), Phos (Tiaba), agriculture (cotton), etc.
Infra: riverine transport, rail to Dakar (??), Ore terminal (~Dakar), power (elec grid), roads upgrade

Conakry-Buchanan SDP:
Countries: Guinea, Benin, Togo, Ghana, Cote d'Ivoire, Liberia
Anchors: Fe (Nimba) & iron/steel (gas line?), Al (Conakry, Friguia), Au (Siguiri), Ni (Man) & FeNi (gas?), Anchors: Oil/gas (Delta & pipeline), GTL, Al (Delta), Infra: iron/steel (Sekondi/Takoradi, Buchanan), Mn (Nsuta) & FeMn (Sekondi- gas?); tourism (coast, heritage), gen.industry (gas), agriculture (palm oil/carbon), fishing & mariculture
Infra: gas line, elec grid, cabotage, coastal highway

Gulf of Guinea Coastal SDP:
Countries: Nigeria, Benin, Togo, Ghana, Cote d'Ivoire, Liberia
Anchors: Oil/gas (Delta & pipeline), GTL, Al (Delta), Infra: iron/steel (Sekondi/Takoradi, Buchanan), Mn (Nsuta) & FeMn (Sekondi- gas?); tourism (coast, heritage), gen.industry (gas), agriculture (palm oil/carbon), fishing & mariculture, gen.industry (gas), agriculture (palm oil/carbon), fishing & mariculture
2 Indicative SDPs: Douala-N’djamena & Libreville-Lomie
Countries: Cameroon, Chad, Gabon, (CAR)
Anchors: Oil & Gas, elec/Al, Fe/Steel, Fe-alloys (Mn) agric (coffee, et al), fertilisers (NPK), general industry (agri-processing), tourism,
Infra: rail upgrades & ext., gas pipelines, elec grid, port upgrade, road network, power plants
Bas Congo
Countries: Congo Braz, DRC, Angola
Anchors: Electricity (Inga), oil/gas & PC industry, Mg (P. Noire), Al (Matadi), phos & fertilisers, base metals, construction (lmst/cement), agriculture (cane et al) & agri-processing, fishing & aquaculture, gen. industry (HCs), tourism
Infra: HC grid, elec grid, ports (Banana et al), Congo R. bridge, cabotage, road net.
Mombasa SDP
Countries: DRC, S.Sudan, Uganda, Kenya,
Anchors: Fe & iron/steel (Kodo), agric (coffee et al), soda ash, phos & fertiliser (NPK), gen. industry (agri proc), tourism, aquaculture (L.Vic)
Infra: rail upgrade & ext., gas pipeline, elec grid, port upgrade, road net.
Central SDP (Dar to Kisangani?)
Countries: Tanzania, DRC, Rwanda, Burundi
Anchors: Nickel (Kabanga-Bujumbura), Gold (Mwanza Au Belt), Ta/Nb (DRC), agriculture & agri-industries, fishing/aquaculture, tourism
Infra: rail upgrade & ext., port upgrade, road net., elec gen & grid
TAZARA SDP
Countries: Tanzania, Zambia (DRC, Malawi)
Anchors: Cu/Co (Copper-belt), Fe/steel (Liganga), Coal (Ruhuhu-Ketawaka), Ta/Nb (Mbeya) Fe/C (Njombe); Forestry P&P (Mbeya), argic & agri-proc (Iringa, Mbeya & Mkushi highlands), tourism (Selous, Ruaha, Luangwa), min. proc. & inputs
Infra: rail, road net.
East-West SDPs

GMRA High min potential

WB Trade Study
(Buys et al)

USGS GMRA High Mineral Potential Zones
Inter-African SDP?
Great Lakes SDP?
Countries: Zambia, Mozambique Malawi, Tanzania, DRC, Burundi, Rwanda, Uganda, S.Sudan
Anchors: Generic development potential, particularly inter-African trade.
Tourism (Gt Lakes) Infra: waterways, road, rail, port upgrades.

Note
This was NOT assessed in the indicative SDP scoping study.
Madagascar SDP
Countries: Madagascar
Anchors: FeNi, Cr (FeCr?) & stainless steel?, Ti/Zr (Ti slag & Fe, pigment?), Al (alumina?), Forestry (P&P?), agric (vanilla et al), gemstones (jewellery?), tourism,
Infra: rail upgrade & ext., elec grid, port upgrades, road net (S.coastal).
• Key findings of the Study
  – Confirmed scope for application of the SDP methodology as a means to fast-tracking regional economic development continentally;
  – Methodology provides a focus for infrastructure spending;
  – Programme does highlight opportunities for regional economic integration and intra-Africa trade and investment;
  – Emphasises role of minerals as a major rationale for viable large-scale infrastructure investment; and
  – Has identified a portfolio of Development Corridors with best prospects for success.
NEPAD SD Programme Focuses on:

- Defined geographic areas usually along existing transport and development corridors aimed at unlocking inherent economic potential (mainly minerals & energy) in these areas by enhancing their attractiveness for investment;
- Creating a critical mass of integrated and synchronised private sector investment and infrastructure development necessary to kick-start a sustainable economic development process; and
- Enhancing the attractiveness of the area for investment by advocating for the removal of bureaucratic, administrative and institutional impediments to trade and investment.
NEPAD SD PROGRAMME objectives are to:

- Stimulate investment-led economic growth and development;
- Catalyse other (sustainable) sectors;
- Facilitate intra- and extra-Africa trade;
- Promote regional economic cooperation and integration;
- Optimize the provision and utilization of infrastructure;
- Encourage beneficiation and economic diversification;
- Enhance competitiveness of African economies; and
- Stimulate employment and wealth creation.
SDP - MLTSF

• Three key challenges were identified in MLTSF report to accelerate project implementation:
  – Lack of clarity in project definition & project sponsors.
  – Limited capacity for project definition & implementation
  – Low involvement of private sector

• SDP addresses each of these.
• In addition – SDP includes project selection & prioritisation criteria
WHAT NEXT?

Taking the SDP forward
NEPAD SD PROGRAMME

• Actions so far:
  – SDP presented to NEPAD Manco March 2006
  – SDP presented to NEPAD Steering Committee October 2006
  – SDP presented to RECs with Nepad MLTSF Review (Libreville, Tunis, Arusha, Abuja) April/May 2007

• Outcome:
  – Broad level of acceptance, with some caution.
  – Need to refine by in-depth interaction with RECs

• Next Step:
  – Secure funding for Phase I implementation.
  – Engage with footprint states for final configuration
NEPAD SDP: REC interactions

- Ground-truthing and achieving consensus among stakeholders on a business case for each DC;
- An intensive appraisal of existing and potential economic activity on a sectoral basis;
- Identification and profiling of viable investment opportunities, sectoral anchor projects and the requisite infrastructure;
- Identification and removal of infrastructural, policy, regulatory, bureaucratic or institutional constraints to investments;
- Project appraisal for a portfolio of bankable investment projects;
- Development of investment marketing strategies and implementation of investment facilitation measures;
- Development and implementation of investment and infrastructure projects by both private and public sectors; and
- Program to commence with high potential DCs.
Improving Governance in the Natural Resource Sector

• EITI- Extractive Industries Transparency Initiative
• Equator Banks Principles
• Governance of “Conflict Minerals”
• African Peer Review Mechanism (APRM)
• SHE standards/monitoring
• Windfall Rent Management