



GENERAL ASSEMBLIES OF ANBO AND INBO

JOHANNESBURG (RSA)

KOPANONG HOTEL & CONFERENCE CENTRE

4 – 7 MARCH 2007



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Background To LHWP



- ❑ Long way from 30's thru 50's to 80's.
- ❑ Joint Detailed Feasibility studies by GOL & RSA – Aug 1983 to Dec 1985
- ❑ Several Options Considered.
- ❑ Agreed on LHWP- As most feasible & viable option.
- ❑ Four Phased Project to:
 - Meet water demands of RSA for industrial & household needs.
 - Provide revenue for Lesotho.
 - Generate energy for Lesotho.



Purpose of LHWP

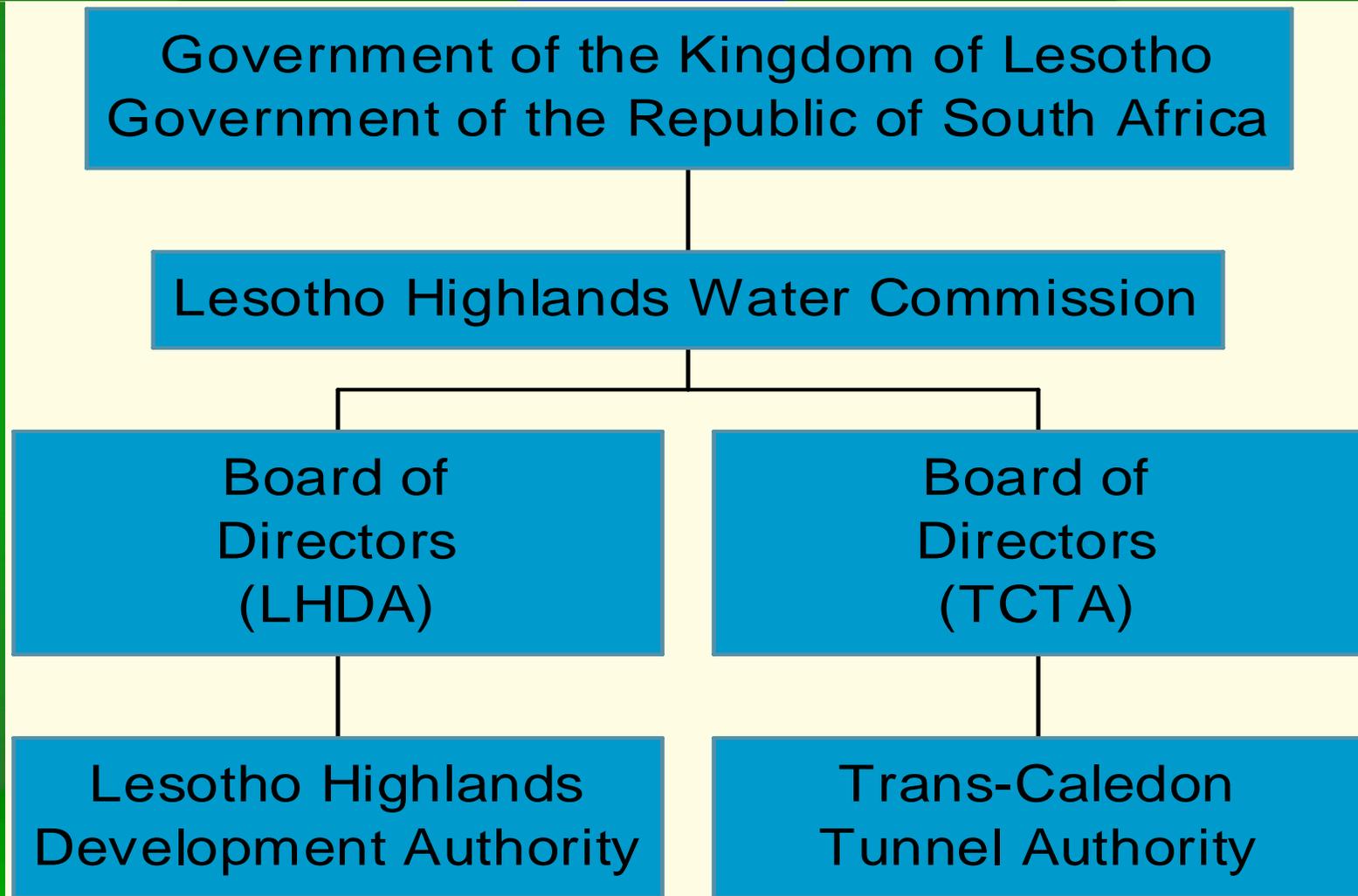


LHWP Treaty & LHDA Order 1986

- Transfer of high quality water to South Africa.
- Generate electricity for Lesotho.
- Safeguard the environment and natural heritage.
- Ancillary developments in Lesotho & RSA.

