

# National Biosafety Framework

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Webinar by SCBD



BAFRA, Ministry of Agriculture and Forests  
Bhutan

# Content

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- Background information
- Overview of Biosafety Regulatory Framework
- Biosafety Legislations of Bhutan
- Institutional Roles
- Testing facilities/capacity



## Background Info

# Major Concerns: Environmental Conservation

- Constitution of Bhutan mandates ~ at least 60% of area under forest cover at all times to come.
- Forest Coverage (including shrubs) : 80.89 %
- 51.44 % of the land area : Protected area
- One of the 10 global hotspots for biodiversity



# Background Info

## The Agriculture Sector

- Population engaged in agriculture and forest: 62.2 %
- Land under some form of agricultural cultivation: 2.93% of area (1,125 sq. km)





# BIOSAFETY REGULATORY FRAMEWORKS

- Ministerial Decree 2000 as per Cabinet Order
- Biodiversity Act 2003
- Food Act of Bhutan 2005
- Seed Rules and Regulations of Bhutan 2006
- National Biosafety Framework 2006
- National Environment Protection Act 2007
- Constitution of the Kingdom of Bhutan 2008
- The Biosecurity Policy of the Kingdom of Bhutan 2010
- Economic Development Policy of Bhutan 2010
- Ministerial Notification 2011
- The Biosafety Act of Bhutan 2015



# The Prohibitions as per the Act

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Import, Transit, Intentional introduction, contained use, Research and development of any GMOs and any other genetically modified biological material capable of reproducing.



# Organization of Biosafety Administration

## Organizational Structure

**National Biosafety Board**

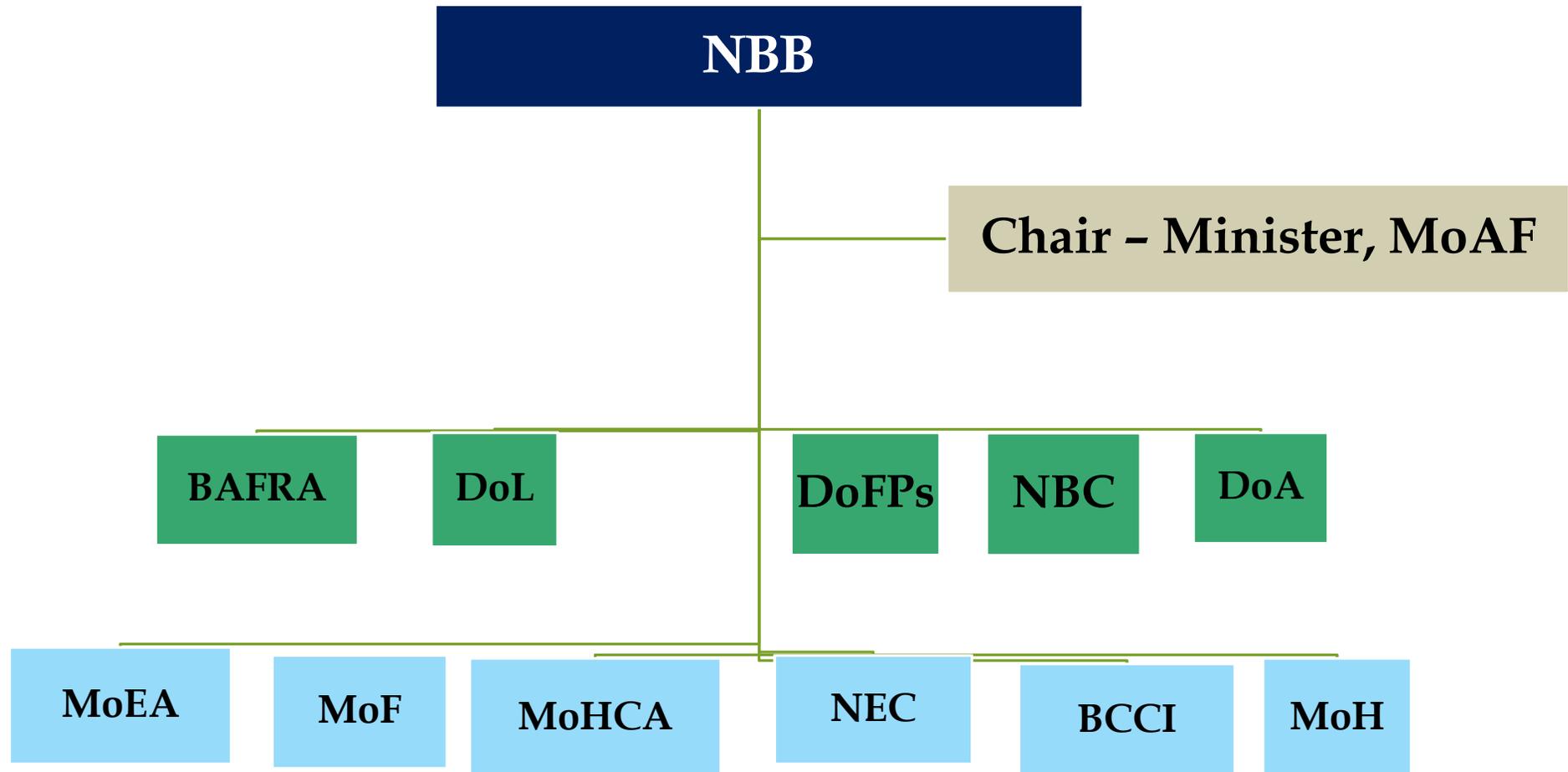
**Bhutan Agriculture and Food Regulatory Authority  
BAFRA – NCA**

