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Investment on ICT in Mozambique

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Victoria Falls, January 2012

Republic of
Mozambique



Ministry of Science
and Technology

Country's Profile



Source: INE, MCT, MINED, 2008, 2009, 2010

- **Population:** 22.948.858 inhabitants (in 2011)
- **Natural resources**
 - ▶ Surface: 799,380 km²;
 - ▶ Sea and its resources - privileged geographical position, coast-line (2,515 Km) with good transportation infrastructure (ports and corridors, serving the inter-land);
 - ▶ 104 river basins and 36 millions hectares of arable land;
 - ▶ Tropical climate and 20 millions hectares of forestry;
 - ▶ Mining (coal, titanium, natural gas, tantalum, graphite, gold and currently petrol) and other natural resources;
- **Socio-Economy**
 - ▶ Real GDP growth = 6.5% (in 2010)
 - ▶ PIB Per Capita ≈ 454.0 USD (in 2009)
 - ▶ Poverty rate = 52% of the total population
 - ▶ Illiteracy rate ≈ 54% of the total population
- **R&D System**
 - ▶ Number of HEI = 38 , Number of Students ≈ 81,250 (2009)
 - ▶ Research Institutions = 34 (2009)
 - ▶ Number of researchers ≈ 522 (2008), 33.3% are women
 - ▶ Expenditures in R&D ≈ MZM 594.48 Millions (2010) (≈ USD 27 today)
 - ▶ Gross Expenditures in R&D ≈ 0.2% of GDP

Research Expenditures by Scientific area



| | 2008 | % |
|-------------------------------------|---------------|---------------|
| Natural Sciences | 101.40 | 11.43 |
| Engineering and Technology | 39.09 | 4.41 |
| Medical Sciences | 157.80 | 17.78 |
| Agriculture and Veterinary | 548.01 | 61.76 |
| Human and Social Sciences | 41.05 | 4.63 |
| Total (millions of meticais) | 887.35 | 100.00 |

Objectives of Mozambique Science, Technology and Innovation Strategy



Promote:

- The culture of innovation;
- Innovation and the use of science and technology approaches in rural communities;
- Research and development and innovation in the public and industrial sector;
- Technology transfer;
- **Use of ICTs for good governance and deliver of services, including dissemination of knowledge that supports poverty alleviation and economic development;**
- **Development of human resources at all levels of science, technology and innovation;**
- Develop policies for institutions and infrastructures of the science and technology system;
- Develop policies and mechanisms for supporting financially research and innovation;
- Integration of science and technology in all the sectors;
- Review, evaluate and improve the performance of the science and technology system;

Investment on ICTs in Mozambique



- Legal Framework
- Research and Development
- Human Resources
- Information Systems
- Infrastructure (institutions and ICTs)

Legal Framework



| Policy | Relevance |
|---|--|
| ICT Policy, 2000 | Sets the country Informatization and technology development vision; |
| ICT Policy Implementation Strategy, 2002 | Defines the priority and flagship ICT programmes and projects; |
| eGov Strategy, 2006 | Defines the priority e-Gov projects; |
| SME Promotion Strategy, 2006 | Supports the environment for establishment of small and medium enterprises; |
| Science Technology and Innovation Strategy | <p>Establishes the National System of S&T;</p> <p>Attributes S&T as a driving force for development and be the front line of the fight against poverty;</p> <p>Sets the national S&T agenda for all research institutions, public and private;</p> <p>Defines priorities and areas and clusters;</p> |
| Government interoperability framework, Science park, biotechnology, e-transaction | |

27/01/12



Human Resources



- In 2011 trained 5,996 Mozambicans : secondary school teachers, public servants, community members in the use of computers and internet;
- 80 scholarship for master's and PhD;
- 3500 kids involved “scientists for tomorrow” program;
- Pan-african e-Network (40 students for masters);
- 161 in a program called kids club, to create interest in research and sciences;
- Summer school of 26 students from different universities;
- Training courses from different government and private institutions;





Information Systems and e-Government

- **e-SISTAFE -**
- **e-NUIC**
- **Single Window**
- **Identification Systems**
 - Passport, ID Cards, Driving Licenses
- **Health Information Systems**