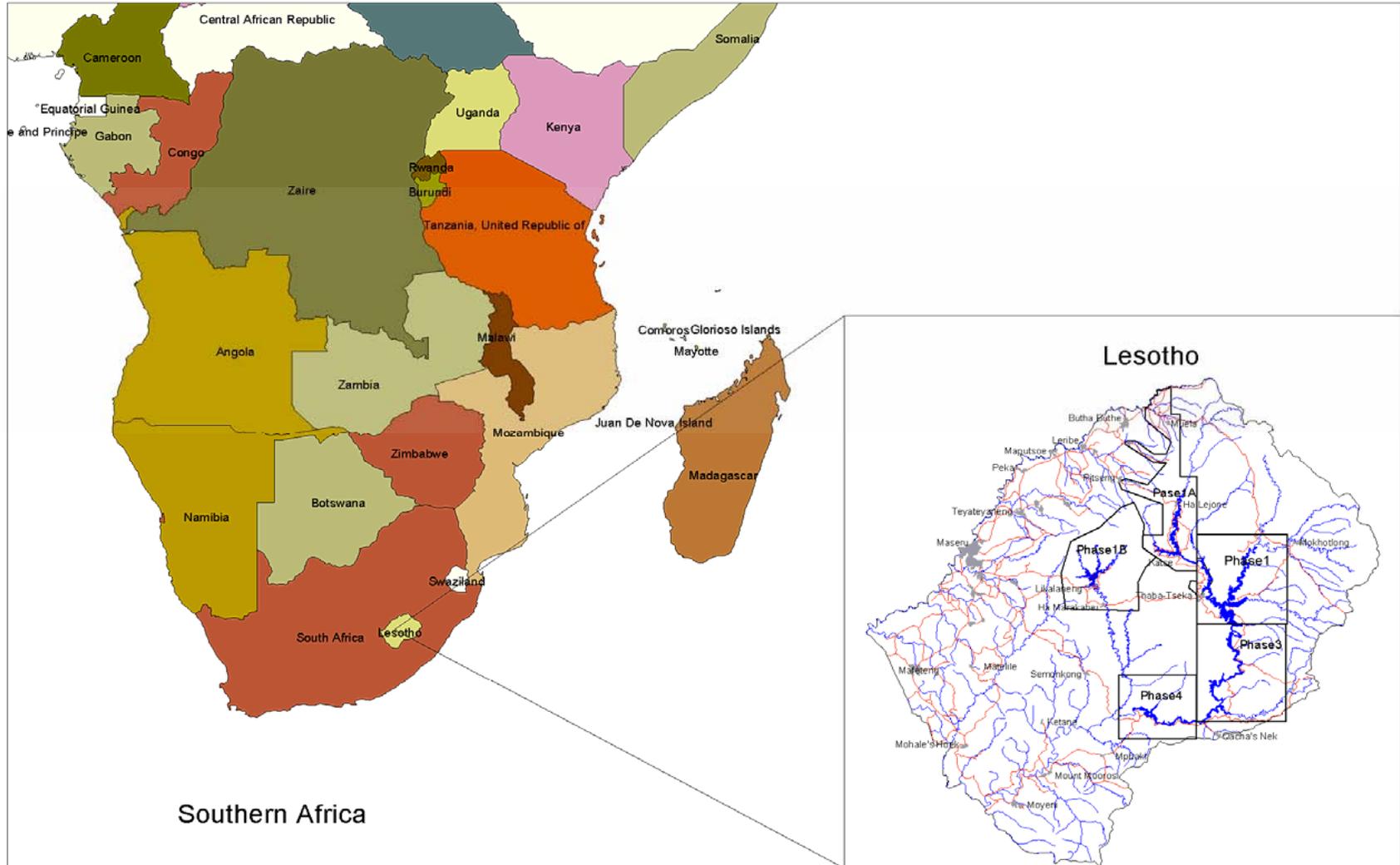


Institutional Arrangements





Project Overview





Phase 1A



To deliver 18 m³/s

Key Features:

- ❑ **Katse Dam** :185 m high; Storage = 1,950 million M³
- ❑ **Transfer Tunnel** – 45 Km
- ❑ **Delivery Tunnel** - 37 Km :15 Km in Lesotho & 22 Km in RSA
- ❑ **Hydropower Plant** -72 MW installed capacity
- ❑ **Muela Dam**- 55m high concrete arch type

Katse Dam completed in May 1997;

One of less than thirty double curvature concrete arch dams in the world.; The highest dam in Africa .

One of the ten largest concrete arch dams in the world in terms of its volume.

Phase 1A commissioned in 1998



Phase 1A Water Transfer



Katse Dam – 1st Overflow 10 March 1998





Phase 1A Ancillary Developments



Malibamats'o Bridge





Phase 1B



To deliver 11.7 M³/sec

Key Features:

- ❑ **Mohale Dam** - 145 m high ; Storage= 958 million M³
- ❑ **Transfer Tunnel**- 32 km
- ❑ **Diversion weir on Matsoku river**
- ❑ **5.6 km long interconnecting tunnel**

Mohale Dam impounded in Oct 2002

Phase 1B taking over certificate issued in Dec 2003

Inauguration on 16th March 2004.



Phase IB: Mohale Dam





Mohale Dam Spilling

7 FEBRUARY 2006





Social & Environmental Components



- Compensation & Resettlement
- Development
- Public Health
- Natural Environment & Heritage.



Social & Environmental Components



COMPENSATION & RESETTLEMENT

Communal Assets Compensation

