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“Technological concepts, challenges and solutions for emerging cement markets in SADC countries”

By

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INCREASED CONNECTIVITY



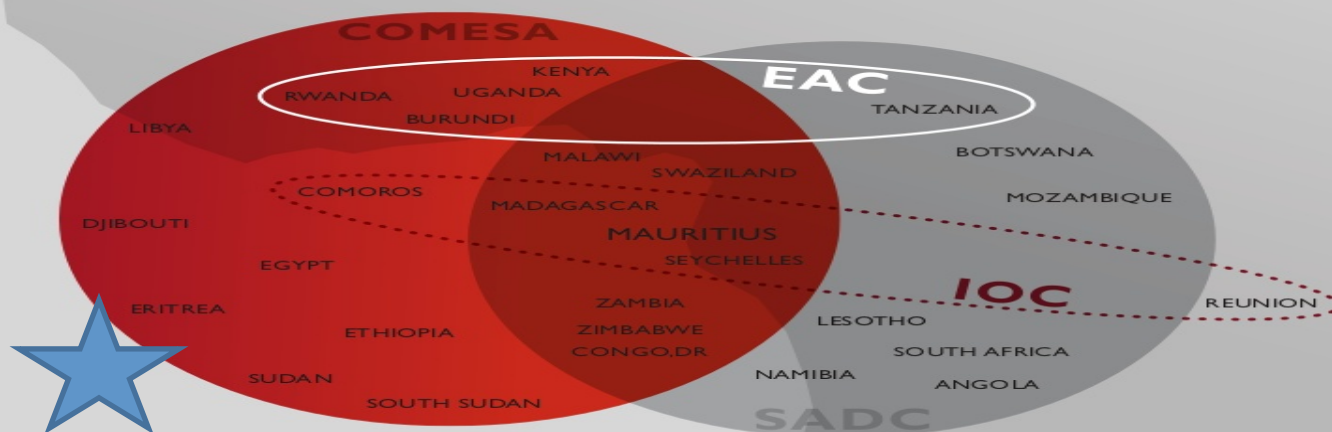
URBANISATION



DEMOGRAPHIC DIVIDEND



REGIONAL INTEGRATION



COMESA : Common Market for Eastern and Southern Africa
EAC : East African Community

SADC : Southern African Development Community
IOC : Indian Ocean Commission

COMESA	
YEAR ESTABLISHED	1994
MEMBERS	20
POPULATION (M)*	479
TOTAL GDP 2013 (USD Bn, current prices)	611
Average real GDP growth (2009-13) - %	6.0

SADC	
YEAR ESTABLISHED	1992
MEMBERS	15
POPULATION (M)*	295
TOTAL GDP 2013 (USD Bn, current prices)	637
Average real GDP growth (2009-13) - %	3.1

EAC	
YEAR ESTABLISHED	2000
MEMBERS	5
POPULATION (M)*	146
TOTAL GDP 2013 (USD Bn, current prices)	110
Average real GDP growth (2009-13) - %	5.6

*Population figures are 2013 estimates
**Average real GDP growth figures for IOC are for the 2009-2012 period only
Note: GDP figures used for 2012 and 2013 are estimates
Source: IMF World Economic Outlook Database and Regional Economic Outlook October 2013.
L'institut national de la statistique et des études économiques (INSEE)

