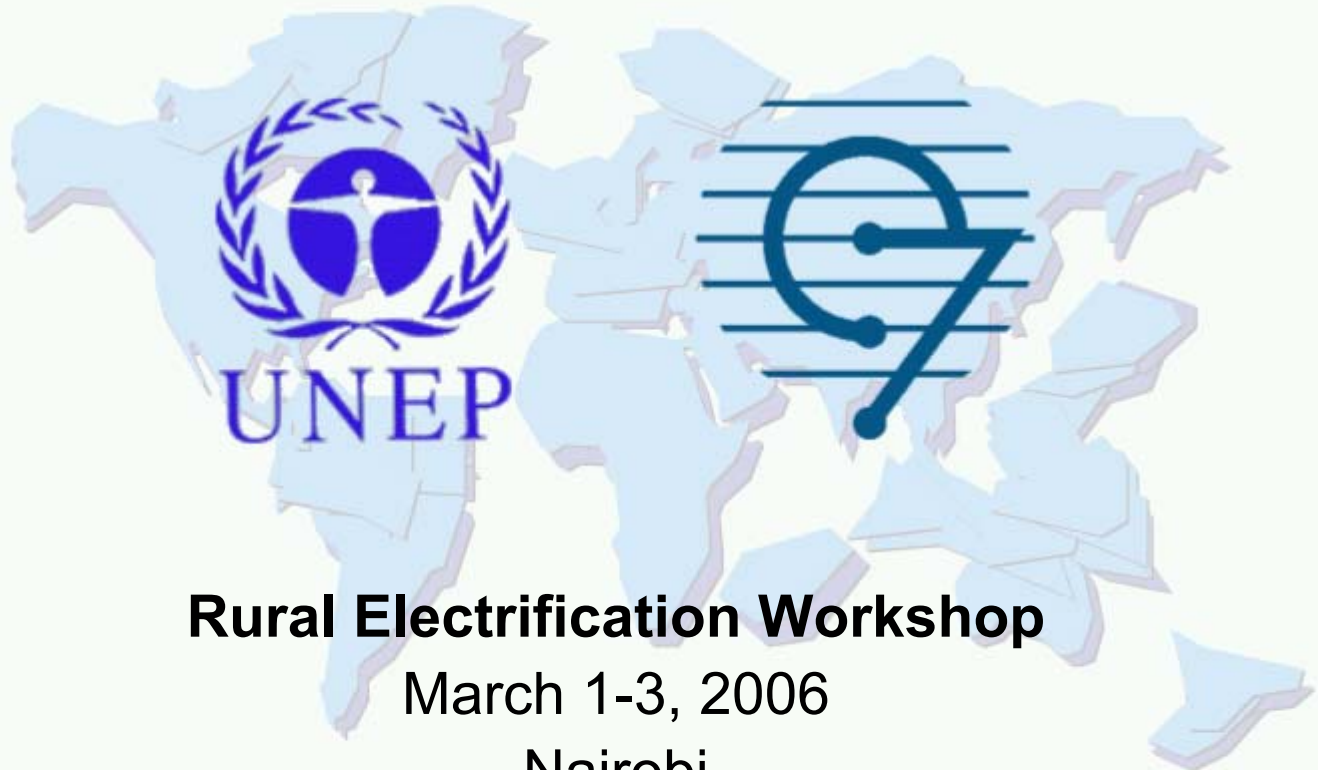


Session 2.1 – RE Identification

Case Study:

Lokoho Project, Madagascar

Pascale Bonzom (UNDP) / Sascha Thielmann (GTZ)