**MOZ-EG WILL DELIVER TO EVERY MOZAMBICAN IN
EVERY AREA OF GOVERNANCE,
EVERY SECTOR OF THE ECONOMY, AND AT
EVERY LEVEL OF SOCIETY,
THE RIGHT TO ACCESS, PROCESS AND APPLY
ALL THE INFORMATION NECESSARY
FOR EACH TO ACHIEVE THEIR FULLEST POTENTIAL AS A
KNOWLEDGEABLE INDIVIDUAL, A RESPONSIBLE CITIZEN
AND A GLOBAL COMPETITOR.**



Infrastructure (Institutions and ICTs)

- Fiber back bone;
- Telecommunication companies;
- Research institutions;
- Facilities to easy access to ICTs;
(CMCs -34, MORENET-Research and Education Network -12, Government Network (GovNet) -50 districts);
- ICT Companies;
- Government Data Center;



ICT indicators in Mozambique



| Indicator | | Year | | | | | | | | | | |
|-----------|---|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|--------|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
| 1 | Land lines (Nº) | 121.75 | 127.90 | 138.48 | 133.58 | 75.26 | 65.99 | 70.31 | 78.00 | 78.32 | 82.45 | 86.25* |
| 2 | Mobile users (per 100 inhabitants) | 0.36 | 0.63 | 1.20 | 3.32 | 4.31 | 11.70 | 16.53 | 16.54 | 21.46 | 29.08 | 31.39* |
| 3 | Clients of wired internet (per 100 inhabitants) | ... | ... | ... | ... | ... | ... | ... | ... | 0.028 | 0.049 | 0.062 |
| 4 | Percentage of the population covered by mobile telephony(%) | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 5 | Access costs to broad band internet (per month in US\$) | ... | ... | ... | ... | ... | ... | ... | ... | 52.08 | 50.30 | 35.71 |
| 6 | Pre-paid costs of mobile telephony (em US\$) | 0.83 | 1.18 | 1.00 | 0.41 | 0.37 | 0.39 | 0.40 | 0.50 | 0.56 | 0.52 | ... |

ICT Companies



| Category | Total de empresas (INCM, 2009) |
|---|--------------------------------|
| Companies to Disseminate information | 141 |
| Telecommunication Companies | 3 |
| Providers of Acces to the Internet for Comunities | 9 |
| Internet Service Provider (ISP) | 20 |

Science and Technology Park of Maluana

Primeira fase

360 ha

A primeira fase de construção do Parque contempla duas áreas de desenvolvimento urbano e uma área dedicada à logística e indústria, sendo a sua delimitação e articulação asseguradas pela estrutura verde existente.

Cada uma das áreas urbanas é estruturada por uma grande praça central, que integra as actividades centrais do Parque - investigação, ensino e formação - e em torno da qual se distribuem as restantes funções.



Área de Tecnologia e Investigação

- | | |
|--|--|
| 1 Centros de formação (Universidades e Politécnicos) | 2 Universidade Tecnológica |
| 3 Residências | 4 Centro de Inovação e Desenvolvimento Tecnológico |
| 5 Centro de «Ciência Viva» | 6 Centro de recuperação de dados |
| 6 Centro de documentação | 7 Centro Nacional de Biotecnologia |
| 8 Centro de congressos | 8 Centro de investigação em Etno-botânica |
| 9 Área de exposições/feiras | 9 Centro de Investigação da Água de Moçambique |
| 10 Unidade hoteleira | 10 Centro de formação profissional |
| 11 Área comercial | |

