



**WORKSHOP ON LESSONS LEARNED FORM
THE INTEGRATED REVIEW SERVICE (IRRS)
SEVILLA, SPAIN. 3 – 4 NOV. 2008**

THAPELO OTUKILE
DEPARTMENT OF RADIATION PROTECTION
BOTSWANA



BRIEF BACKGROUND

- Area = 573,000 km²
- Location = Landlocked
 - South & Southeast = RSA
 - Northeast = Zimbabwe
 - North = Zambia
 - West = Namibia
- Population = Approx 1.8 million
- Government = Multi-party democracy
- Economy = Stable



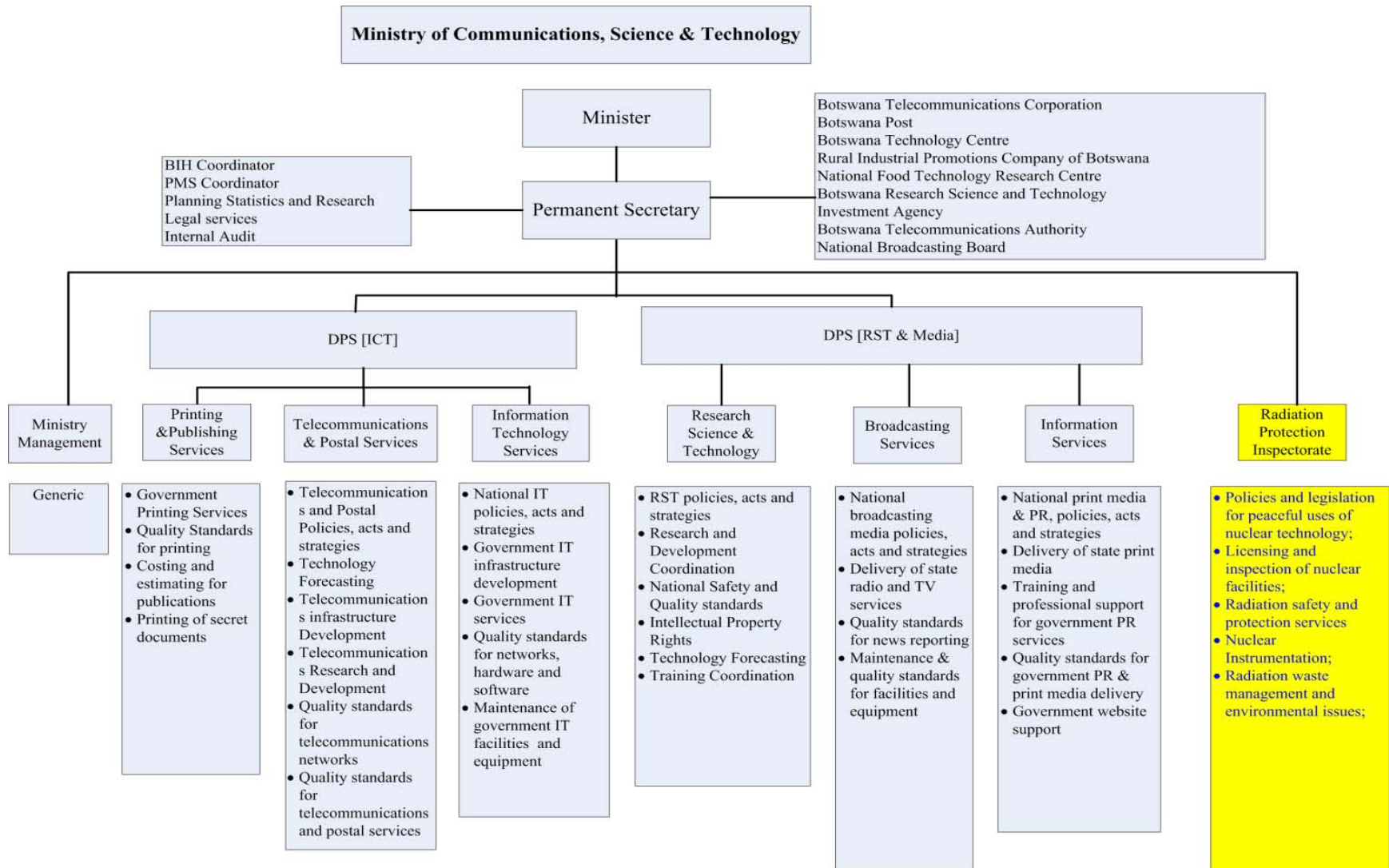
DEPARTMENT OF RADIATION PROTECTION

BRIEF BACKGROUND

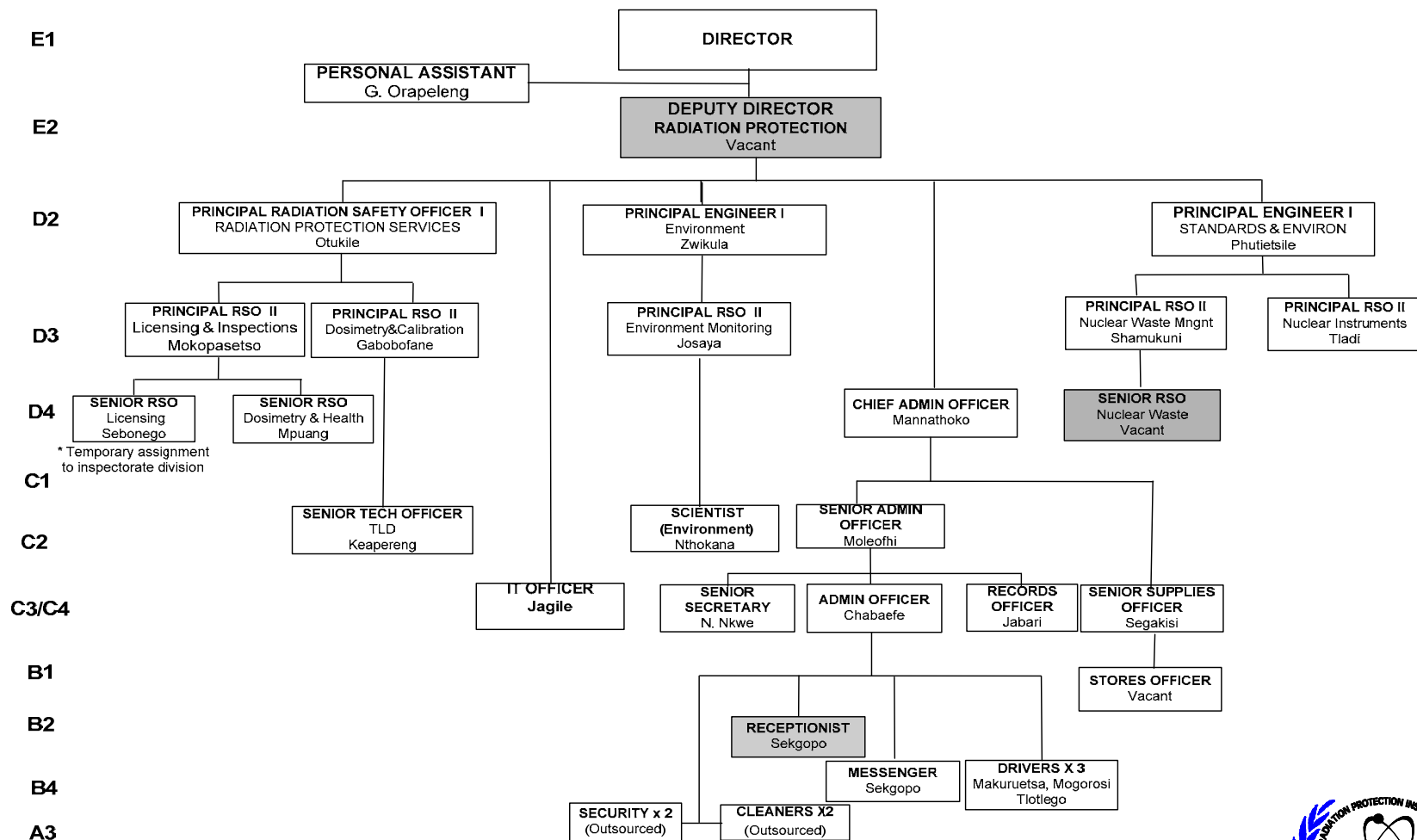
- **Radiation Protection Inspectorate established in 2004**
 - 3 staff members in 2004
 - 12 in 2006
 - 21 in 2007
 - 27 in 2008
- **Department of Radiation Protection came into existence in April 2008**
 - Separate budget in 2008
 - Radiation Protection Act passed in 2006
 - Radiation Protection Regulations passed in April 2008
 - Radiation Protection Board established in 2006
 - First Board meeting held in October 2007
- **Monitoring service using TLD Harshaw 4500 established in 2006**
 - 140 persons being monitored monthly
- **Radioactive Waste Management Facility Project commenced in 2007**
 - EIA commenced in October 2008