COMMODITIES SUPPLY

PERCENTAGE OF WORLD'S COMMODITY RESERVES IN AFRICA



RIISING MIDDLE CLASS

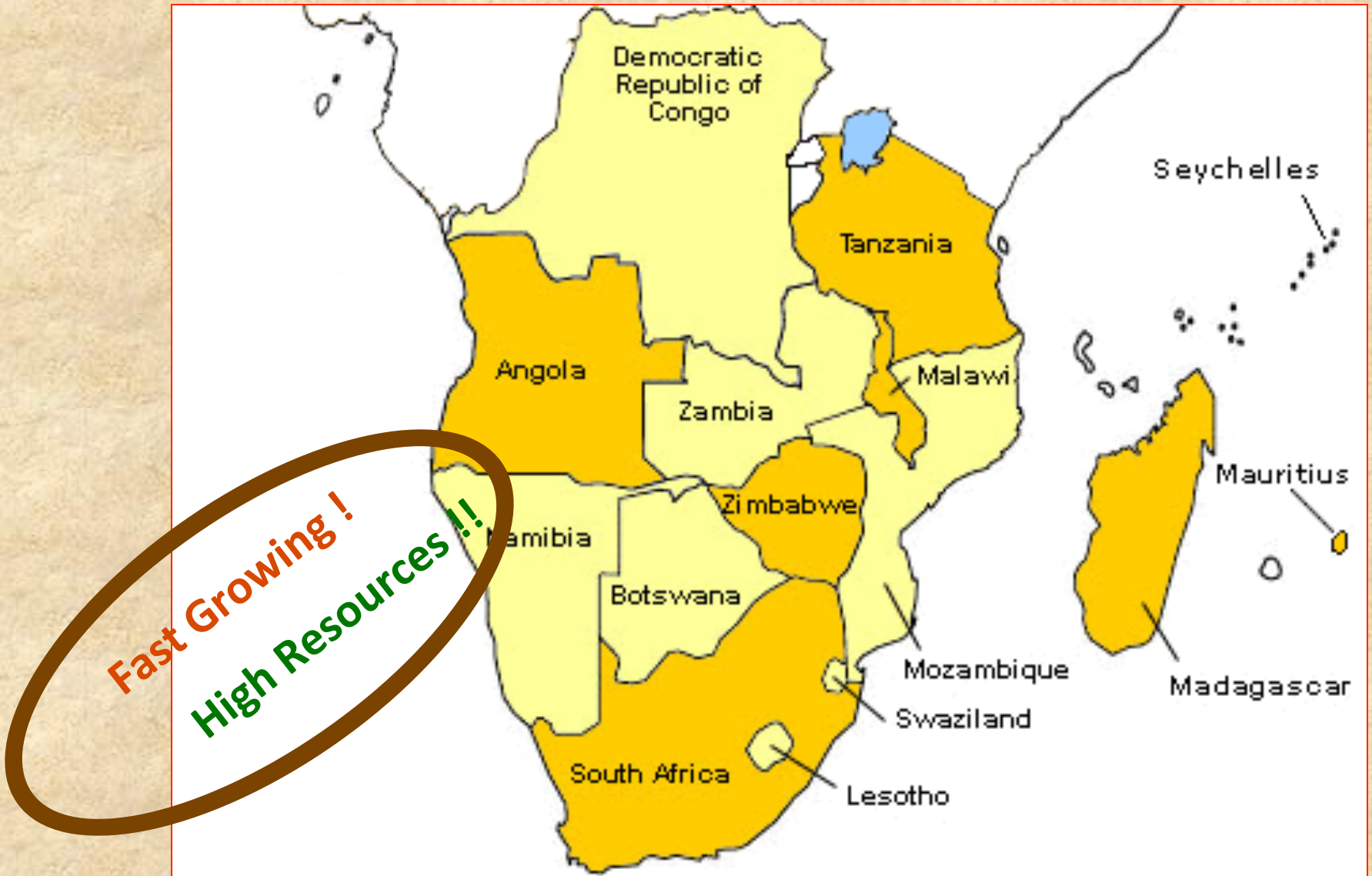


Southern African Development Community - SADC Countries

- The SADC region is made up of 15 Member States.
- Angola, Botswana, Democratic Republic of Congo, Lesotho, Mauritius, Madagascar, Malawi, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Zambia, Zimbabwe and United Republic of Tanzania (Mainland and Zanzibar).