Case Study: Lokoho Project, Madagascar

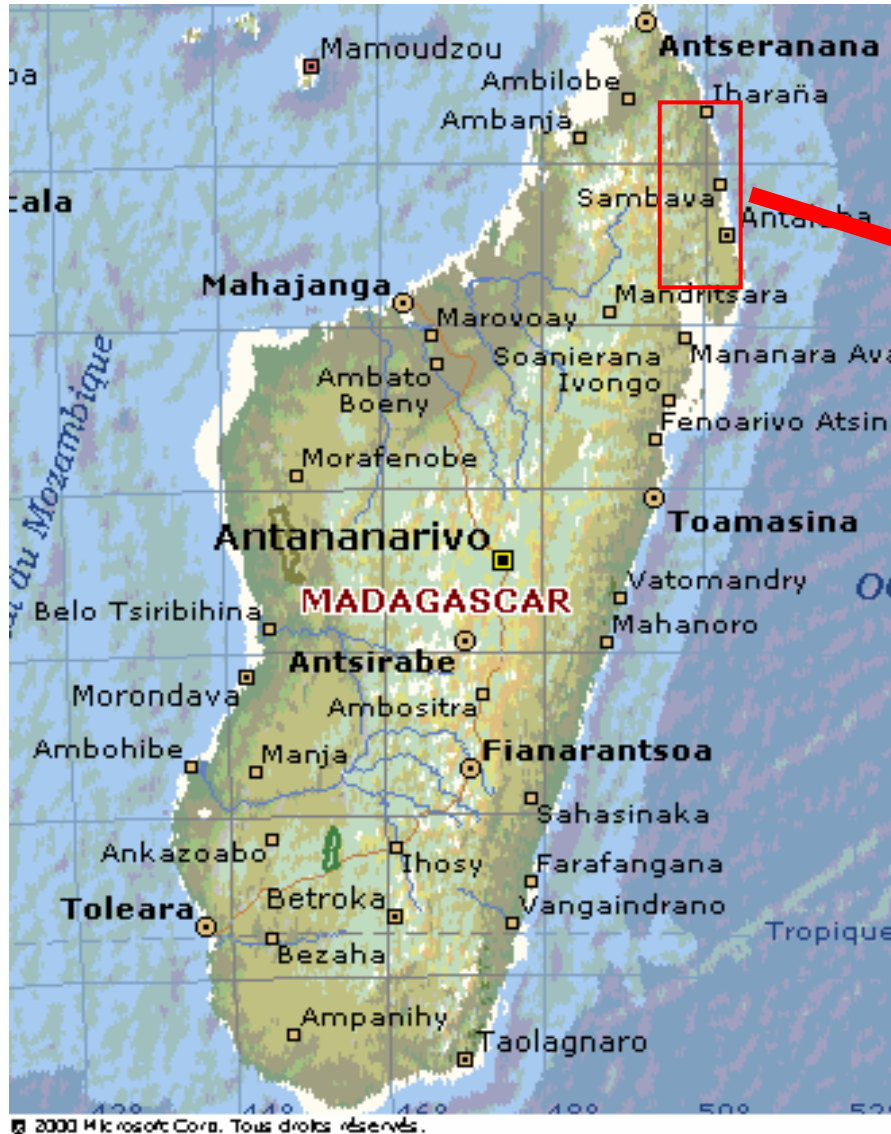
Presentation Overview



- Project Lokoho
- e7 Project Identification Criteria
- GSB Overview

The Lokoho Project

– Project Region –



The region is an important producing area for vanilla (which is a valuable cash crop for the region)

