

# MINING, OIL AND ENVIRONMENT IN ETHIOPIA: LOOKING AHEAD FOR LANDSCAPE LEVEL PLANNING NATURAL RESOURCES MANAGEMENT

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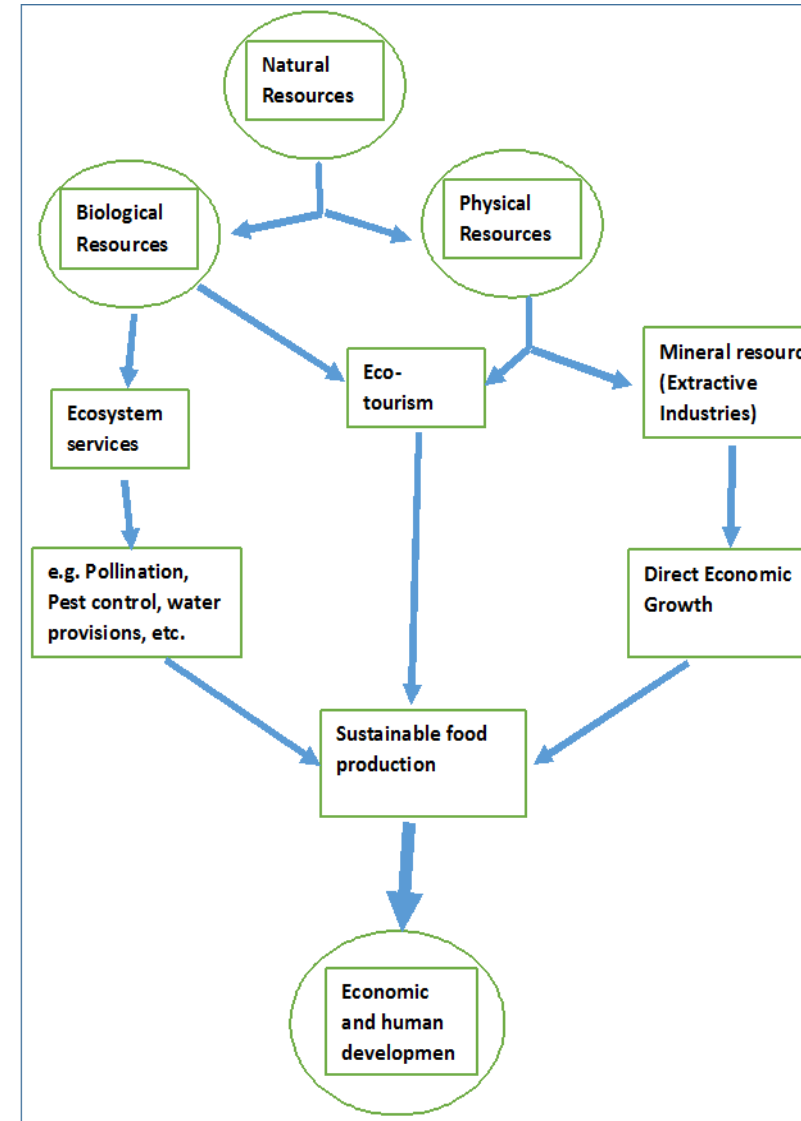
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# Natural Resources basis

## Natural resources basis of Ethiopia

- **Biophysical in nature**
- **Geophysical resources**
  - Mineral resources – **Extractive industries**
- **Biological resources**
  - Plants , animals,....
- **Human Resources**
- **Uses**
  - **Geophysical**
    - Direct Economic growth
    - Eco-tourism
  - **Biological**
    - E.g. Ecosystem services
      - Pollination services
      - Natural Pest control
      - Water discharge
- **Food security**
- **Unknown future potential uses**
  - Rift valley lakes
  - Dallo hot springs
    - High temperature
    - Extreme environment



# Landscape features

*Landscape consists of many Interacting elements*

- *Landscape is a primary level at where Actions of individual household intersects those of other resources users*



*Access, use right, management of natural resources – subject to social conventions and negotiations*