**Technical Working Group**

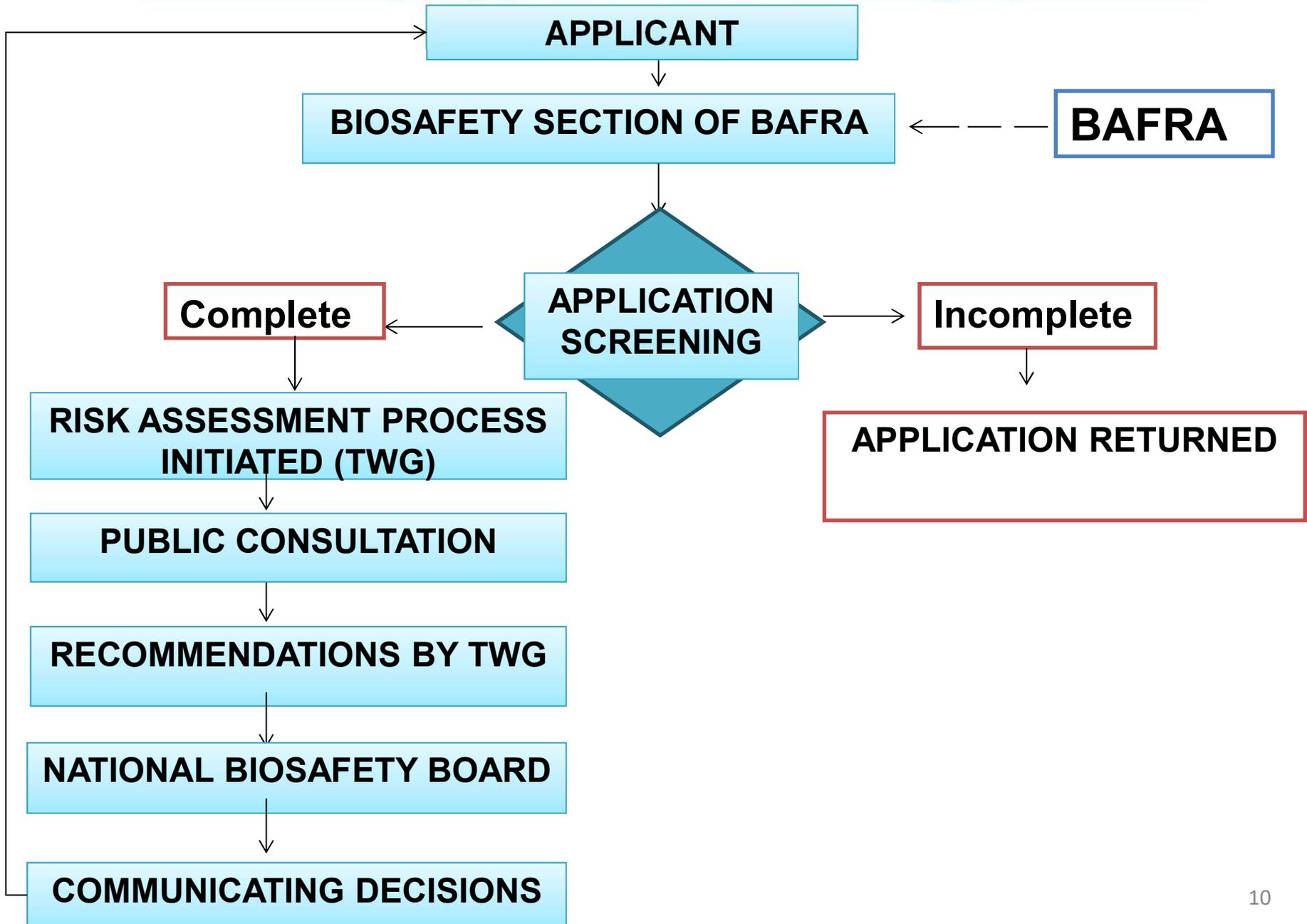


# National Biosafety Board (NBB)

The highest decision making body on all biosafety related issues.



# Biosafety Application Handling System



# Testing facilities/Capacity

- Laboratory set up~NBFP
- Real time PCR (Biorad)
- Nanodrop 2000c
- Thermoshaker and centrifuges
- Biosafety cabinet
- Two personnel with back ground in LMO detection



# Gaps and Constraints

- Financial (Budget Constraints Vs expensive molecular reagents)
- The difficulties to get the required molecular consumables (reagents/primer~probes/mastermix, extraction kit) on time
- Human resource (professional training in GMO detection and quantification)
- Biosafety quite a new activity in Bhutan

# Required information

- Manufacturers of reliable CRMs and primers and probes
- Expert group on GMO/detection-discussion forum
- List of renowned GMO detection and identification training institutes
- List of GMO reference laboratories

Thank you for your kind attention