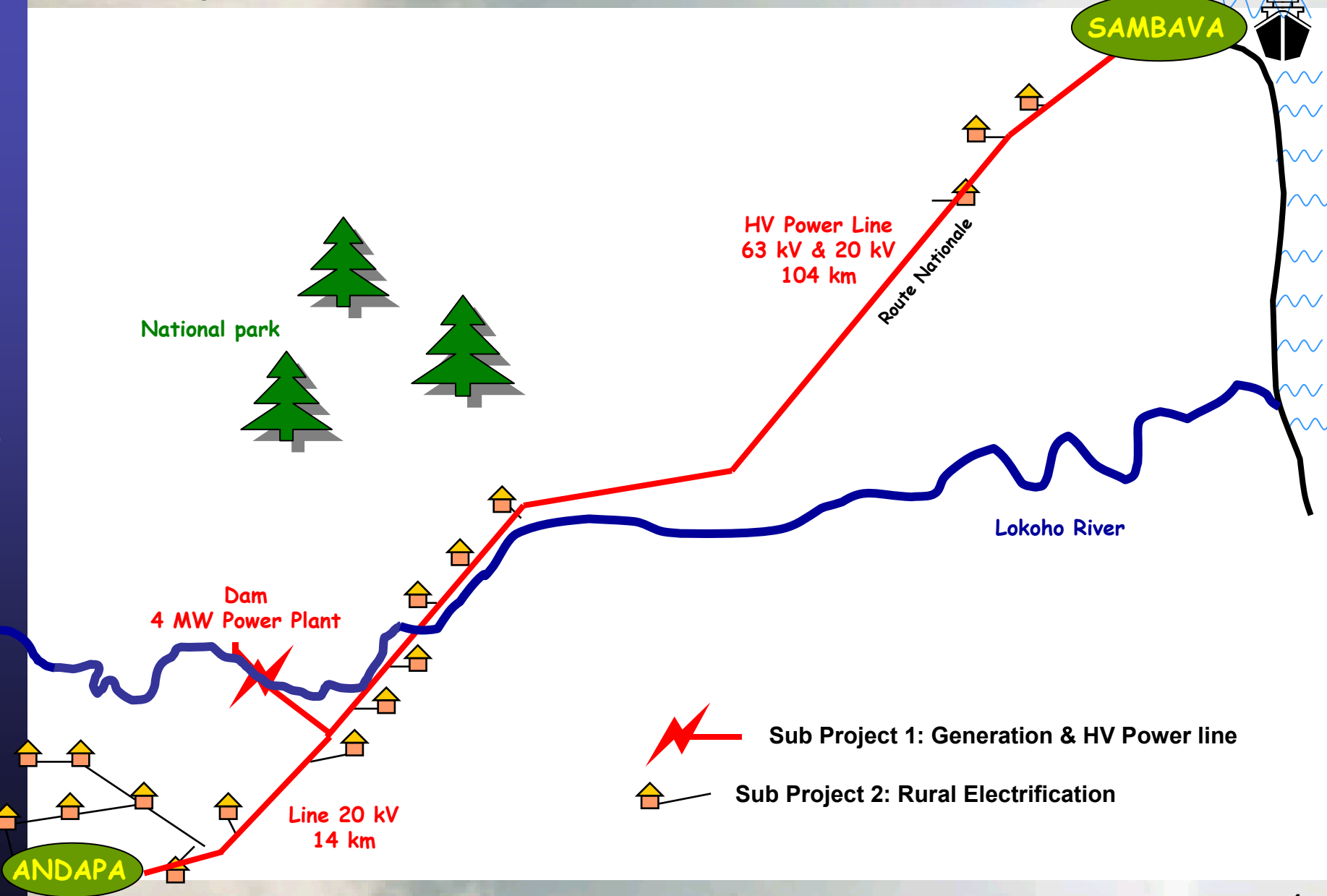




The Lokoho Project

– Project Location –



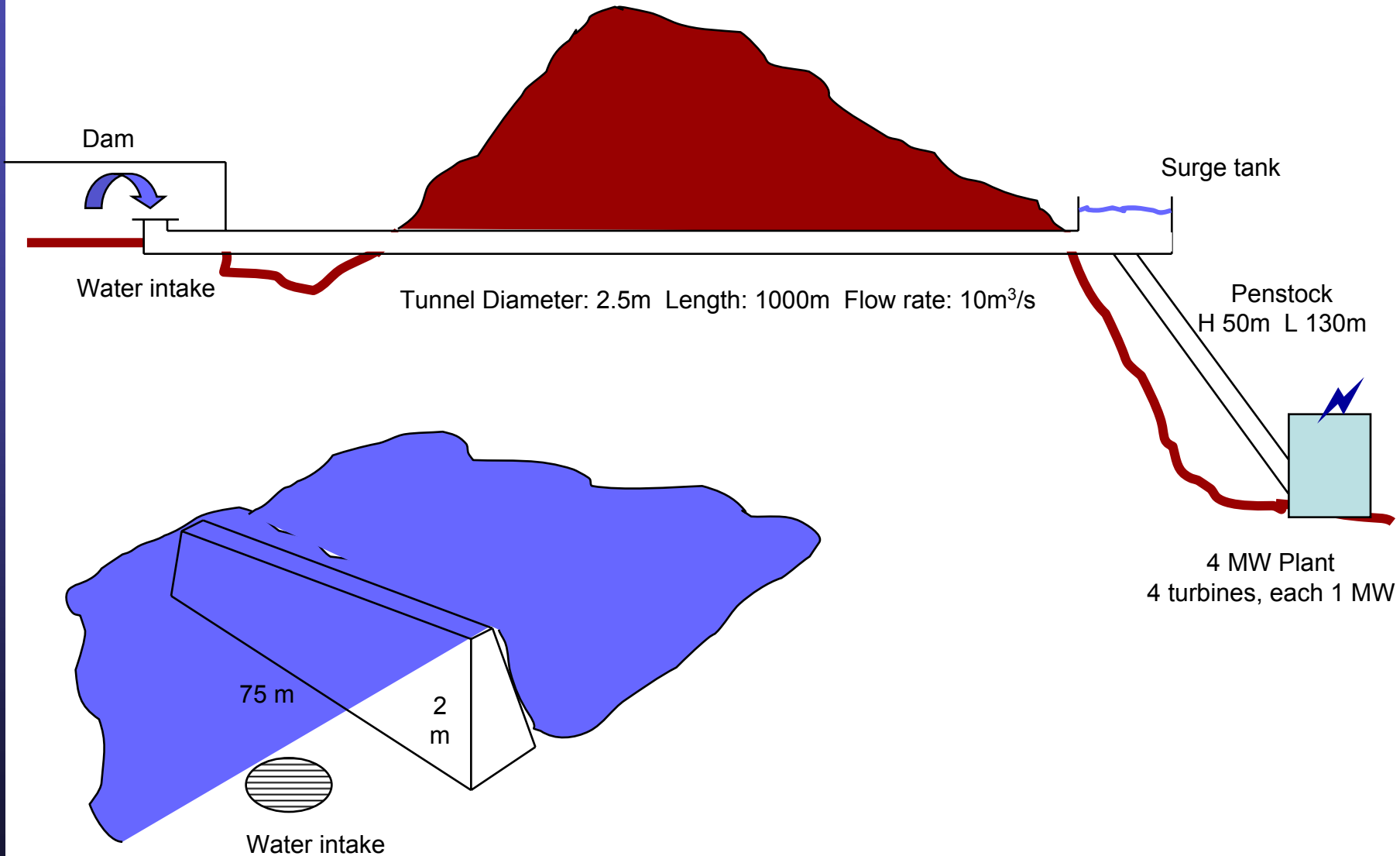
e7 / UNEP Rural Electrification Workshop Nairobi



-  Sub Project 1: Generation & HV Power line
-  Sub Project 2: Rural Electrification

The Lokoho Project

– Technical Project Design –



The Lokoho Project

– Main Project Objectives –



- Supply electricity to the towns of Sambava and Andapa and reduce the use of **diesel** in these towns
- Improve **access to electricity** for the rural population
- Develop the **local economy** and promote **productive energy use** (agriculture, handcraft, commercial shops, tourism, etc.)
- Improve access to **basic services** (education, health, telecommunications, etc.)
- Fight **deforestation**

The Lokoho Project

– Current situation and project targets –



	Current situation	e7 project targets
Power plant	3.2 MW diesel	4 MW hydro
Generation	14 000 MWh diesel per year	24 000 MWh hydro per year
Households connected	2 000 in Andapa & Sambava	3 000 in Andapa & Sambava 4 000 to 8 000 in rural villages
Electricity costs for National company	EUR 23 ¢/kWh	Around EUR 10 ¢/kWh To be determined with PPA
Electricity rate	About EUR 13 ¢/kWh	Less than EUR 13 ¢/kWh To be defined by Government
Investment costs (engineering costs excl.)	-	EUR 16 million

