Phytosanitary issues in the forest sector

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Technical meeting to develop a guide to implementing international standards for phytosanitary measures in the forest sector
13-15 May 2009
The global pest problem

- Rapidly expanding global economy
- Liberalized trade access
- Efficient & rapid means of transport
- Widespread movement of large volumes of all kinds of raw materials & manufactured goods
- The use of standard shipping containers transporting infested organic materials
Pathways for introduction of forest pests

• Activities of the forest sector can contribute to the introduction & spread of forest pests through:
  – trade
  – forest utilization practices
  – the intentional introduction of species for commercial forestry, agroforestry & other purposes
  – inadequate forest surveillance
Pathways for introduction of forest pests

• Species intentionally or inadvertently introduced in association with silvicultural practices
• Movement of forest reproductive material (FRM)
• Wood packaging materials - Now under better regulation
• Timber
• Contaminants of forest fruits & seeds
• Other wood products – birdhouses, candleholders, baskets, furniture, Christmas tree stems
Species introduced in association with silvicultural practices

• Hundreds of tree species (many non-indigenous) introduced for afforestation, desertification & erosion control, & for the supply of fuelwood & other forest products
  – previously no risk assessment before introduction to new area or region

• Some of these species may escape cultivation & invade natural ecosystems
Species introduced for desertification control

*Prosopis juliflora* in Kenya
Movement of FRM

• Major pathway for accidental introduction of forest pest species
• Effective testing (indexing) procedures required to ensure that distributed material is free of pests that are of quarantine concern
• FAO/IPGRI Technical Guidelines for the Safe Movement of Germplasm
  – Acacias
  – Eucalyptus
  – Pines
Movement of FRM

*Phytophthora ramorum*  
*Puccinia psidii*

Bugwood.org  
Glen *et al.*, 2007
Wood packaging materials

- Wood packaging material can be virtually any species of woody plant, in any state from fresh-cut to re-used, seasoned lumber & often use low-grade & scrap wood to minimize costs
  - Cargo shipments may therefore contain wood packaging material of various types, ages & from unexpected & multiple origins
Wood packaging materials

• Solid wood can contain many different potential pest organisms - most pests that feed or occur in or on live or dead stems & branches of woody plants may be found in or on untreated wood packaging material
  – Risk may be even greater if intact bark is present
Wood packaging materials

- ALB, *Ceratocystis fimbriata*
- Movement of wooden spools on which wire rope used as chokers was moved.
  Numerous forest pests detected
Timber

• Major source of forest pests & pathogens
• Timber shipped in containers is a particular threat as the container provides additional protection & limits access for inspection
• Form of shipment also plays a role (treated timber is usually less risky than green, similarly square edged timber less risky than unsquared)
• Strict importation regulations necessary
• Risk analysis with regard to specific import routes may be appropriate
Timber

- Pinewood nematode
- Bark beetles, woodborers, bluestain fungi
- Soil on packaging
Contaminants of forest fruits & seeds

• Conifer cones, nuts, fruits of forest trees, etc. can harbour a wide variety of immature stages of insects
  – Detection & treatment techniques are available but not often used, since these products are not major commodities

• Commercial tree seed – little requirements

• Such material is often moved by tourists (e.g. as souvenirs or for planting in home gardens)
  – public education very important
Contaminants of forest fruits & seeds

- Douglas-fir seed chalcid, *Megastigmus spermotrophus* (Forster) (Torymidae), was probably imported via this pathway.

- Introduced to Europe from North America - becoming Europe's most important pest in conifer seed orchards.
Global response

• Best line of defense in forest protection is prevention through international & national phytosanitary legislation

• International standard setting creates stable harmonized & uniform trading environment
Global response

• Movement of insect pests such as ALB led to creation of ISPM 15 & in turn ISPM 15 to a reduction in the movement of ALB

• Increasingly the IPPC is moving toward commodity specific standards that further involve the products in forest trade
Problems implementing ISPMs by forest sector

• In many countries, particularly developing countries & countries in transition, there is very little communication between NPPOs & the forest sector
  – usually reflected in general lack of communication between agriculture/environment & forestry
  – but miscommunications may also occur between NPPO & forestry sector in industrialized countries

• In some cases there is total unawareness of the existence of NPPOs & about ISPMs
Problems implementing ISPMs by forest sector