Southern African Development Community (SADC) member states



Over view of SADC Cement market

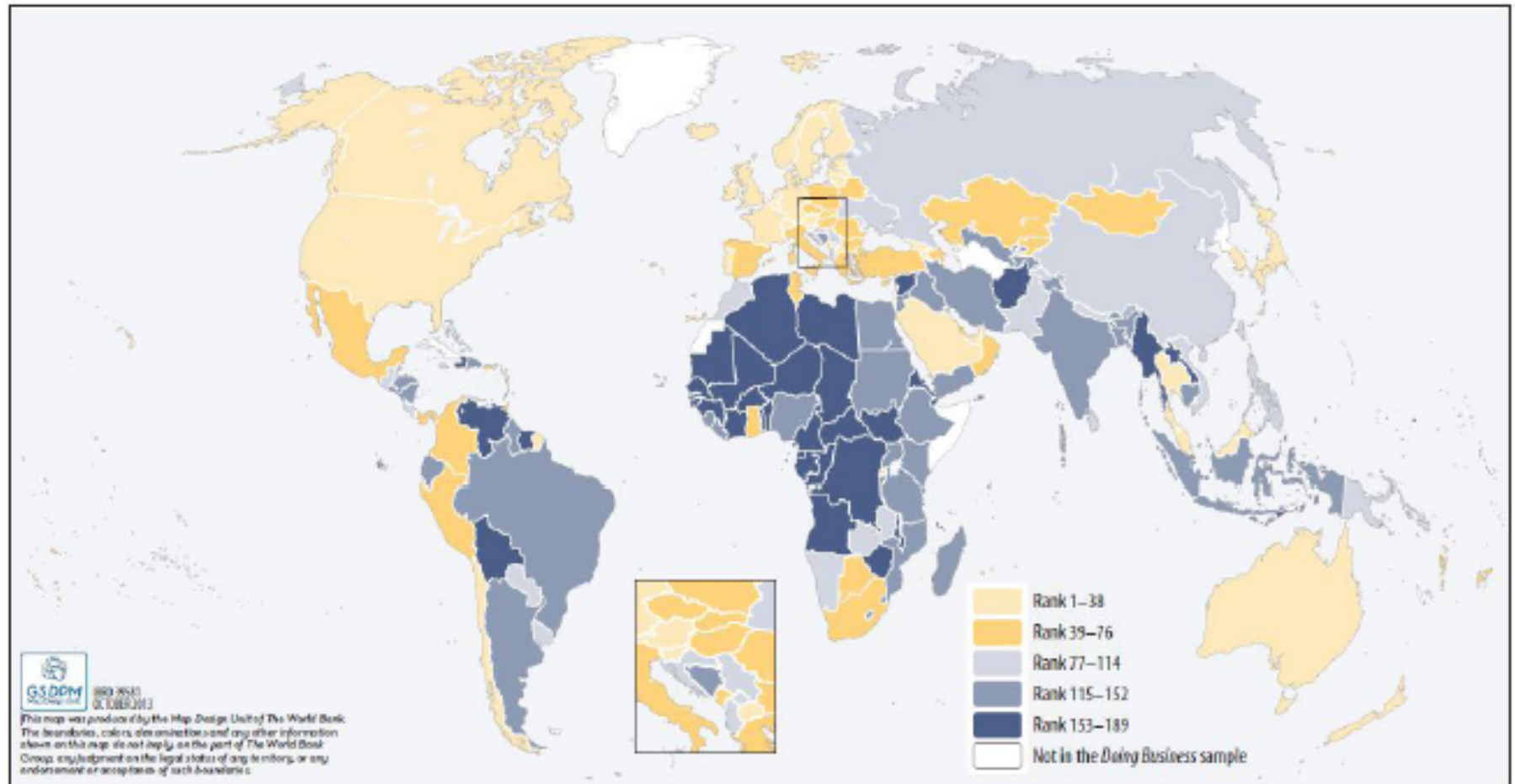
- Population : ~295 millions
- Per Capita Cement Consn: ~100kgs
- GDP Growth : 5.07%
- GDP Per Capita : US\$ 3243
- Cement Consn. Growth : 10.0%
- Future Trends : 14.0%

**Regional Consumption 1/5th of Global
average! Future Potential high!!**

SADC- Ease of Doing Business

Doing Business 2014 ranking	Angola	Botswana	DR Congo	Lesotho	Mauritius	Madagascar	Malawi	Mozambique	Namibia	Seychelles	South Africa	Swaziland	Zambia	Zimbabwe	Tanzania and Zanzibar
Ease of Doing Business	179	56	183	136	20	148	171	139	98	80	41	123	83	170	145
Starting a Business	178	96	185	89	19	29	149	95	132	118	64	172	45	150	119
Dealing with Construction Permits	65	69	90	145	123	157	173	77	31	68	26	51	57	170	177
Getting Electricity	170	107	142	136	48	157	183	171	72	147	150	163	152	157	102
Registering Property	132	41	133	88	65	155	85	152	178	69	99	130	102	93	146
Getting Credit	130	73	159	159	42	180	130	130	55	170	28	55	13	109	130
Protecting Investors	80	52	147	98	12	68	80	52	80	68	10	128	80	128	98
Paying Taxes	155	47	176	101	13	61	81	129	114	19	24	59	68	142	141
Trading Across Borders	169	145	171	144	12	115	176	131	141	29	106	127	163	167	139
Enforcing Contracts	187	86	177	144	54	160	145	145	69	82	80	176	120	118	42
Resolving Insolvency	180	34	167	104	61	157	150	148	85	65	82	68	73	156	134

