

Botswana



Norway

Over 30 years of Institutional Cooperation in the Road Sector

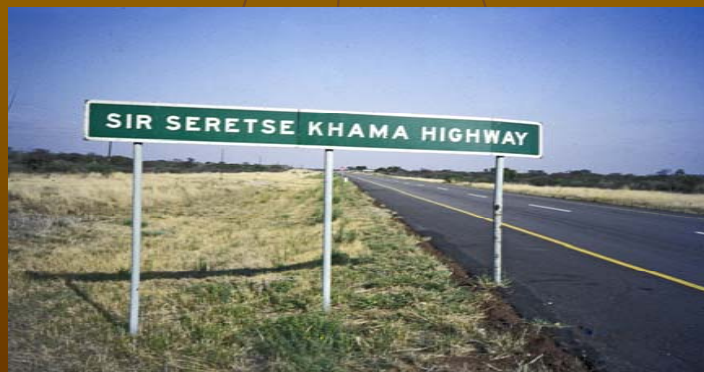
Botswana RD – NPRA



Republic of Botswana



NPRA



21-23 March 2007

THE NORAD TECHNICAL ASSISTANCE PROGRAMME TO THE REPUBLIC OF BOTSWANA

OVER 30 YEARS OF INSTITUTIONAL
COOPERATION
SUSTAINED BY TRANSPARENCY AND
MUTUAL RESPECT

By

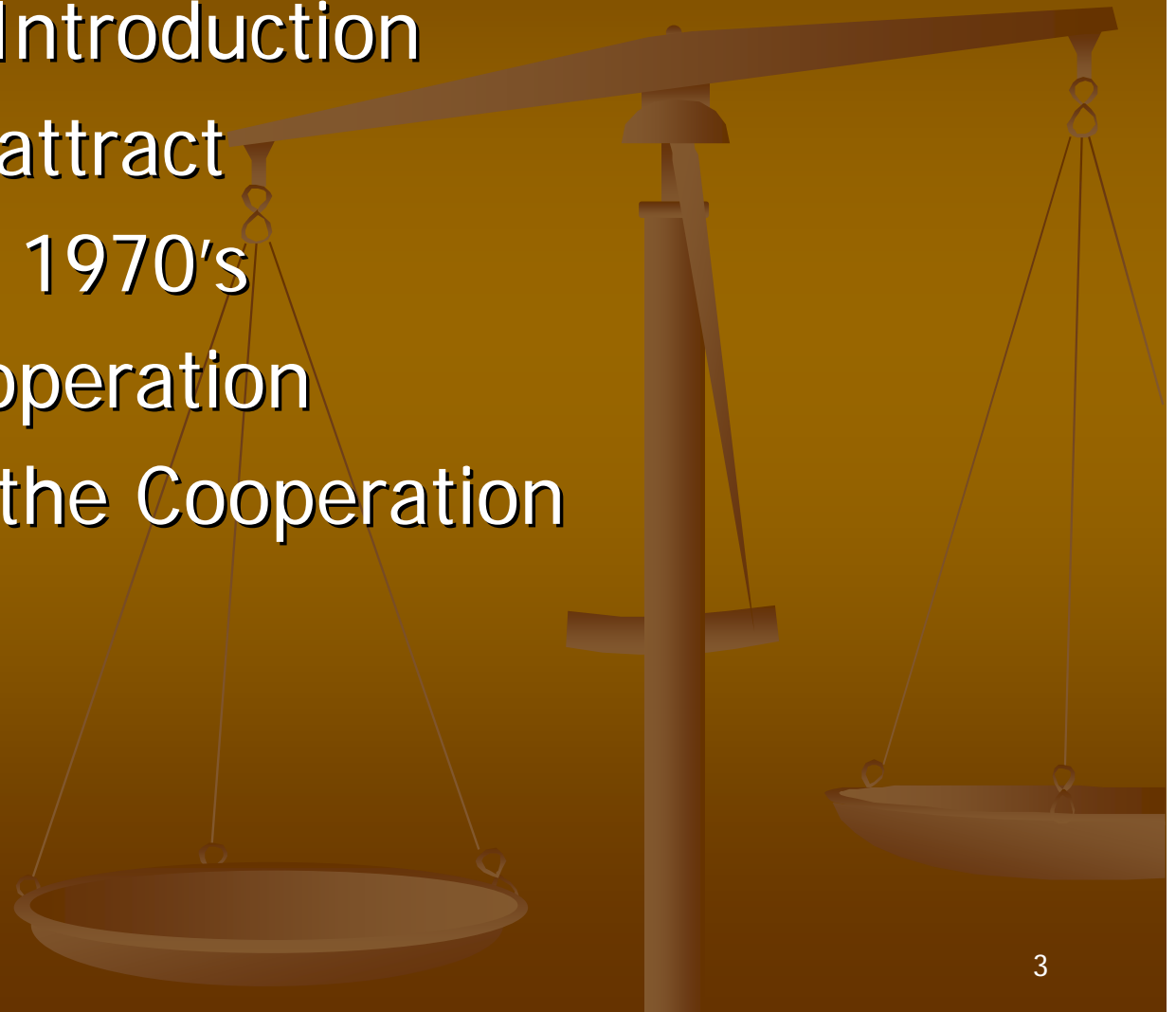
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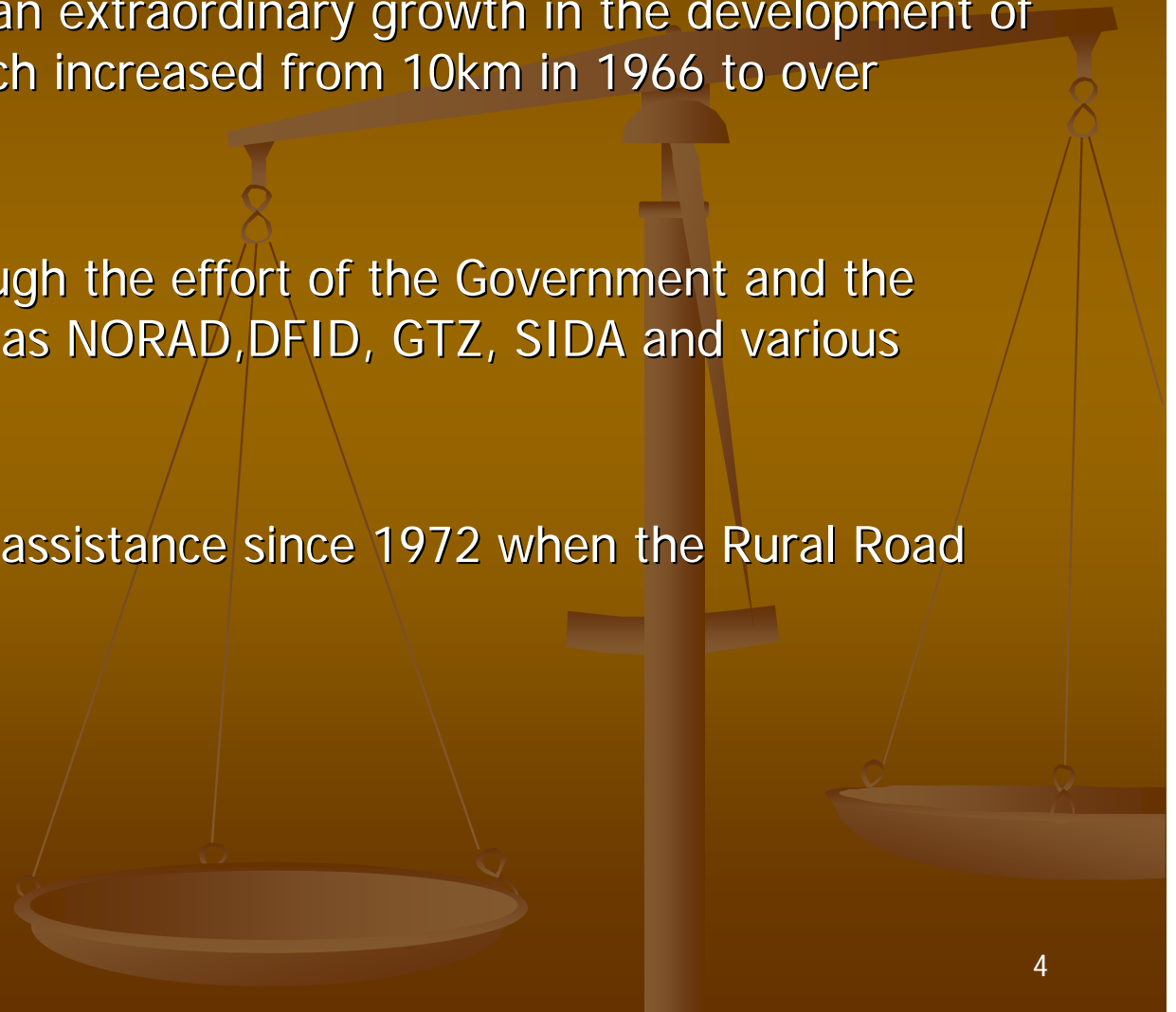
OUTLINE OF PRESENTATION