FUNCTIONAL ORGANOGRAM



DEPARTMENT OF RADIATION PROTECTION ORGANOGRAM



IRRS MISSION IN BOTSWANA

- **Date held : 18 – 22 February 2008**
- **Organized by : IAEA** (At the request of Government of Botswana)
- **IAEA Review Team**
 - Mr. Tony Colgan, Team leader, Ireland
 - Mr. Justin Ngaile, Reviewer, Tanzania
 - Mr. Nasiru-Deen Bello, Reviewer, Nigeria
 - Ms. Melpo Agathocleous, Observer, IAEA/NSRW
 - Mr. Karol Skornik, Team Coordinator, IAEA/NSRW
- **Counterparts (RPI – Team)**
 - Mr. Stephen D. Williams – Director
 - Mr. T. Otukile- Head of Inspectorate Division
 - Mr. Kabo J. Phutietsile – Head of Standards & Environment Divisions
 - Ms. Tshegofatso Zwikula – Section Head, Environment
 - Ms. Golebaone Mokopasetso – Section Head, Inspections & Licensing
 - Mr. Keolopa Gabobofane – Section Head, Dosimetry





REASON FOR REQUEST OF IRRS MISSION

- Recognizing the increasing need to use nuclear technology in medical, industry and research
- Realizing the potential that nuclear technology has in improving the lives of Botswana citizens,
- Appreciating the inherent danger posed by irresponsible use of nuclear technology,
- Recognizing the expertise, professionalism and dedication that the International Atomic Energy Agency has in the peaceful use of nuclear technology and ionizing radiation safety worldwide,
- Undertaking of a review of the legal framework and governmental infrastructure for radiation safety and security and to appraise the effectiveness of the Radiation Protection Inspectorate as a technical arm of the Radiation Protection Board of Botswana



OBJECTIVES OF THE MISSION

- Strengthen and enhance, where necessary, the country's regulatory infrastructure for radiation safety and security by :
 - review of relevant policy and technical issues
 - Thorough and objective evaluation of regulatory activities
 - Review the effectiveness of the Inspectorate
 - Discussions with the counterpart aimed at harmonizing regulatory approaches with other Member States of the Agency
 - Self assessment through joint work sessions on the IRRS Evaluation Questionnaire



METHODOLOGY

- Reference material was provided before the meeting; filler information was provided as requested
- Combined divisions and sections met initially
- Documents reviewed according to IRRS Questionnaire
- Records / files reviewed and checked against data provided
- RAIS data reviewed
- Combined field inspection carried out
- Findings and recommendations discussed with counterpart
- Draft report reviewed by counterparts
- Final report



FINDINGS

- Body ultimately responsible for the security of radioactive sources undefined
- Shortage of quality control kits necessary for inspection of medical facilities
- No bilateral arrangements on cooperation in the field of radiation safety with other countries
- No formal declaration for support of the Code of Conduct yet
- Website not yet established to serve stakeholders and the public
- Not yet a member of IAEA Illicit Trafficking Data Base (ITDB)



RECOMMENDATIONS

- Security of radioactive source
 - Amend legislation to empower the Radiation Protection Board, or
 - MoU with appropriate institution (Police)
- Radioactive Waste Management Facility (Planned)
 - Consider privatization of this function to dedicated institution
- Purchase QA/QC instruments for inspection of medical facilities
- Consider bilateral arrangements with other countries
- Declaration for support of Code of Conduct and its Guidance on Import and Export of Radioactive Sources
- Develop independent website
- Consider joining the IAEA – ITDB
- Guidance documents and code of practice should be prepared and formalized.



ACHIEVEMENTS TO DATE

- Code of Conduct signed in September 2008
- QA/QC kits for inspection of medical facilities ordered
- Bilateral agreements with RSA and Namibia at advanced stage
- IT Officer employed to commence working on Website development
- Joining ITDB will be done in due course.
- Inquiries with the Attorney General Chambers revealed that security of radioactive sources is by their interpretation, the responsibility of the Radiation Protection Board



CONCLUSIONS

- IRRS mission to Botswana was considered essential for self introspection
- Department of Radiation Protection has benefited from this mission as it has identified potential areas of weakness which have been addressed or are currently being addressed
- IRRS mission was accorded credibility by Botswana government authorities as the review team is multi-national.
- The interactive nature of the review and the transparent manner it was done instills confidence and trust in the agency.





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THANK YOU