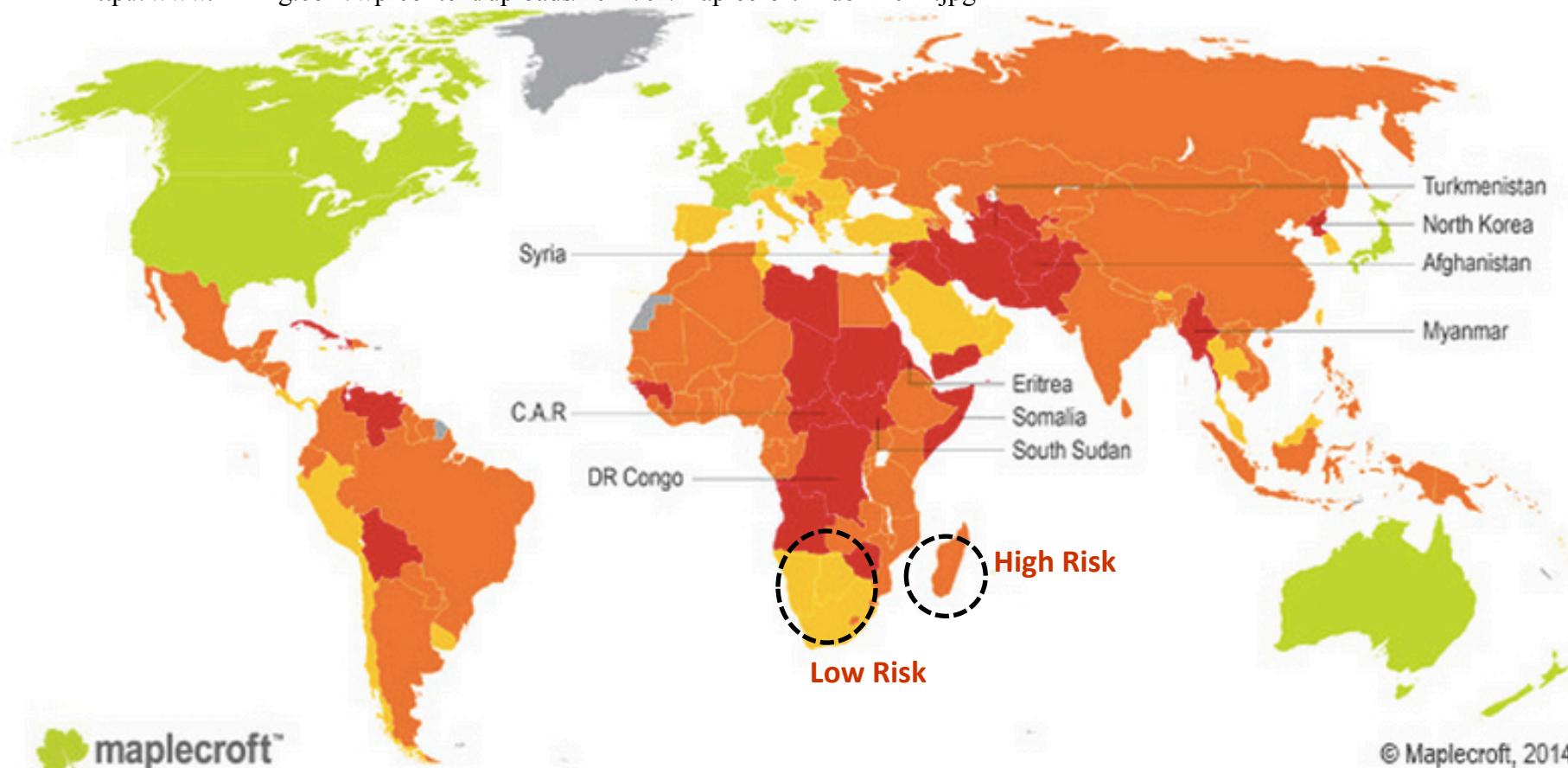
SADC- Ease of Doing Business Rating by WB/IFC - 2014



Source: Doing Business database.