- Background and Introduction
- Like repel Unlike attract
- Challenges in the 1970's
- Nature of the Cooperation
- Achievements of the Cooperation
- Lessons Learnt
- Conclusion



1. Background and Introduction

- Botswana has experienced an extraordinary growth in the development of its paved road network which increased from 10km in 1966 to over 7000km in 2007.
- This development was through the effort of the Government and the development partners such as NORAD, DFID, GTZ, SIDA and various donors
- NORAD has been providing assistance since 1972 when the Rural Road Programme was conceived



Republic of Botswana



Some facts about Botswana

- Part of SADC
- Landlocked country
- 582 000 sq km
- About 80% of the area is covered by the Kgalagadi Desert (kgalagadi sand and calcrete)- semi arid
- 1.7 m people
- Has about 18 000 km of PHN (9 000 km MWT and 9 000km MLG)
- Democratic country
- Most of the people (80%) live along the eastern corridor
- Diamond is the main source of revenue
- Cattle industry plays a bigger part in exports
- Tourist country (wildlife, Okavango delta)

The Norwegian Agency for Development Cooperation (NORAD) Support

- Botswana had only 10km of paved roads at independence in 1966
- Botswana was very poor in the 1960s and 1970s
- Cooperating partners assisted Botswana
- Over three decades of RD/NORAD/NPRA cooperation
- NORAD development assistance in many sectors (roads, health, rural development, volunteer services, environmental activities etc)
- NORAD phased out development assistance in 2002
- Cooperation still exists between RD and NPRA (NORAD)
- Cooperating activities (include technology transfer, management, training and social aspect)

Bush-dragging was a common gravel road maintenance activity in the early days

Bush dragging



The Spoor Machine was used to improve the sand tracks by making furrows in the heavy sand to assist the drivers to maintain their positions in the tracks, thereby reducing the chances of getting stuck in the sand and also minimizing accidents



Accidents were common where spoors were not defined in the single carriageways



Dual carriageway in the Kgalagadi Desert



2. Like repel Unlike attract (Norway compared to Botswana)

- Long distance between the two countries
- Climate (cold and wet versus hot and dry)
- Physical Features (mountainous versus flat terrain)
- Road Infrastructure Provision and Maintenance (design and maintenance strategies, operations, skills etc)
- Differences in culture

In spite of the above the partnership has been a success story between Norway and Botswana

3. Challenges in the 1970's

- Botswana had just become a Sovereign State
 - Big Country BUT Small Scattered Population
 - Job Creation was in dire need
 - Poverty was the norm
 - No Skills (no engineers but artisans and technicians with limited experienced)
 - No Resources
 - No Communication (roads, phones, post etc)

4. Nature of the Cooperation

- Based on priority needs identified by Botswana (National Development Plans)
- Infrastructure
- Health Services
- Agriculture
- *Road Sector*



Road Sector

All in Accordance with Government Policy

- Road Construction to increase rural Agricultural production
- Road Building to strengthen local communities
- Labour Intensive Construction methods to increase rural employment
- Training of local personnel in road construction methods and techniques
- Development of appropriate rural roads standards and economic maintenance techniques

THE AGREEMENTS

- **Botswana contribution initially was in kind**
- **1ST AGREEMENT BOT 004 (1974 – 1988; 14 years)** (Total Cost NOK 209 m)
 - Financial and technical assistance for the construction and maintenance of the rural roads
 - The development and implementation of pavement monitoring programme
 - Technical assistance to the Roads Administration
 - Support to the Roads Training Centre

THE AGREEMENTS (Contd.)

2ND AGREEMENT BOT 025 (1989 – 1992; 4 years)

Total Cost of NOK 34 m, (of which NOK31.2 m was spent on expatriate personnel)

- Secondment of technical assistance personnel to Roads Department
- Provision of short term consultancies
- Institutional cooperation between RD and NPRA
- Support of seminars, courses and study tours

THE AGREEMENTS (Contd.)

