



# IAEA

*Atoms for Peace: The First Half Century*

1957–2007

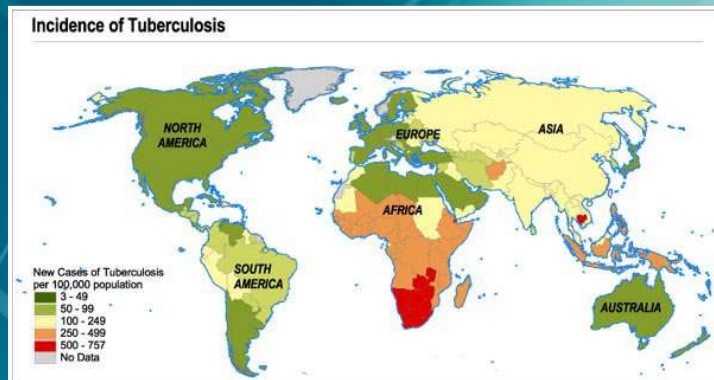
## **Detecting drug-resistant tuberculosis**

### **The challenge...**

One of the most serious challenges confronting health authorities in developing countries is the increasing occurrence of Tuberculosis (TB) and dramatic outbreaks of Multi Drug-Resistant Tuberculosis (MDR-TB).

### **The impact...**

Recent developments in the molecular genetics of TB have led to the identification of mutations in genes involved in resistance to first-line drugs. Using molecular methods with radioactively labelled probes allows early detection of resistant strains of TB.



### **Quantifiable data...**

Cameroon, Ethiopia, Kenya, South Africa, United Republic of Tanzania, Uganda and Zambia, through RAF/6/025 and Brazil, India, Republic of Korea, Malaysia and the Russian Federation, through E1.50.15 have:

- Tested over 8000 samples by culture and molecular analysis for the presence of MDR-TB.
- Established 32 collaborative networks at the national, regional and interregional levels.
- Strengthened capacity for molecular techniques and upgraded laboratories.
- Conducted quality assurance – 445 samples were sent to international laboratories.
- Contributed to awareness raising about this technology through publications, presentations at conferences, reports, interviews and newspaper articles.
- Trained 35 laboratory staff, mostly through the efforts of national institutions.



The results of IAEA supported activities demonstrated the effectiveness of the technology in detecting active transmission of TB in different community environments.

*RAF/6/025: Detection of Drug-Resistant Malaria and Tuberculosis*

*Coordinated Research Project E1.50.15*