Background Information

- Only *Aquilaria malaccensis* species found in Bangladesh.
- Naturally grows in north-east & south-eastern hills but now under threat of extinction.
- Experimental Plantation with other species started in early nineties.
- Total 5800Ha. Agarwood plantations were raised under Pilot plantation (2000-2005) & subsequent plantation project (2008-2011) by FD.
- Practice of raising in private home gardens for many years.
- Height about 20-25 m & GBH about 2-2.5m
- Preferable rainfall min. 1800mm & temp. 20-25°C
- Preferable altitude about 500m and slope not more than 45°.
- Prefer good drainage condition.

Contd….

- Naturally agar formed after 20yrs & found only in 10% trees, artificially induced method applied locally & it is possible to get agar within 10yrs from almost 100% trees
- Singapore, China and Middle-East countries are main importer of agar oil & chips

Agar Trees in Bangladesh

- Scatteredly found in Moulavibazar, Chittagong & Chittagong Hill Tracts.
- Original seed source.
- Plantations are in all Forest Areas.
- Private pltns. are only in Moulavibazar dist.

Nursery & Plantation Mgt. Techniques

- Seed Collection & Sowing: June-July
- Seeds are collected from mother trees and sown in the seedbed or container within 24hrs.
- Before sowing, the seeds are soaked in water for 18-24 hrs.
- After 1 week, germination started & competed within 1 month
- 1 yr old seedlings are planted during rainy season
- Generally planted at an spacing of 2.75m x 2.75m, but in home gardens it may be 1mx1m to 1.5mx1.5m spacing

N.B. Other procedures of nursery establishment and plantation raising & mgt. are similar to any forest species

Nailing & Agar Deposition

- Indigenous Method
- Nailing commonly used
- Chem. Kit method- not popular in BGD

Nailing Method-

- Nailing done from top to bottom at an age of 6-10 yrs in rows and 3-7 cm apart
- Nails are 5-15 cm long
- Agar deposited in injured areas around nail
Nail Removing & Chipping

• After 2-4 yrs of nailing, tress are felled, nails are removed and chips are made manually by using sharp axe and Dao (knife)

Agar Oil Extraction

Very crude & indigenous method -
• Water distillation
• Water-steam distillation
• Steam distillation

Collection of Oil

0.02-0.89 % oil can be extracted (BFRI, 2009)

Implementation of CITES Rules

Signed: 1973
Ratified: 20 November 1981
Entered into force: 18 February 1982
Management Authority: Chief Conservator of Forests
Scientific Authority: Wildlife advisory Board

Legal Instruments In Force:
• Forest Act, 1927 (Last amended in 2000)
• Bangladesh Wildlife (Preservation) Order 1973 (Amended in 1974)
• Plant Variety Protection Act, 2003
• Bangladesh Forest Produce Transit Rule, 2011
• Imports and Exports (Control) Act, 1957
• CITES listed species are regulated as per CITES guideline

Agar Products Trade in Bangladesh

• Agar Chips
• Agar Oil

During 2010-2011, 100,200.00 Kg (100.2 tons) of Agar Chips Exported From Bangladesh

Current Challenges

• No policy
• No Govt. initiative for commercial prodn.
• Lack of scientific technique for artificial induction
• Lack of scientific & efficient technology for prodn. of Agar oil
• Crude method causes misuse of resource & low quality

Proposed Bangladesh Wildlife Act, 2011, Categorized species of flora and Fauna according to CITES guideline
Thanks for Patient Hearing