



## THE ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY

*Approach to scenario analysis*

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## INTRODUCTION

- Several countries have already completed their country outlook papers or are making progress.
- Almost all have made an effort to identify the drivers of change and probable scenarios.
- Since this is the most critical part of the outlook study let us discuss how we have done this.
- Also how we develop sub-regional and regional scenarios from key national developments and scenarios.

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## DRIVERS OF CHANGE

- Several drivers of change have been identified in the country outlook papers
- Broadly they can be grouped into:
  - Demographic changes
  - Economic changes
  - Policy and institutional changes
  - Environmental changes and various responses
  - Technological changes

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## DEMOGRAPHIC CHANGES

- Size of population (especially in relation to resources – population density)
- Growth rate
- Changing age structure
- Urbanization
- Migration
- Quality of human resources – education, skills, health, etc.



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## ECONOMIC CHANGES

- Income and its growth
- Income distribution and inequalities
- Changes in the relative importance of different sectors (especially land dependence)
- Energy demand and supplies
- Food supplies and food insecurity
- Development of industrial and services sector
- Overall resource situation (natural and human)
- Adaptation to globalization



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## POLITICAL AND INSTITUTIONAL CHANGES

- Changes in overall political environment
  - Development of democratic institutions
  - Decentralization and participation
  - Community involvement
  - Overall situation of governance
- Policies and legislation relating to participation of private sector and communities
- Development of civil society organizations and their effectiveness.
- Conflicts and civil unrest



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## ENVIRONMENTAL CHANGES

- **Changing perception about environment and key environmental drivers.**
  - Local, national, regional and global issues
  - General trends
- **Major issues**
  - Climate change and its implications - REDD
  - Biodiversity conservation issues
  - Land degradation and desertification
  - Water scarcity and society's responses - Increasing water deficit in Asia and the Pacific.



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## TECHNOLOGICAL CHANGES

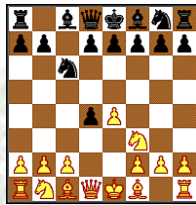
- Overall state of science and technology
- Investment trends in science and technology
- Recent developments in key technology areas
  - Information and communication technologies
  - Remote sensing
  - Biotechnology and genetic modifications
  - Nano technology
  - New energy technologies (for example development of cellulosic biofuels)



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## IDENTIFYING SCENARIOS

- Identifying scenarios is like a chess game
- A multitude of possibilities and outcomes
- Number of possible positions feasible on a chess board:  $10^{40}$ .
- Even a top grandmaster will not be able to visualize no more 3 to 5 moves in advance.



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## SCENARIO ANALYSIS

Imagine the world as a large chess board with millions of players moving different pieces based on their perception of how others are making their moves

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## SCENARIO ANALYSIS

- Identify the most critical / uncertain factors that may have a significant impact on all other factors at a given point of time
- Identify the probable direction in which these could change and how they may impact the overall situation
- Single or multifactor scenario analysis

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## SINGLE FACTOR SCENARIO ANALYSIS

Hierarchical nature of scenarios. There are some which are more important than others at any given point of time

- Significant political changes/ events and their overall impact on all other factors
- Economic policy changes
- Long term changes in food/ energy prices and responses
- Climate change responses



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## TIME DIMENSION IN SCENARIO ANALYSIS

- Short term developments that will lead to a different path of development
- How the society/ economy will look like in the next two decades

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## EXAMPLES OF SCENARIO ANALYSIS

### POLITICAL DEVELOPMENTS IN NEPAL

- Emergence of a very different situation and shift from monarchy to a more robust democratic system
- Stability, growth and equity vs instability, decline and growing inequity

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## EXAMPLES OF SCENARIO ANALYSIS

### ECONOMIC CHANGES IN INDIA

- Continued economic growth, but growing inequity and marginalization of some segments of society
- Tribal land rights act and probable scenarios depending on how it will be actually implemented and how this is perceived by others

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## EXAMPLES OF SCENARIO ANALYSIS

### MALAYSIA AS A DEVELOPED ECONOMY

- Knowledge economy and the growing importance of manufacturing and services sector (including tourism)
- Will forest industry going to be a sunset industry in the context of increasing competition from the emergence of low cost producers

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## EXAMPLES OF SCENARIO ANALYSIS

### BANGLADESH – OVERCOMING CONSTRAINTS

- Low income agrarian society, very high population density, limited resources and highly prone to natural disasters
- Where will be it in 2020 and what are its implications on forests and forestry?

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## EXAMPLES OF SCENARIO ANALYSIS

### CHINA – AN INDUSTRIALISING SOCIETY

- Transformation from agrarian to industrial society.
- Increased ability to tap resources from elsewhere as also ability to conserve and build up domestic resources

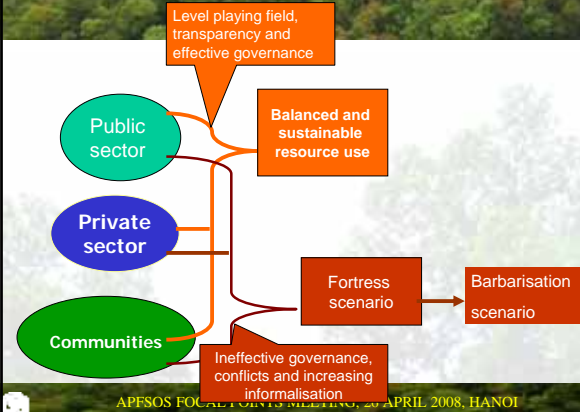
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## INSTITUTIONAL SCENARIOS

- A similar approach can be used to identify institutional scenarios.
- Institutions are very critical in determining the behavior of key actors.
- It could lead to very different outcomes.

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## INSTITUTIONAL SCENARIOS



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## STEPS IN SCENARIO ANALYSIS

- Once the larger scenarios are identified and described:
  - analyze plausible developments in forestry under each of the larger societal scenarios.
  - Challenges and opportunities under each scenario.
  - Possible options taking into account what is feasible within the larger scenario.

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## SUMMARY

- Identify the larger driving forces.
- Focus on the larger system.
- Understand how the society and economy are developing taking into account the driving forces.
- Identify alternative scenarios of the larger system – society, economy, institutions.
- Describe the potentials and constraints under each of the larger scenario.
- Describe how forests and forestry will be under each of the larger scenario and how it may evolve given the potentials and constraints.

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THANK YOU

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