3rd AGREEMENT (1993 – 1997; 5 years) Cost - NOK 22.3 million

- Technical Assistance (NOK 15 million)
- Institutional Cooperation RD & NPRA NOK 6.125 million
- Financial support for various kinds of Training NOK 1.5 million

THE AGREEMENTS (Contd.)

4TH AGREEMENT (1998 – 2000; 3 years, cost NOK 22.3m)

- This agreement was extended by 5 years
- The main components of the programme were:
 - General cooperation activities
 - Application of Labour Based Methods in Road construction & maintenance
 - Research & documentation of technical standards and improved management procedures

THE AGREEMENTS (Contd.)

CURRENT AGREEMENT (2005 – 2009; 5 years, cost P 18.4m)

- Signed in Nov 2004 between RD and NPRA
- The main components of the programme are:
 - Revision of BRDM and SSRBW
 - Continuation of Pavement Monitoring Programme
 - Guideline for Public Highway Safety Planning
 - Revision of the Public Roads Act
 - General Assistance on Selected Topics

The programme is managed through a Technical Forum and GoB is responsible for about 82% of the cost (Norad 15%, NPRA 3%)

EXTENSION OF THE PROGRAMME

- Extended by 3-6 years
- Reasons for Extension
 - The LOG frame format created additional tasks and substantial follow ups which were not originally anticipated.
 - Strong Desire to complete the Programme
- Cost Implications
 - More Technical Forum meetings
 - More Traveling
 - Increased rates (Transport, Accommodation and Salaries)
 - Involving more stakeholders; several workshops

FACTORS INFLUENCING THE SELECTION OF PROJECTS

The choice of areas of assistance were influenced by:

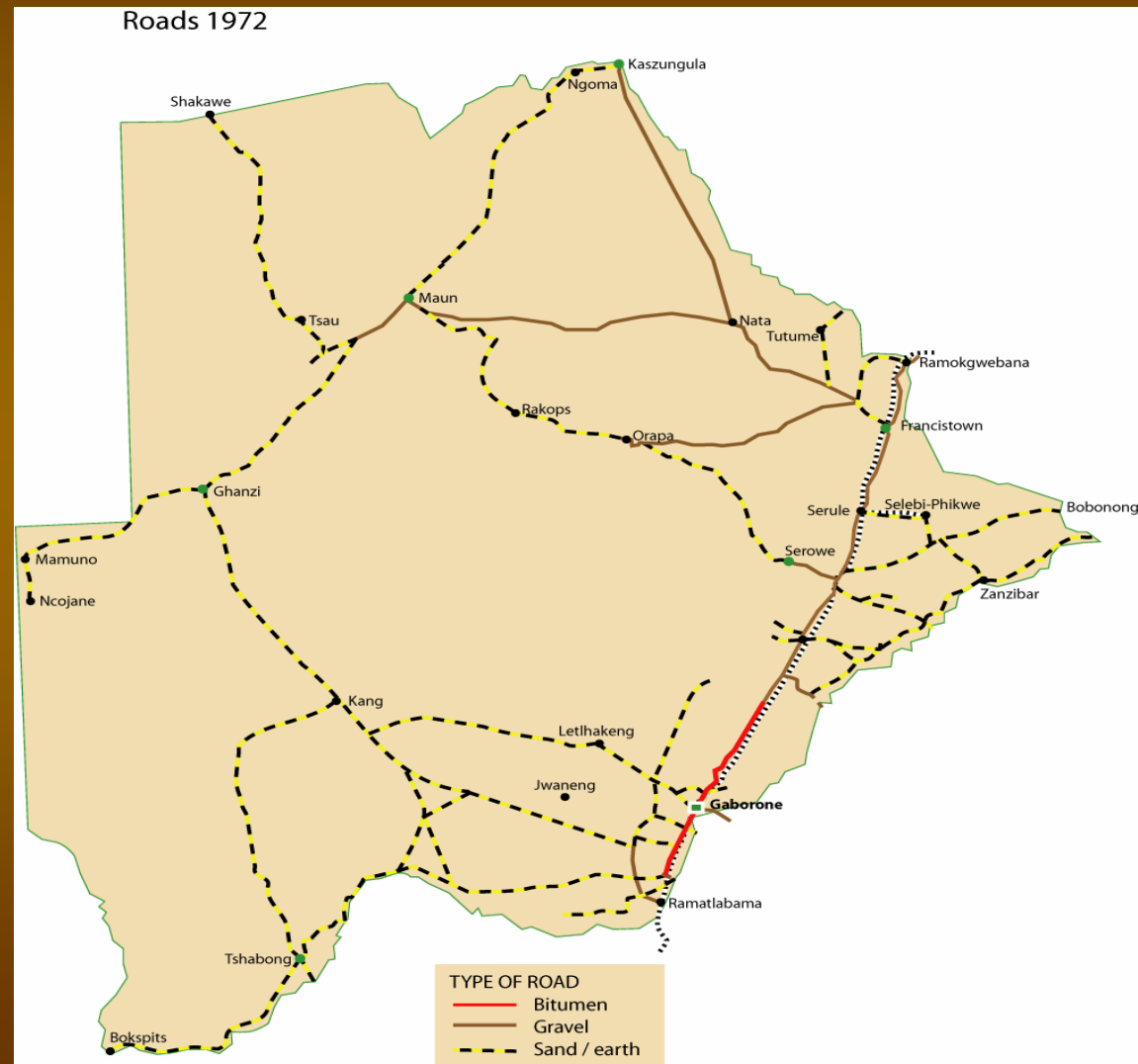
- The need for institutional capacity in key areas of RD Operations
- Absence of Technical Guidelines and Sustainability of past NORAD and DFID programmes.
- Need to develop appropriate local technology through research and the sourcing of relevant innovative technology from elsewhere (e.g Otta seal).
- To create enabling environment for the use of the private sector.

