

# REDD+ Forest Monitoring and Policy Options Analyses training (courses)

FAO initiative to enhance knowledge, capacity and better  
decisions about forest resources

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# Drivers of Land use Change

- In the *COP Draft decision -/CP.16* - “Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention”
  - § 70. “Encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, ... circumstances”:
    - (a) Reducing emissions from deforestation;
    - (b) Reducing emissions from forest degradation;
    - (c) Conservation of forest carbon stocks;
    - (d) Sustainable management of forest;
    - (e) Enhancement of forest carbon stocks;
  - ...and how will this be possible without analyzing and addressing the drivers of land use change.

# Therefore

- the importance of analyzing the drivers of land use change, forest degradation and deforestation is emphasized.
- (C 68) “Encourages all Parties to find effective ways to reduce the human pressure on forests that results in greenhouse gas emissions, including actions to address drivers of deforestation.”
- And how to you find effective ways ... tools .. means?
  - Well that is analyzing
  - It is choosing options and
  - Choosing the most cost effective options
- So collecting data about LUC and data/information that can support the analysis of LUC causes is important.

# So ... what are the drivers of land use change – some examples???

- Degradation (“...direct human induced ...”)
  - Non-sustainable fire wood collection (and fellings for char-coal production) and grazing
  - Slash and burn agriculture
  - Commercial forestry
  - Mining, infrastructure, etc.
- Deforestation
  - Combinations of above and
  - Agriculture
  - Active conversion (farming, oil palms, etc.)
- Very difficult to create deforestation by clear-cuttings only....
- And by definition deforestation is LUC ... timber harvest by itself can never create deforestation!



# The main causes of deforestation

- subsistence farmers practising shifting cultivation,
- cash crop smallholders and
- large companies that clear land for crops and cattle.
- Together, these account for three-quarters of all tropical deforestation (IPCC 2007).
- ... but of course this is often following road-building and forestry
- normally not to far from a frontier of infrastructure



# But – let's check them one by one ...

- Non sustainable fire wood collection and overgrazing ... where the forest are close to its natural borders.
  - E.g. dry forests & high altitude forests
  - Slow ... but steady process....
- Slash and burn agriculture ... often in fairly fertile areas.
  - Tropical and sub-tropical regions (nowadays)
  - Can be sustainable or non-sustainable with or without permanent LUC
  - Main reason in vast areas to degradation and deforestation
  - How to stop this ???

- Commercial forestry
  - Often in high forests with huge carbon pools
  - May lead to deforestation in tropical and subtropical regions – but not by forest harvest only
- Mining and infrastructure
  - Mining important in some countries like Guyana
  - Infrastructure (cities, roads, industrial areas, etc) important in most countries

- Agriculture and active conversion (farming, oil palms, etc.)
  - Tropical, subtropical and temperate regions
  - Can we stop farming?
  - How did we do in Europe 100 years ago???
    - More rational agriculture
    - More intensive farming with
    - Fertilization, high yielding crops, high yielding cows, etc.