The Lokoho Project

– Project Partners –



e7

- e7 was created in the wake of the 1992 Rio summit
- e7 aims at the promotion of environmental protection and sustainable development
- e7 Fund for Sustainable Energy Development“ raises funding from the e7 and external donors
- e7 Fund is recognised by the UN Economic and Social Council as a NGO with special consultative status

EDM

- Private Malagasy energy company
- Local joint venture partner of the e7 Fund

GTZ

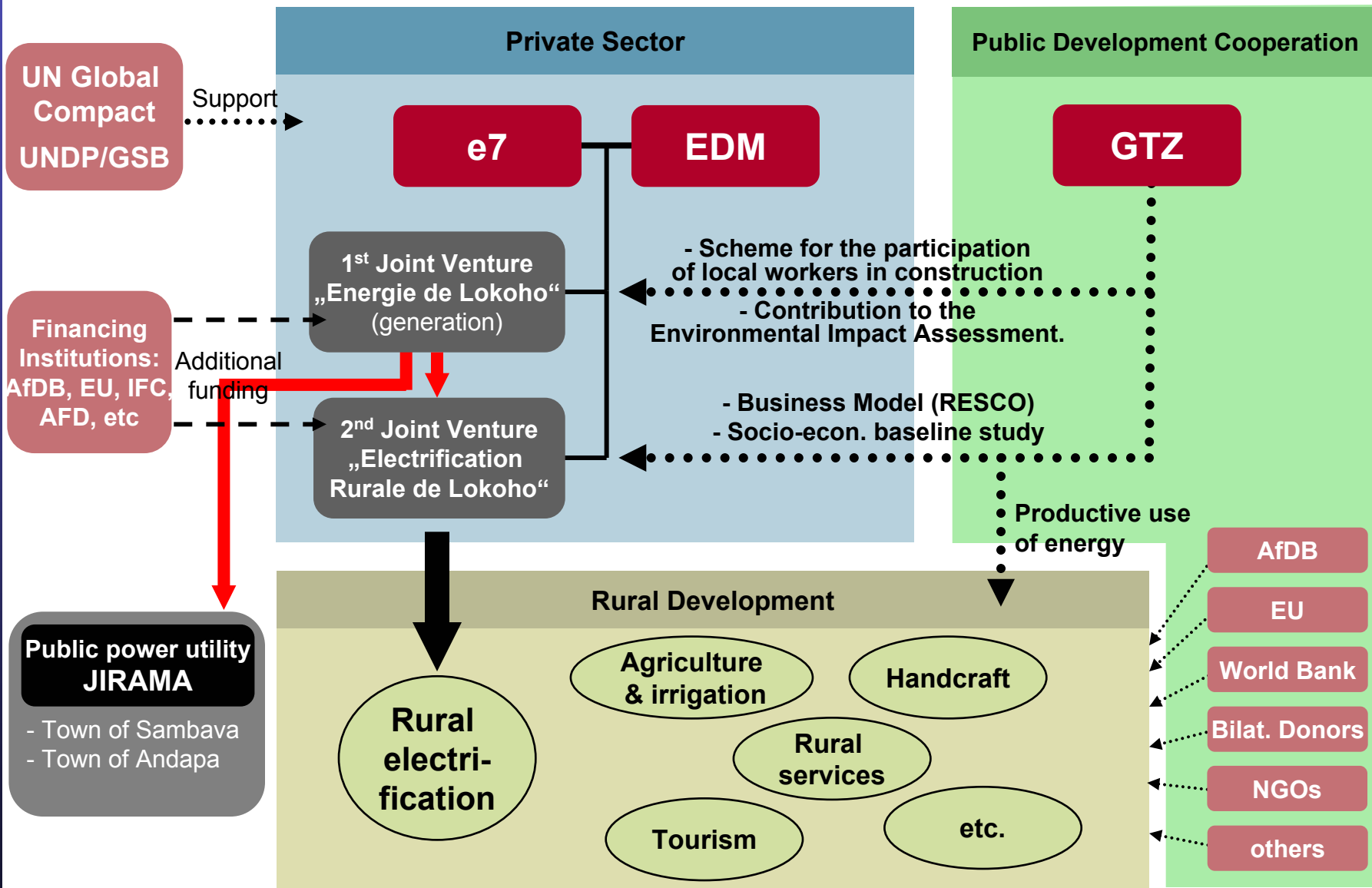
- GTZ (German Agency for Technical Cooperation)
- At present GTZ carries out more than 2.700 project in more than 130 countries, covering all sectors and aspects of development
- In Madagascar GTZ is currently carrying out projects in the following areas: environmental protection and sustain-able use of natural resources; health; and public sector finances.