Equipamentos e infra-estruturas

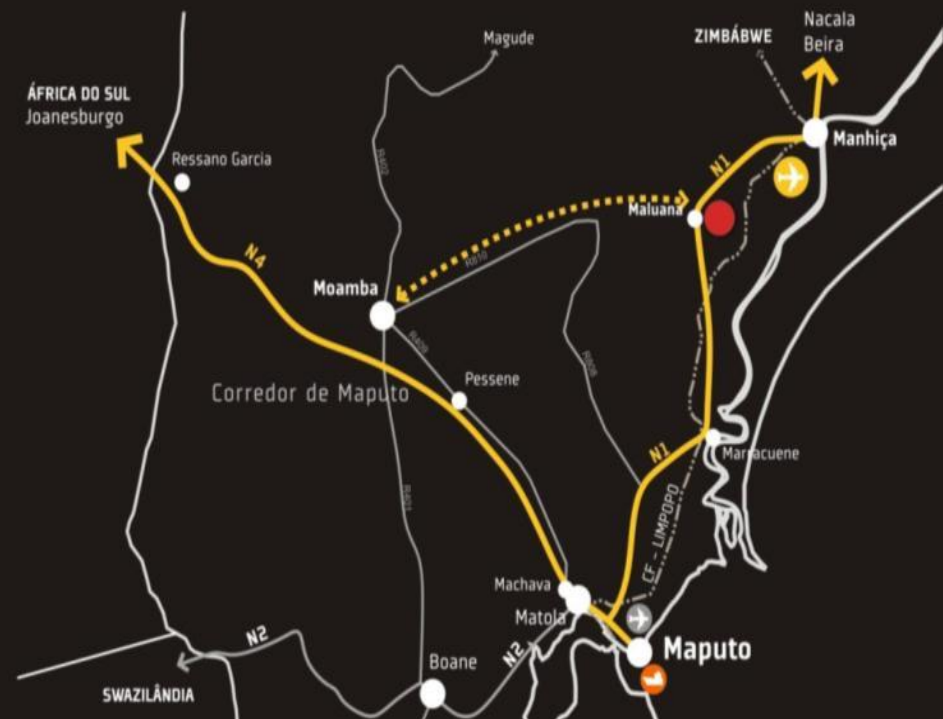
- | | |
|---------------------------|-------------------------------------|
| 11 Estação de mercadorias | 11 Centro Cultural |
| 12 Estação de passageiros | 12 Centro de manutenção e segurança |
| 13 Heliporto | 12 Hotel |
| 14 Clínica | 12 Aparthotel |
| 15 Creche | 12 Complexo desportivo |
| 16 jardim de infância | 12 Complexo de ténis |
| 17 Escola básica | 12 Campo de golfe (18 buracos) |
| 17 Escola Secundária | 12 Health club |
| 18 «Loja do cidadão» | |

- Área habitacional
- Áreas comerciais e empresariais
- Área de logística e indústria