Legal and Regulatory Environment Risk Index 2014

<http://www.mining.com/wp-content/uploads/2014/01/maplecroft-index-2014.jpg>



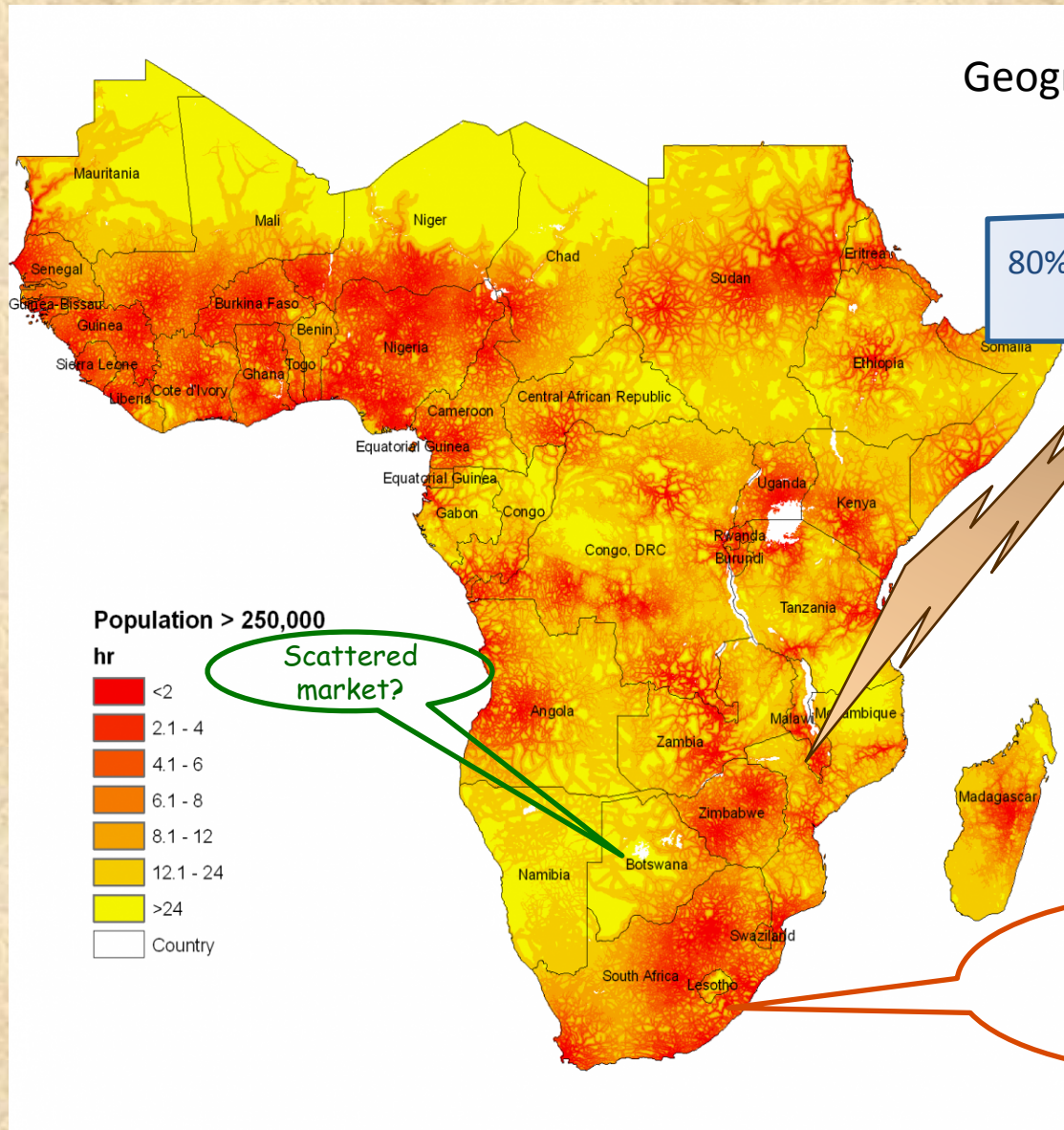
Rank	Country	Category
1	Somalia	Extreme
2	North Korea	Extreme
3	Turkmenistan	Extreme
4	DR Congo	Extreme
5	Myanmar	Extreme

Rank	Country	Category
6	Syria	Extreme
7	C.A.R	Extreme
8	South Sudan	Extreme
9	Eritrea	Extreme
10	Afghanistan	Extreme

Legend	
■	Extreme
■	High
■	Medium
■	Low
■	No data

SADC-Logistics facilities & Infrastructure

<http://harvestchoice.org/labs/travel-time-major-market-cities>



Geographical accessibility

80% Cement Consumption Housing & Commercial buildings - mainly around cities!