UNDP / GSB

- GSB aims at the promotion of the MDGs and sustainable development
- The GSB approach envisages increasing investments and business activities in various sectors
- The GSB Coordinating Group in Madagascar provides a platform for Public-Private-Partnerships

The Lokoho Project

– Project set-up –



The Lokoho Project

– Feasibility Study in Progress –



e7 / EDM

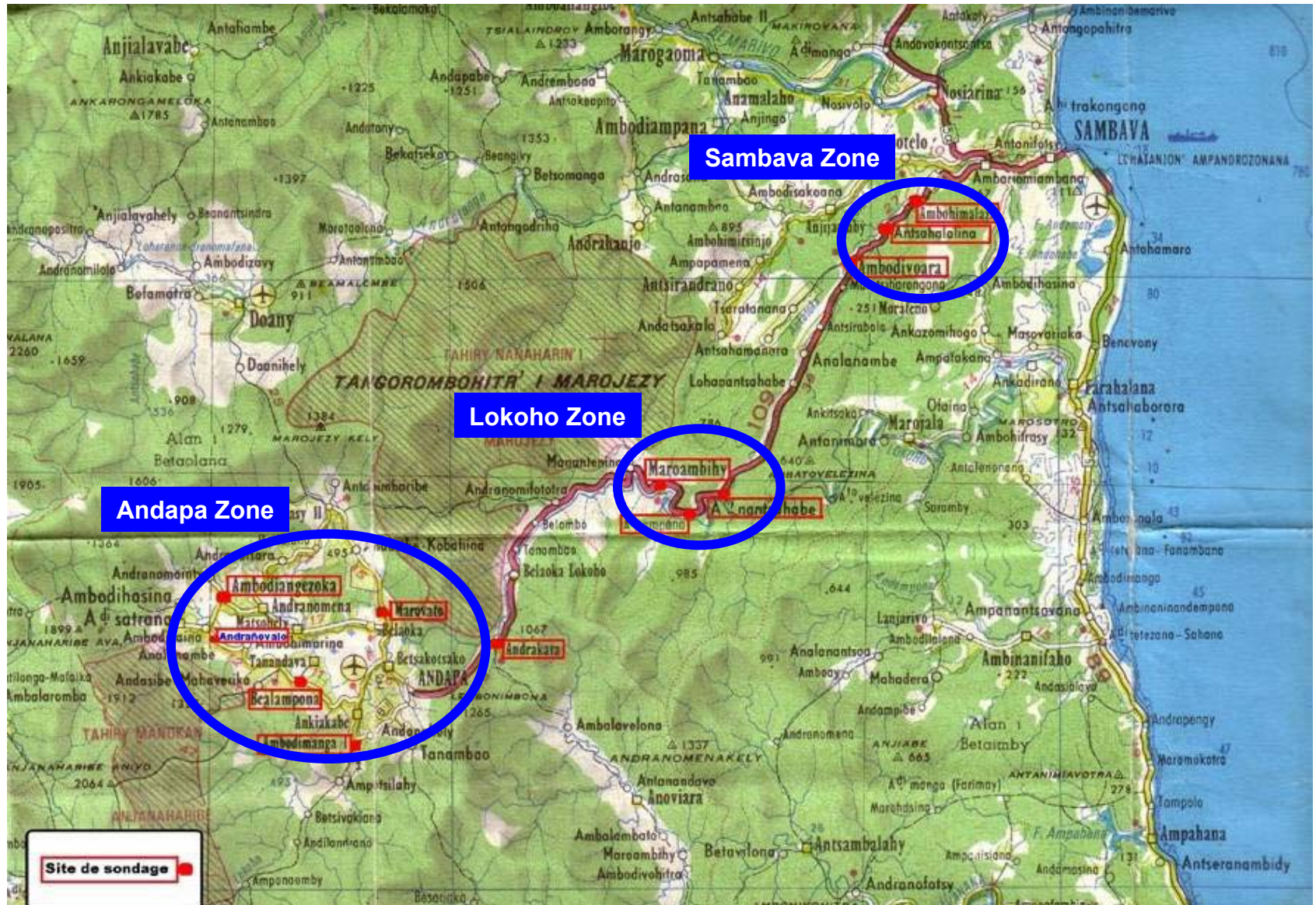
- **Generation:** dam, tunnel, power plant and access roads, etc
- **High-voltage network** to supply Andapa and Sambava: 100 km of 63/20 kV lines, transformers, etc
- **Medium voltage / low voltage networks** to supply 25 villages: 20 kV lines and 220 v network, transformers, etc
- **Environmental Impact Assessment** in cooperation with GTZ: hydrological aspects, infrastructure impacts
- **Legal and commercial aspects:** contractual agreements
- **Financial aspects:** business plans, financing and bank guarantees, etc