- ❑ Lump sum paid to communities for loss of grazing area.

- ❑ M41 million paid to date

❑ Compensation & Resettlement

- ❑ 3,142 households compensated annually

- ❑ 321 households resettled



Social & Environmental Components



COMPENSATION & RESETTLEMENT

Community Infrastructure

- 45 fully furnished classrooms constructed for 16 schools, together with water supply and sanitation facilities.
- 5,503 households with VIP toilets.

Feeder Roads & Bridges

- 76km of gravel road with additional works of 6km
- 4 vehicle bridges and 3 pedestrian bridges constructed.



Social & Environmental Components



Senqunyane Bridge





Social & Environmental Components



DEVELOPMENT PROGRAMME

- Food Security
 - Improved subsistence farming for food security
 - High value crops e.g. asparagus, garlic, seed potato; Orchards
- High value livestock including range management
- Ecotourism
- Reservoir Fisheries

PUBLIC HEALTH

- 4 clinics transferred to Government – LTU; Mphorosane; Muela and Mohale
- HIV/AIDS Management Programme



Social & Environmental Components



□ Natural Environment & Heritage

□ Three nature reserves

- Tsehlanyane
- Bokong
- Liphofung

□ Conservation of Maloti minnow

□ Integrated catchment management [ICM]

□ Instream Flow Requirements [IFRs]

To ensure that sufficient water is released from the dams for the benefit of biodiversity and people down stream.