> 50% of SADC Cement consumption in South Africa

SADC- Logistics and Infrastructures

(<http://www.worldatlas.com/webimage/countrys/af.htm>)



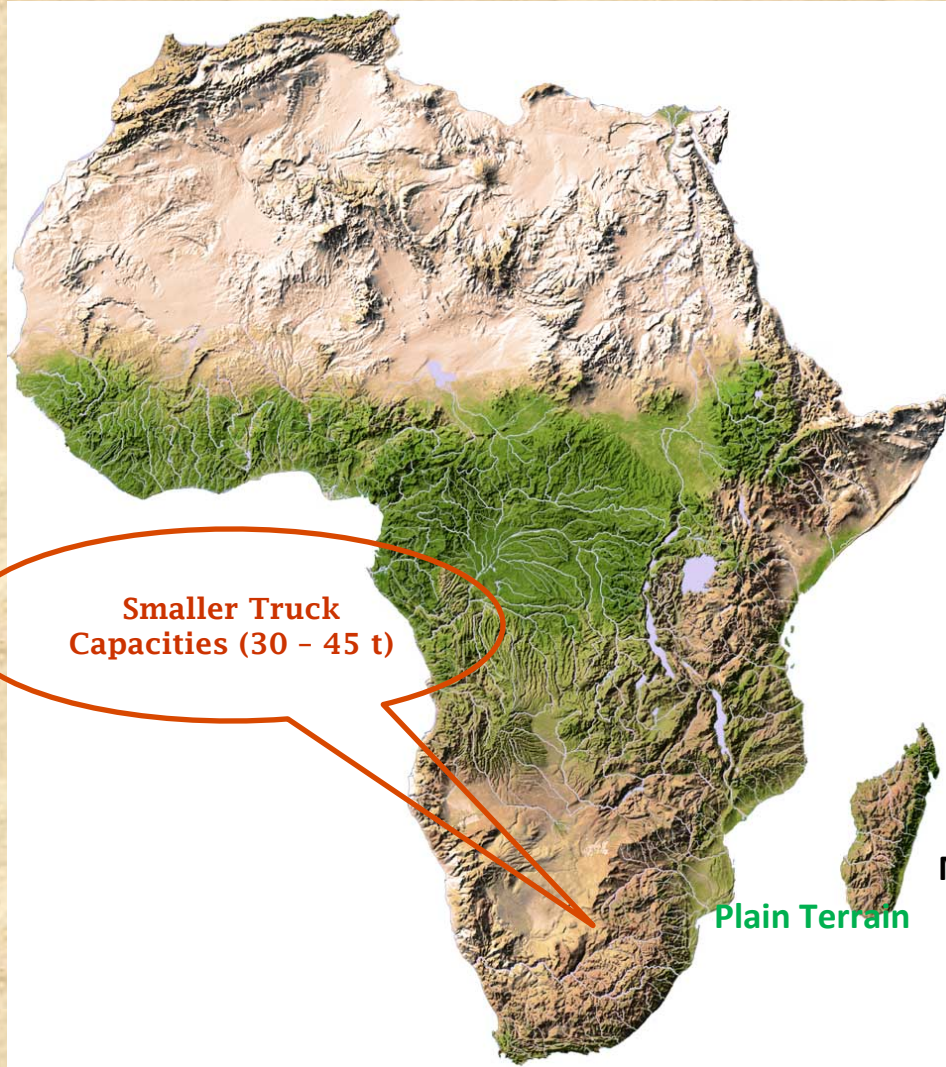
Mountainous Topography

**Transportation cost
2 to 3 times higher than
Plain Terrain**

**7 to 10 US Cents
per tone per Km against
3 US Cents per ton per km**

Logistics & Infrastructure

(<http://www.findtripinfo.com/africa-map.html>) – Southern africa(SADC) topography