# All LUC

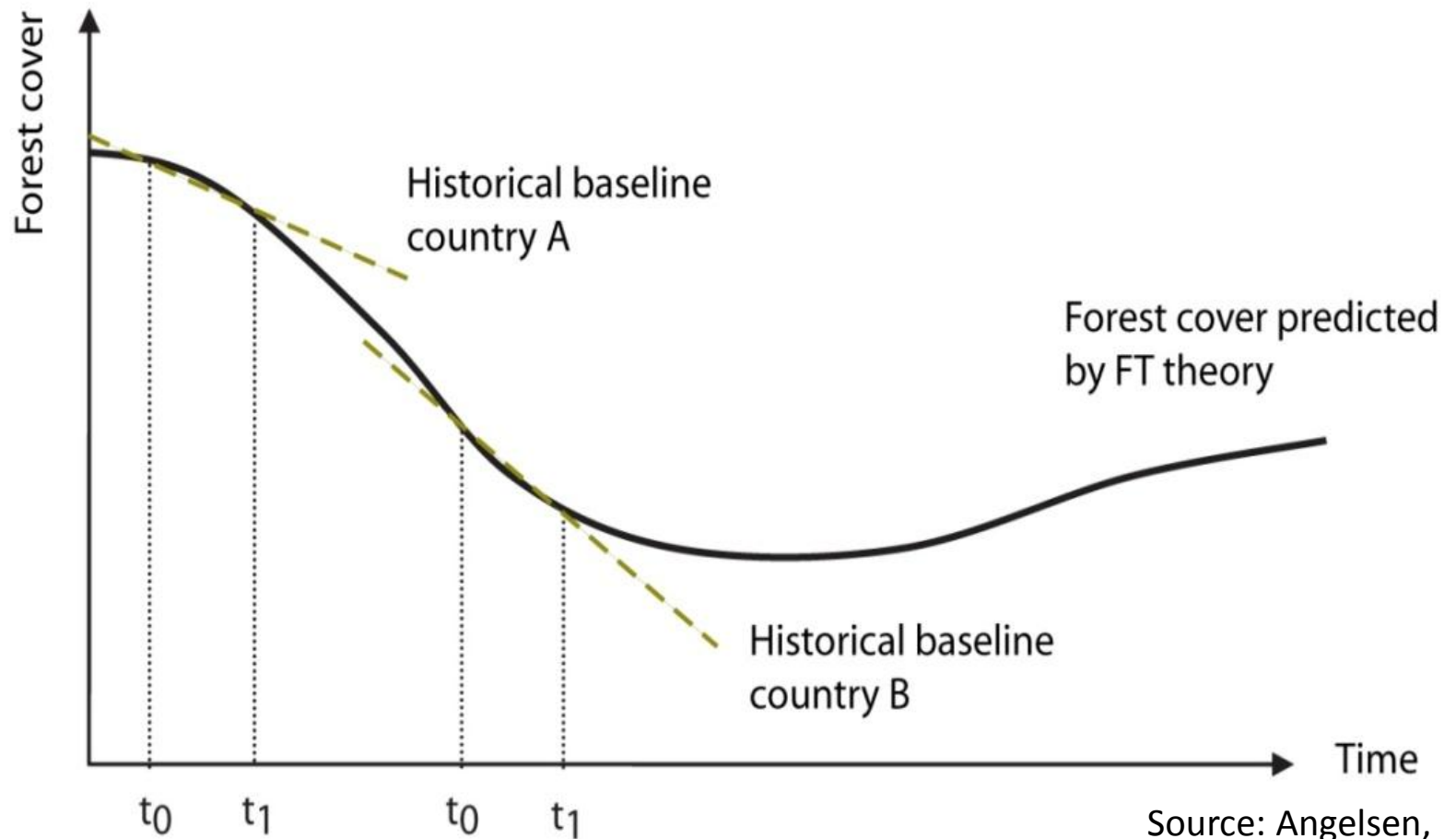
- Are created by human activities
- Where human expansion need the land for different purposes
- Therefore (as presented before)
  - Important to not only monitor the forest variables
  - But also social, economic and other potential explanation variables.
- The observations of the forest as such is not enough!

# Policy options analyses

- All decisions are thought to lead to a better world!
- Within the REDD+ framework decisions are thought to lead to (in short)
  - less carbon emissions,
  - Sustainable forestry (carbon mitigation...) and
  - higher global carbon enhancement,
- but how do we get there?
- and how will decisions affect the outcomes of the atmospheric carbon?

# What to consider?

## Forest stock: forest transition curve



Source: Angelsen, 2008

# The forest and the forestry affects GHG in mainly three ways

## 1. Deforestation and degradation

- caused increased CO<sub>2</sub> levels in the atmosphere.

New forest areas (increased forest areas) and more dense forests

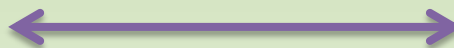
– Will enhance the carbon stock in woody and other vegetation.



## 3. Woody biomass can replace (substitute) fossil fuel and other energy effective material that are energy effective:

Fossil fuel contributes with "new" CO<sub>2</sub> – which renewable biomass does not – that is less CO<sub>2</sub> is emitted!

If steel, aluminum and concrete (energy demanding materials) are replaced with wood (solar power) the emissions will decrease in the long run!