3.0 BENEFITS TO BASOTHO



□ **Transitory:**

- **More than 16,000 jobs created**
- **M1 billion paid in wages**
- **Value of contracts [Contractors] = M 200 million**
- **Value of contracts [Consultants] = M 280 million**
- **Supply of goods & services = M 900 million⁺**



BENEFITS TO LESOTHO



□ Permanent:

- Royalties revenue of **M2.0 billion** to Dec 2006
- Electricity sales of **M422 million** by Dec 2006
- Electricity exports to the value of **M5.4 million**
- Royalty income directed to LFCD of **M480 million** cumulatively



BENEFITS TO LESOTHO INFRASTRUCTURE



- 102 km of paved roads
- 265 km of gravel roads
- 1,133 km of roads rehabilitated to grade 1 standard
- 11 bridges built
- 3 bridges between Lesotho & RSA [Maseru; Maputsoe and Caledonspoort]
- 299 KM of power lines
- Work camps, staff housing[[Katse, Mohale, Likileng] 300+



BENEFITS TO LESOTHO'S ECONOMY



❑ Contribution to economic activity of 5.4% of GDP by 2002:

❑ Electricity and Water = 5%

❑ Construction = 18%

❑ Revenues to GOL

❑ BOP Capital Account of M585m amounting to 68% of the total M865m positive balance in 2002



BENEFITS TO SOUTH AFRICA



- ❑ High quality water transferred = 4.8 Billion m³ to date.
- ❑ Job opportunities during construction of Delivery Tunnel
- ❑ Improved infrastructure in Clarens, Fouriesburg, Ficksburg and Ladybrand
 - ❑ New border crossings and Improved amenities
 - ❑ Community halls, Clinics, Houses,
 - ❑ Improved railhead facilities. E.g. Ficksburg.



LESSONS LEARNED

- **World Bank Involvement lent credibility**
- **Panel of Experts added value – Engineering & Socio / Environmental**
- **Environmental/social programs need careful planning**
- **Clear and equitable sharing of costs and benefits**
- **Separation of oversight, implementation responsibilities**
- **Use same consultants for supervision and design**
- **Careful planning of financing and contracting**
- **Deal with contractor claims promptly; use DRB**
- **Tight procurement processes to avoid corruption**



LESSONS LEARNED



- **Importance of upfront EIA, EAP**
- **Resettlement and compensation need clear policies, transparency, adaptability, community participation**
- **Rigorous complaints procedure**
- **Treaty provision ‘Nobody worse off as a result of the project..’ a powerful safeguard**
- **IFR – difficult, start early, implement, monitor, adapt**
- **Multi purpose, multi country adds significantly to complexity – but rewards make it worthwhile**



CONCLUSION



- A show case of bilateral co-operation.**
- A win-win situation for Lesotho & RSA.**
- Green Award Nov 2006**
- NOSA SHE 5 Star Rating- March 2004.-For Muela Hydropower**
- “Project of the Century” Award -27 Nov 2003.**
- Comparatively low accident rates.**
- Finished within budget, time & to specifications.**
- Successfully Fought Corruption.-Quoted as Best Practice**
- Embodies NEPAD Principles..**



CONCLUSION

The Future of Water Development In Lesotho

- ABUNDANT SUPPLY – NATURAL ENDOWMENT
- COST EFFECTIVE – GRAVITY DRIVEN
- PROVEN EXPERIENCE AND EXPERTISE
 - MULTIDISCIPLINARY TEAMS
- DEMOCRATIC STRUCTURES IN PLACE
 - LOCAL GOVERNMENT – VILLAGE LEVEL
- THE SKY IS THE LIMIT!



THANK YOU

THE END