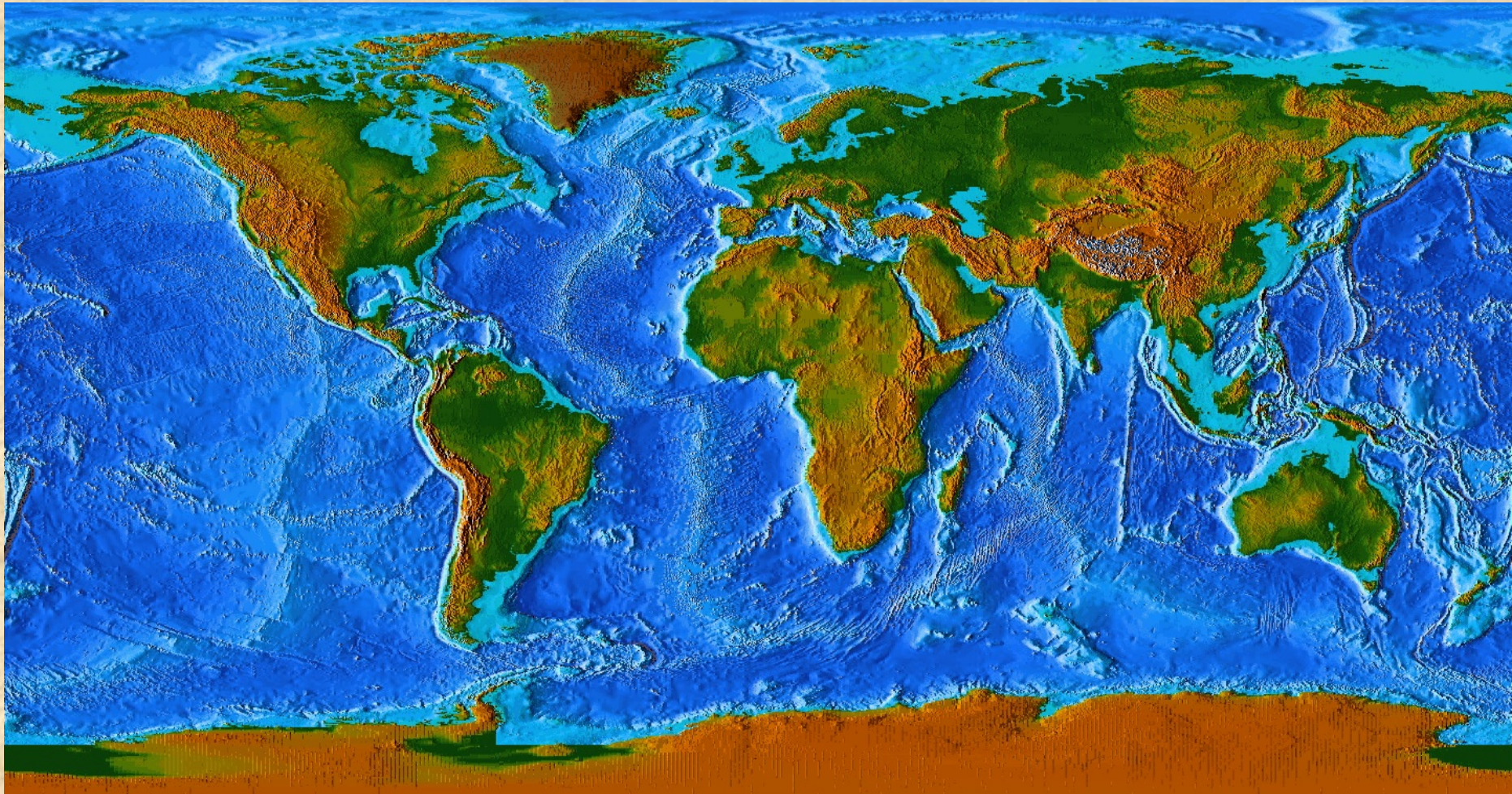
Except South Africa, SADC Railway underdeveloped yet!

Mountainous Topography

**7 to 10 US Cents per tone per Km against
3 US Cents per ton per km**

Why SADC Land transportation cost is high?

SADC- One of the Global Regions of high transportation costs!



World Topography

Effect of Logistic Cost on final Cement at Consumer hand

**At some of the SADC markets (Malawi,
Zimbabwe, DRC) the logistics cost is over 2 times
of basic cost of cement**

Challenges & Solutions...