• There may be lack of interest or knowledge/expertise of forest pests by NPPOs
  – NPPOs traditionally agriculturally based. Majority of quarantine restrictions are agriculturally focused
  – Usually reflected in lack of updates or input of new forestry pests into quarantine pest lists
  – no specific training of NPPOs in forest pest identification- i.e. what to look for

• ISPMs may be open to misinterpretation & misunderstanding
Misconceptions

• General misconception that IPPC is only concerned with trade issues & not environmental protection
  – also that it is aimed at the agriculture sector
  – applies to foresters, NPPOs & the industrial community

• Misconception about the term plant to refer to trees
  – thus also confusion about plant pests as generally conceived to be agriculture problems
Confusion

• Problem of definition of invasive species IAS
  – CBD or IPPC?
  – 4 regional networks exist mostly endorsed by the regional forestry commissions on forest invasive species - all have different definitions of invasive species
    • Africa (FISNA)
    • Asia & Pacific (APFISN)
    • Near East (NENFHIS)
    • South Cone countries (RCSEI)
Confusion

• Without prior knowledge it is difficult to find updates & to know what ISPM has been added, amended or revised
  – was difficult for us to trace latest versions
  – difficult to navigate the IPPC website
Forest sector response to ISPMs

- ISPMs may be seen by some as a constraint, i.e. may inhibit the movement or forest reproductive materials
  - realize that phytosanitary requirements are different from country to country & for different types of material moved
  - no awareness of bilateral process for trade agreements
  - little understanding that in-country controls should be equivalent with import requirements
- e.g. regulations on imported commodities should not exceed the controls applied to domestically moved goods given the same pest risks
Forest sector response to ISPMs

- Awareness may be generated only when trade is affected, i.e. when countries started compliance with ISPM No. 15, then industry started to become involved
  - industry needs advance notice of new ISPMs which may affect trade
Consequences

• No real knowledge of need to report new forest pest introductions
  – takes us back to the problem of lack of communication with NPPO
  – lack of priority for forest health issues
  – reflected in lack of resources to monitor new incursions
• Still very common for foresters to carry seeds & even seedlings without thought of risk assessment
• Lack of import/export certification, i.e. when sending samples for identification
Consequences

- IFQRG constant request for membership from developing countries but difficult to get participation

- Lack of communication between researchers & the forestry sector also occurs in developing countries
A positive note where ISPMs will be used

- ISPM 3 in Kenya for importation of parasitoids for biological control of blue gum chalcid, *Leptocybe invasa*
  - KEFRI has long-term association with IIBC through introductions
  - but not generally known by neighbouring countries that certified quarantine facilities are needed to receive import of agents let alone compliance with ISPM 3
  - action plan: training course for neighbouring countries in Kenya once compliance has been achieved

Zvi Mendel
A negative note - where local quarantine regulations have loop holes

- Seychelles – illegal transhipment of non-debarked timber from W. Africa into Middle East with stopover in Mahe port under cover of night (6 days in 2000)
- no notification to MOA responsible for quarantine
  - made public through TV interviews
  - shipping company obliged to treat in port but too little too late
  - FAO Legal Dept. worked with national authorities to help revise regulations
A negative note - where local quarantine regulations have loop holes

Seychelles
What documentation is out there

• No specialized guidelines available on forest health practices
  – there may be recommendations on what to do but not how to do it

• Nothing available to give guidance on what to do, how to do it & how to use the valuable information in the ISPMs to achieve goals
What is needed by forest practitioners

• Easy access to information about which ISPM is related to what component of forest health management & possibly case studies or guides on how to do it/recommendations for action

• Written in simple language which is not open to misinterpretation with practical examples
What is needed by forest policy-makers & managers

• Need to minimize the movement of forest pests & reduce their negative effects without adversely affecting trade

• Require cooperation among governments, agencies, industry, research institutions, & private citizens around the world

• Requires proactive approach to prevent pest introductions by cooperating with foreign governments to identify potentially serious, high risk forest pests, monitoring populations in host countries & implementing measures to block important routes of introduction
What is needed by forest policy-makers & managers

- Significant research efforts needed to develop improved & innovative new approaches to regulatory & suppression procedures

- Need for a bridge between phytosanitary regulatory bodies (NPPOs) & the forestry sector
• HOW TO ADDRESS THE ABOVE?