Integrated Location and Development



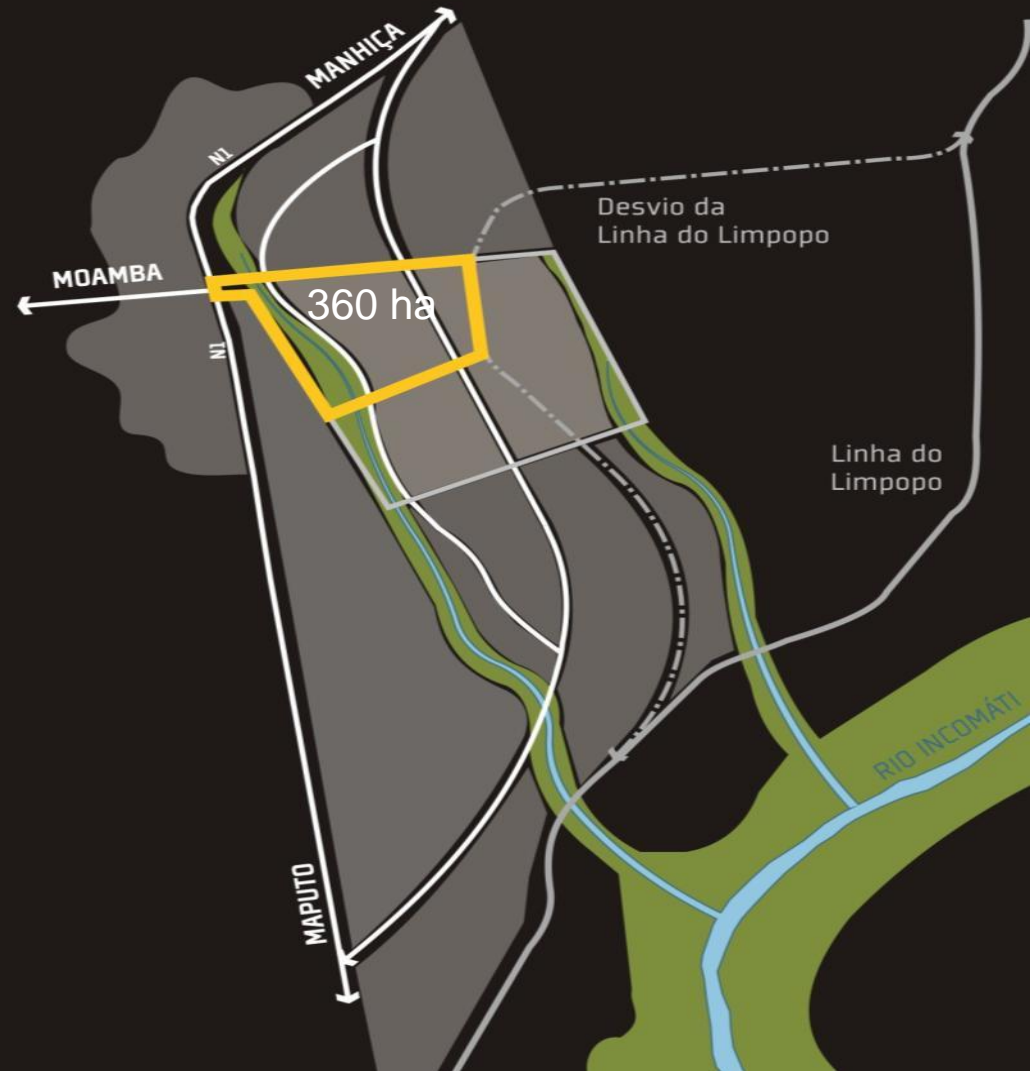
- 60 km from Maputo City Centre
- Close to N1, main road that links the south and north side of the country
- Road link to Maputo City Centre
- Programmed road link to N4 that then links to South Africa
- Railway link to Maputo port and other countries of Southern Africa



Territorial Model and Site Access



- Close view of the existing roads and programmed railway covering the Park
- Programmed railway link to the Park and the existing railway that links Maputo port and other countries of Southern Africa
- Existing rivers to source the park with clean water



Technology Development and Innovation Centre (TDIC) – First Initiative



Research and Learning
(including laboratories)



Incubator



Offices (including those of Technology Based Companies)



Shops (including banks and other supporting services)



Technology and Business Incubation Programme



| | |
|---|--|
| Focus Areas for Technology and Business Incubation | <ul style="list-style-type: none">• Services;• ICT, Water Management Technologies, Mining Technologies, Processing and Manufacturing Technologies;• Assembling of Technology |
| Selection criteria of business ideas | <ul style="list-style-type: none">• Business idea within the incubator focus areas;• Business idea with selling/commercialization potential• Availability and capabilities of the entrepreneurs to materialize the business idea within the maxim incubation time of 2 years• Cost involved on the materialization of the business idea |
| Expected outputs at all levels | <ul style="list-style-type: none">• 90 entrepreneurs graduated per year• 100 business plans developed for different businesses type per year• 90 new jobs created in the incubated companies per year• 50 young entrepreneurs trained in entrepreneurship and business planning. |

Expected Results from the whole Park



- **Outputs:**
 - ▶ 100 BSc, MSC, MBA and PhD per year;
 - ▶ 500 mid-level technicians (data base managers, hardware technicians, computer programmers, computer network technicians);
 - ▶ 120 short courses per year (duration 1 to 3 months);
 - ▶ 100 new companies from the incubators per year;
- **Outcomes:**
 - ▶ A critical mass of scientists in the country;
 - ▶ Application of Scientific Knowledge, Technology and Innovation for daily problem solving;
- **Impact:**
 - ▶ Industrial Development;
 - ▶ High HDI;
 - ▶ Mozambique, a production and exporter country of good and services and not a consumer and importer of basic things;
 - ▶ Mozambique as a competitor;

**THANK YOU, VERY MUCH!
MUITO OBRIGADA!**

**Republic of
Mozambique**



**Ministry of Science
and Technology**

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