Government regulations on Statutory approval

- Long process => Prepare in advance!
- Public misconception => Create Public awareness!
- Routing channel confusion => Involve a local agency to liaise!
- Delays in processing => Continuous Follow up!

Skills & Competencies

- Limited availability
- Low productivity
- High turnover
- High overheads
- Higher rate of unemployment and low level of employable among the unemployed

**** Create a well organized Training department and training resources**

*****Employ freshers and mould them to suit the organization requirement**

Financing the Projects

- Domestic financial institutions very few excepting few countries like South Africa, Mauritius
- High interest rate
- Less Flexible terms
- Higher level of security requirements

**** Arrange project finance from International Project finance sources !**

Service Providers & Tech Supports

- Few Service Providers & Tech Support
- High Cost
- Longer time to respond service calls
- Lower level of skills/support

**** Carry out proper vendor analysis before deciding to engage them as supplier**

***** Create In-house capabilities to maintain and service the machinery and equipments**

Supply Chain Management

- Unreliable supply chain
- Long waiting times and delays
- Higher cost
- Few Options
- Quality and Service issues

Plan it ahead with multiple options/alternatives

Create a network ahead of project take-off/completion to operation by consciously incurring a higher pre operative cost

Managing Security and Social Risks

- Higher level of security issues
- Local Community expectations high
- Health and Safety – Malaria, Viral fever...



Employ a competent local face ...



Plan and create adequate security infrastructure



Budget & Carry out Corporate Social Responsibility(CSR) initiatives from project stage responding to local community needs, to gel with the local community.

Technological concepts and solutions

- Difficult to transport heavy machineries to land locked countries- high elevation, poor roads
- High transportation cost — 7 to 10 US Cents per ton per km against 3 to 4 US Cents per ton per Km compared to Asia & Middle east plain terrain cost
- Scattered market
- Limited skills
- Restrictions on foreign crews employment

Technological concepts and solutions

- Mega capacity plants (2 - 3 Million TPA)

➤ Less competitive in African scenario

➤ Difficult to manage

Solution:

- ✓ Smaller and distributed manufacturing bases
- ✓ Split grinding units-using local cementitious additives for blended cement

Technological concepts and solutions

- High transportation cost
- Skills shortage and difficulties in getting foreign crews



Solutions:

- ✓ Modern light roof Space frame type structures for Bulk material Storages, warehouses and sheds
- ✓ Prefabricated Structures and Site assembly

Technological concepts and solutions

- High transportation cost
- Skills shortage and difficulties in getting foreign crews



Solutions:

✓ Judicious Selection of Site fabrication/pre fabrication

Technological concepts and solutions

- High Energy Costs (Power, Diesel, Fuel Oil & Coal)
- High Awareness & Regulatory requirements on Energy and Environment

Solutions:

✓ Smaller but efficient plants

✓ **Vertical Roller Mills, Roller Press, High Efficiency Coolers, LP Cyclones, High Efficiency classifiers**

✓ **High Efficiency Fabric Filters, Covered Storages, Efficient material handling designs**

Technological concepts and solutions

- Difficulties in getting product consistencies
- Lower understanding of technologies

Solutions:

✓ Automation of material handling – Stacker-Reclaimers, Close Circuit Camera, Automated extraction and feeding controls

Focus on training and development

Technological concepts and solutions

- High cost of Power(Electricity)
- Poor Grid reliability




Solutions:

**Captive Power Plants – LT DG sets with
step up as back up power**

Minimize Start up power and peak load

Planning and Risk Management

- Always make Plan A, B and C if not more
- Expect the Un-expect happen
- Prepare a base and scale up the value chain
- Exert control on full value chain as soon as possible to be cost competitive
- Be a partner with local community and participate in the development
- Maintain relationship with local government and respond to their needs

The background of the image is a photograph of a suspension bridge, likely the Golden Gate Bridge, stretching across a body of water. The sky is filled with soft, golden clouds, suggesting a sunset or sunrise. The bridge's cables and deck are visible, leading the eye from the bottom right towards the top left. Two semi-transparent rectangular boxes are overlaid on the image: one in the upper left containing the text 'The bigger the challenge' and another in the lower right containing 'The bigger the opportunity'.

The bigger the challenge

The bigger the opportunity

**Any Challenge can be overcome if
you approach it with**

- right solution

- right people

Team up with Cemcore!!



Thank you for your attention!

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