5. ACHIEVEMENTS OF THE COOPERATION

- The cooperation was by design aligned to the objectives of Government and aspirations of people of Botswana.
- All weather roads were provided to remote rural communities
- Connectivity of the rural communities to the administration centers.
- Poverty was to some extent alleviated as developments came to the rural communities.
- Those populations in the most remote areas gained speedy access to essential amenities such as hospitals and schools.
- Reduced travel times and vehicle operating costs.
- People in Western remote areas gained access to the markets in the Eastern part of the country.
- The staffing capacity of Botswana road agencies (MWT & MLG) improved.
- There has been technology transfer which benefited Botswana very much.
- The use of the naturally occurring road building materials such as the abundant Kgalagadi sand and calcrete in road construction.

Roads Development

1972



Roads development 1986



Roads 1992

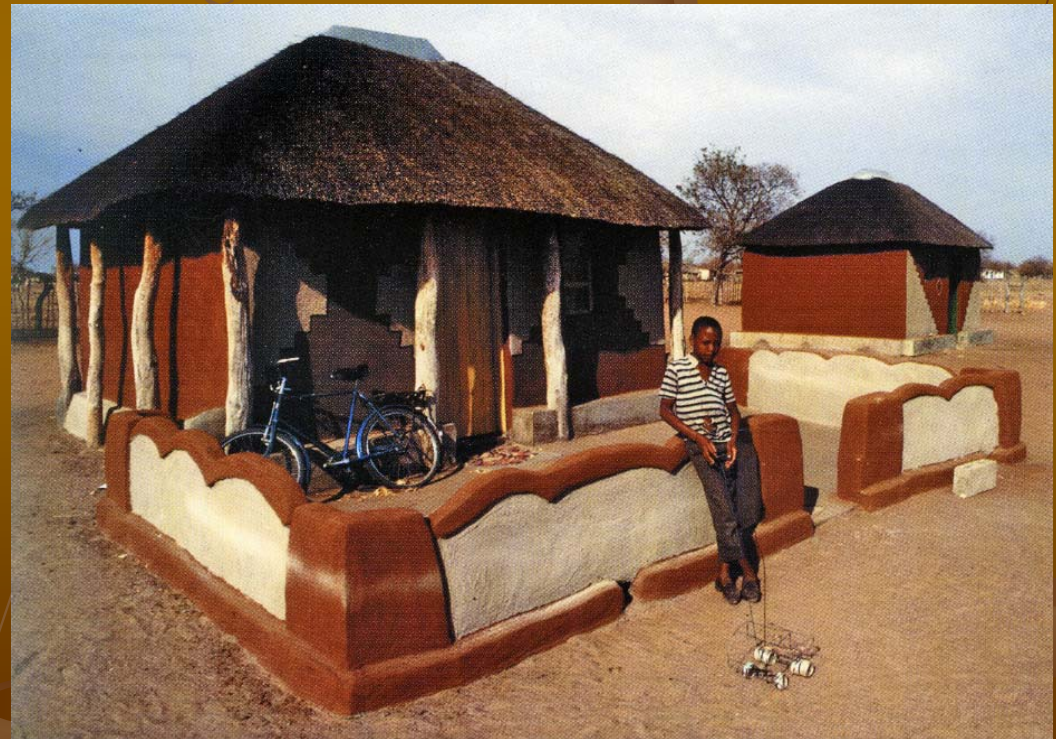


Road 2006



Technology Transfer





Roads development

A road through a National Park



LABOUR-BASED TECHNOLOGY

- Routine Maintenance
 - Routine Maintenance by Contract (Over 500 kilometers)
- Road Construction
 - Two Access roads constructed
- ILO Participation
 - Technical Audit
 - Baseline study
 - Socio Economic Impact Study



BROOMING IN OF CHIPPINGS



Road construction



Social life has improved



Technical Guidelines/Manuals

- *In its endeavour to provide uniform practice and efficient and effective road infrastructure, Botswana Roads Department together with NPRA have prepared and published a number of Technical Guidelines and Manuals. Their main objective is to document and prescribe the best practice and to preserve the local knowledge on a variety of aspects that have evolved over many years of road planning, design, construction and maintenance in Botswana*
- *The direct beneficiaries of the guidelines/manuals are road agencies, district/town/city councils, University of Botswana, Botswana Bureau of Standards, Consultants, Contractors, Materials Testing institutions, and other stakeholders in the road construction industry in Botswana and the SADC region. These guidelines have been disseminated through workshops.*
- *By the end of 2007 12 guidelines/manuals will have been produced in-house or by local and regional consultants under the guidance of working groups from Roads Department and NPRA. This approach has ensure ownership by RD staff*