GTZ

- Contributions to the **Environmental Impact Assessment**
- Design and set-up of a **business model** for rural electrification
- Promotion of **productive use of electricity**
 - agricultural production and processing
 - carpenter, household article production
 - rural services (shops, video clubs, tourism, ...)
 - water pumps for irrigation
 - business development, financing schemes
- Scheme for **participation of local workforce** in plant construction

The Lokoho Project

– Rural Electrification Zones –



The Lokoho Project

– Estimated Electric Demand –



Evolution of the cities & villages currently supplied by JIRAMA	Units	2005	2010	2015	2020	2025
SAMBAVA (city)						
Consumption	MWh	5 932	7 752	10 823	15 152	21 213
Generation	MWh	6 529	8 513	11 854	16 596	23 234
Peak	kW	1 646	2 160	3 007	4 180	5 810
ANDAPA (city)						
Consumption	MWh	1 425	1 848	2 572	3 549	4 898
Generation	MWh	1 727	2 187	2 957	4 140	5 796
Peak	kW	417	528	714	964	1 301
TOTAL 2 cities & villages						
Consumption	MWh	12 042	15 843	22 394	31 570	44 513
Generation	MWh	13 841	18 106	25 486	35 680	49 953
Peak	kW	3 479	4 566	6 428	9 042	12 724
Future consumption of the rural villages	Units	2005	2010	2015	2020	2025
8 000 potential Households and SMEs	MWh	0	6 198	6 846	7 948	9 699
TOTAL	MWh	13 841	24 304	32 332	43 628	59 652

The region's potential for productive use of electricity (some examples)



Rice processing



Handcraft



Video clubs



Shops

The Lokoho Project

– Potential use of electricity for irrigation –



Former pumping station near Andapa (out of service)

The Lokoho Project

– Possible additional aspects –



© Reinhard Henning



- **Household energy:**
promotion of efficient stoves
- **Additional energy sources:**
 - Jatropha / risk husk
 - Micro and pico hydro
 - Wind energy
- **Energy efficiency:**
Efficient lighting
- **Transport infrastructure:**
Road Maintenance
- **Financing services, vocational training**

Case Study: Lokoho Project, Madagascar

Presentation Overview



- Project Lokoho
- ▶ **• e7 Project Identification Criteria**
- GSB Overview

e7 Project Criteria



- CDM eligible projects derived from renewable energy sources
- Rural Electrification
- Total Project Investment US\$ 1-20 million
- Implementation 2-3 years
- Co-Financing Potential
- Replicability
- Capacity Building and Transfer of Knowledge
- Priority Countries
- Economic context
- Legal and regulatory context
- Socio-Economic Impact
- Local Partnership

Case Study: Lokoho Project, Madagascar

Presentation Overview



- Project Lokoho
- e7 Project Identification Criteria
- ▶ **• GSB Overview**

Growing Sustainable Business

Background



- The ***Millennium Development Goals*** will not be achieved without sustainable investment by and growth of the private sector;
- GSB was ***conceptualized by the private sector***, announced and launched at ***WSSD 2002*** – endorsed in high-level session;
- Emerging markets represent ***challenges*** and ***opportunities***;
- Little ***investment*** is reaching rural and other less developed regions of the developing countries;
- Maximizing ***development and business benefits*** (social value + shareholder value) will be the key to poverty reduction;
- The opposite of poverty is ***prosperity*** – not charity.