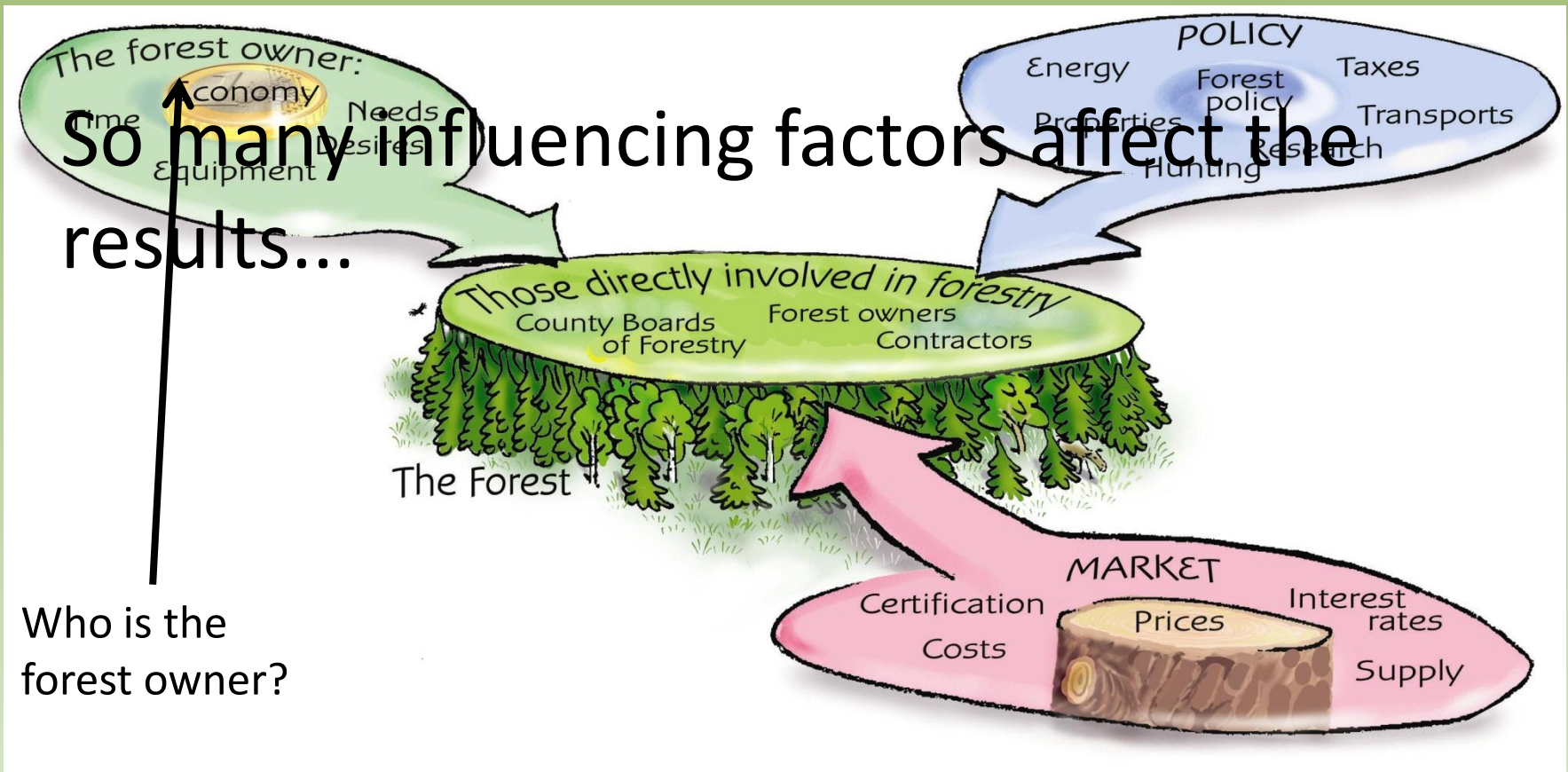
# The policy decision making process



# Policy options analysis

- ... how do we find out which policy measures will have the best effect – works the best?!
  - There are many options available
  - To countries – money transfers may be efficient incentives and an obvious option ...
  - Within countries it is not as obvious!

# There are many policy means to reach the ultimate goal – “REDD+”



# Will you find deforestation in countries...

- ...where there are forest owners?
  - a really big issue!!!!
  - Political issue .... therefore we will not mention it...
- But ... if the forest is there, you are poor, you have the time and the muscles and the governance is not perfect ...



- It is less smart to wait for someone else to grab what is there ...
- The land value (for the individual) and therefore the land rent is zero!
- The fertilizer (in the case of slash and burn) is for free!
- The incentives for sustainable forestry do not exist. Why use the forest sustainable when my kids won't get a piece of the cake anyway?
- There is a risk of getting caught – if there are rules and governing agencies against deforestation – but the benefit might outweigh the risk.

# Are we addressing the correct issues???

- Will REDD+ money (PES – Payments for Environmental Services) transferred to the regions or villages make real difference?
- Are there possibly other solutions and policy means within countries to reduce the deforestation and degradation issues?
- To successfully implement REDD+ other policy means are necessary to address and analyze if possible and efficient to work with.

# There are many policy means to reach the same goal – REDD+

- Land tenure and land owner rights
- Subsidies
- Legislation and good/better governance
- Inventories and Information
- Industrial growth and other poverty reduction
- and better more efficient agriculture
  - More intense and smaller areas
  - Fertilization
  - Will give a higher supply of food ... with lower rent on forest-agricultural activities...
  - Compare with Sweden .....
- “We will only manage to defend the environment if we turn it into good business.” Costa Rican President Jose Maria Figueres

# Trees for the Future

The best time to plant a tree is 20-years ago. The second-best time is now.

A lush green forest scene with tall trees and dense foliage. The text "Thanks!" is overlaid in the center.

Thanks !

12.06.2004