Technical Guidelines/Manuals (contd)

- Guideline No 1-The Design, Construction and Maintenance of Otta Seals (1999)
- Guideline No 2-Pavement Testing, Analysis and Interpretation of Test Data (2000)
- Guideline No 3-Methods and Procedures for Prospecting for Road Construction Materials (2000)
- Guideline No 4-Axle Loads Surveys (2000)
- Guideline No 5-Planning and Environment Impact Assessment of Road Infrastructure (2002)

Technical Guidelines/Manuals (Contd.)

- Guideline No 6-The Prevention and Repair Salt Damage to Roads and Runaways (2002)
- Guideline No 7- Technical Audit of Road Projects (2002)
- Guideline No 8-The Use of Silcrete and Other Marginal Materials for Road Surfacing (2002)
- Guideline No 9-Traffic Data Collection and Analysis (2004)
- Guideline No 10-Operating Procedures for Central Materials Laboratory (2003)
- Guideline No 11-The Use of Kgalagadi Sands in Road Construction (expected to be completed mid-2007)
- Road Maintenance Manual (expected to be completed by mid-2007)

6. LESSONS LEARNT

- Commitment at senior level of cooperating partners is highly essential
- Transparency and mutual respect are crucial
- Transparency needs dedication and commitment
- Constant Monitoring is a must
- Staff turnover disrupts continuity
- Training is an integral part of any programme
- Peoples' attitude to labour intensive works was initially negative

7. CONCLUSION

- Though we have failed to complete the programme on time and in budget due to RD's capacity constraints and staff turnover, the programme has been a success because the objectives of the major/crucial areas have been met:
 - Such as capturing experience
 - Re-introducing labor based technology
 - Technology transfer e.g.. Otta seal

THE END



BUDGET FOR THE PROGRAMME

Expenditure (Figure in 1000 NOK)

	RD	NPRA	Total
Original 1998-2000 Budget	3.917 (By GoB)	12.383 (By NORAD)	16.300
Current Total Budget 1998-2003	11071	18565	29636
Additional Funding	7154	6182	13336

'Additional funding' is the amount required **from GoB** over and above the original budgets for RD (by GoB) and for NPRA (by NORAD; fixed).

BUDGET FOR THE PROGRAMME (Contd.)

Expenditure (Figures in 1000 NOK)

	GoB		NORAD	Total
	RD	NPRA	NPRA	
Original 1998-2000 Budget	3917	-	12383	16300
Expended, 01.12.2001	6959	-	11392	18351
Remain' from orig. after 2001	-3042	-	991	-
2002 Budget	2157	3424	991	6572
2003 Estimate	1995	2758	-	4713
Requirement (for 2002 & 2003) from GoB	4112	6182	-	10294