Growing Sustainable Business

Objective/Vision - A service to business



Facilitate business-led enterprise solutions to poverty reduction

By...

- Convening and connecting, at national level, to explore & inspire market-based investment opportunities;
- Reducing risks to specific investments by bringing the right policymakers, CSOs, and financiers together to ensure success;
- Ensuring private sector alignment with global principles and development objectives;
- Demonstrating and informing lessons for business and policymakers.

Growing Sustainable Business

A Multi-Stakeholder Approach: Contributions



Business:

Innovative business models
Managerial resources
Technology, skills, standards
Reach (MNCs)
Access to finance

Governments:

Leadership / strategy
Transparency
Policies & regulations
Fiscal incentives
Basic infrastructures

**GSB
Initiative**

Local communities & NGOs:

Entrepreneurship
Local knowledge & innovation
Human capacity
Understanding of local needs
Support of Sustainable Dev.

Development Partners:

Facilitation / convening
Support of Sustainable Dev.
Attract international attention
Local knowledge
Finance (IFIs, bilaterals)

Growing Sustainable Business

The GSB Identification Process in Country



STEP 1- Broker

- Identify companies interested in participating & leading
- Identify & consult other stakeholders
- Identify potential sustainable business opportunities
- Identify key policy & other constraints, and other relevant initiatives

STEP 2 – National Forum/Coordinating Group (as needed)

- Convene multi-stakeholder working forum in country to:
 - Share information and build trust
 - Endorse new projects
 - Resolve issues in an open, transparent space

STEP 3 – Operationalise investments

- Begin detailed design and implementation of investment projects
- Bridge access to finance
- Base projects on principles of transparency and sustainability
- Report progress, learn, advocate & broker additional projects

Growing Sustainable Business

Country Progress



GSB Frameworks have been set up in ***Tanzania, Madagascar, Ethiopia, Zambia, Kenya and El Salvador***

Companies engaged include:

- Ericsson (rural telecom, Tanzania)
- E7 and EDF (rural electrification, Madagascar)
- Unilever (agriculture supply chain, Tanzania)
- Shell (commercial irrigation, Ethiopia)
- Dometic (pro-poor stoves, Ethiopia)
- Tetra Pak (dairy supply chain, Tanzania)
- Société Générale (Micro/SME finance, Madagascar)
- Others
 - ABB, Total (2 countries), Holcim/Tanga Cement, Mad'Eole, Kilombero Sugar Company
- And several more in the pipeline/discussions...

The Lokoho Project

Role of GSB Framework



- **Broker partnerships** with government, donors, NGOs, regulators, local authorities, private sector and communities.
 - Identification of potential NGO partners
 - Signature of an MOU between Ministry of Energy and Mining, ADER, e7, EDM and UNDP
 - Participation of local authorities and communities in project pre-feasibility and feasibility studies
 - Engagement of potential donors – the case of GTZ
- **Facilitate problem-solving:**
 - **Problem:** ADER lack of funds. **Solution:** Energy Working Group creation to lobby for the priority of energy in public budget
 - **Problem:** Changing regulatory framework leading to WB constraints. **Solution:** MOU and extensive discussions with WB
- **Ensure alignment** between **development** and **business benefits**

- ***We encourage innovative partnership between the private, public and civil society sectors to provide more effective delivery of electricity services in developing countries.***
- ***We aim to demonstrate through Iloko project that small scale hydro is viable sustainable and replicable in Madagascar and in other African countries in order to attract private investors and to supply electricity to rural and poor population.***

Thank you!

Pascale.Bonzom@undp.org

Sascha.Thielmann@gtz.de