*These are also framed in formal laws by Government*



*All together, these features shape:*

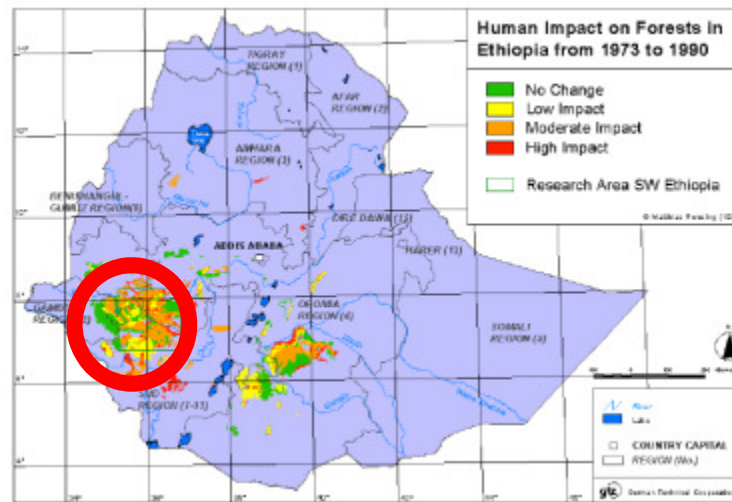
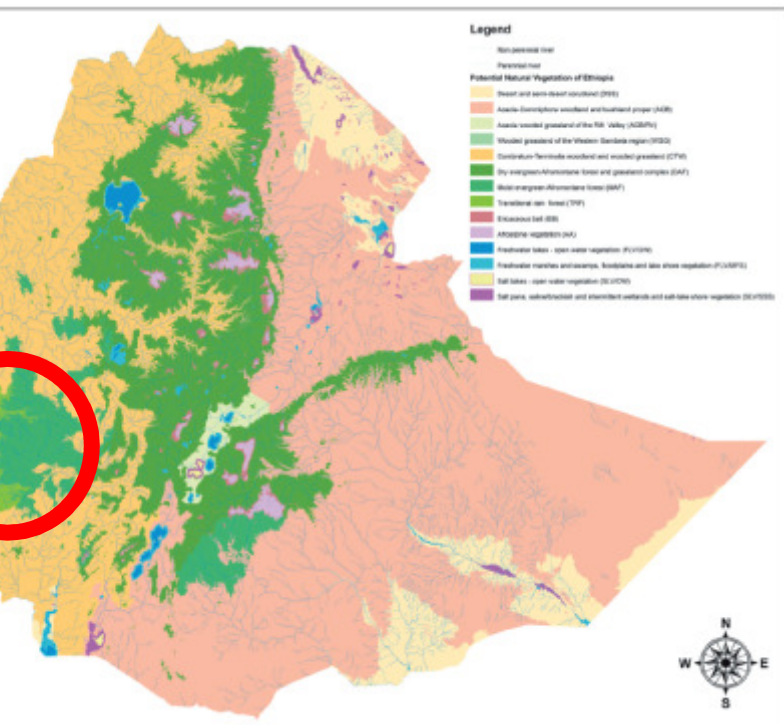
- *Livelihoods*
- *Produce*
  - *the natural resources,*
  - *Ecological services,*
  - *Social relationships and*
  - *Economic relationships on which they depend.*



# Environmental Degradation – Baseline scenario

History has it: 30% – 40% -

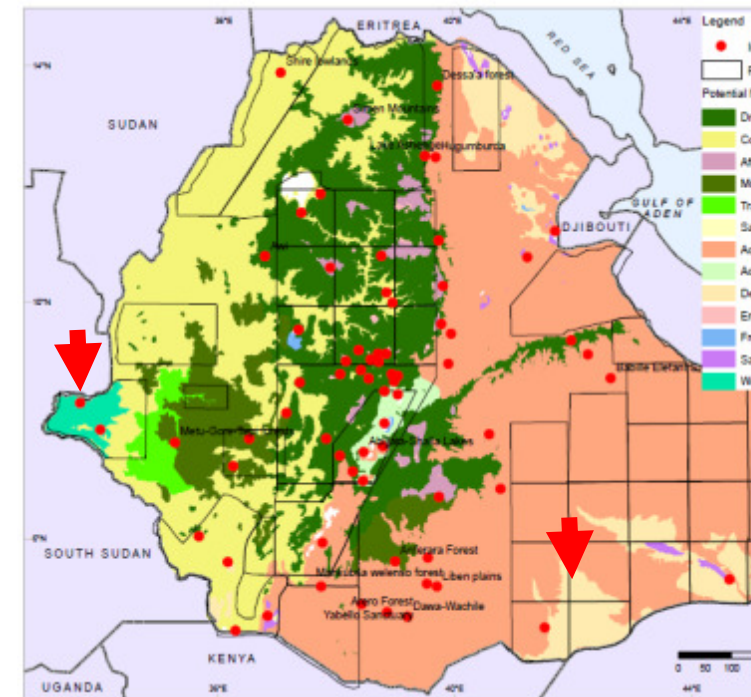
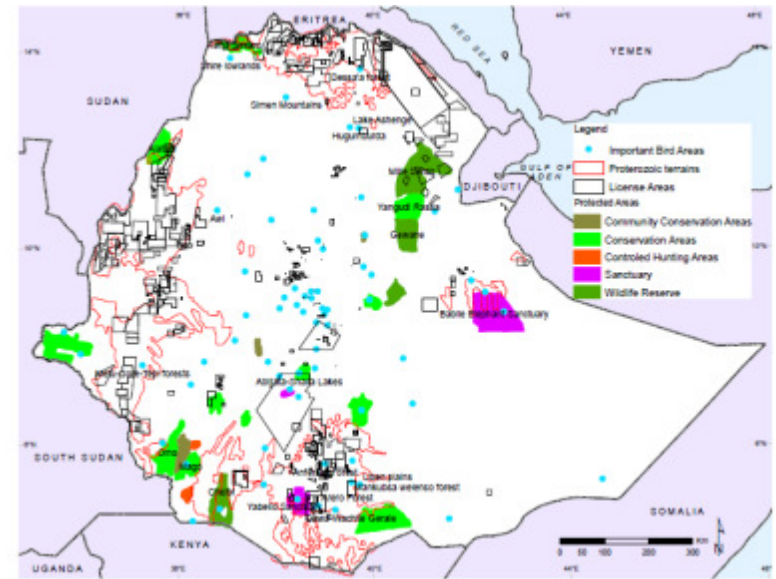
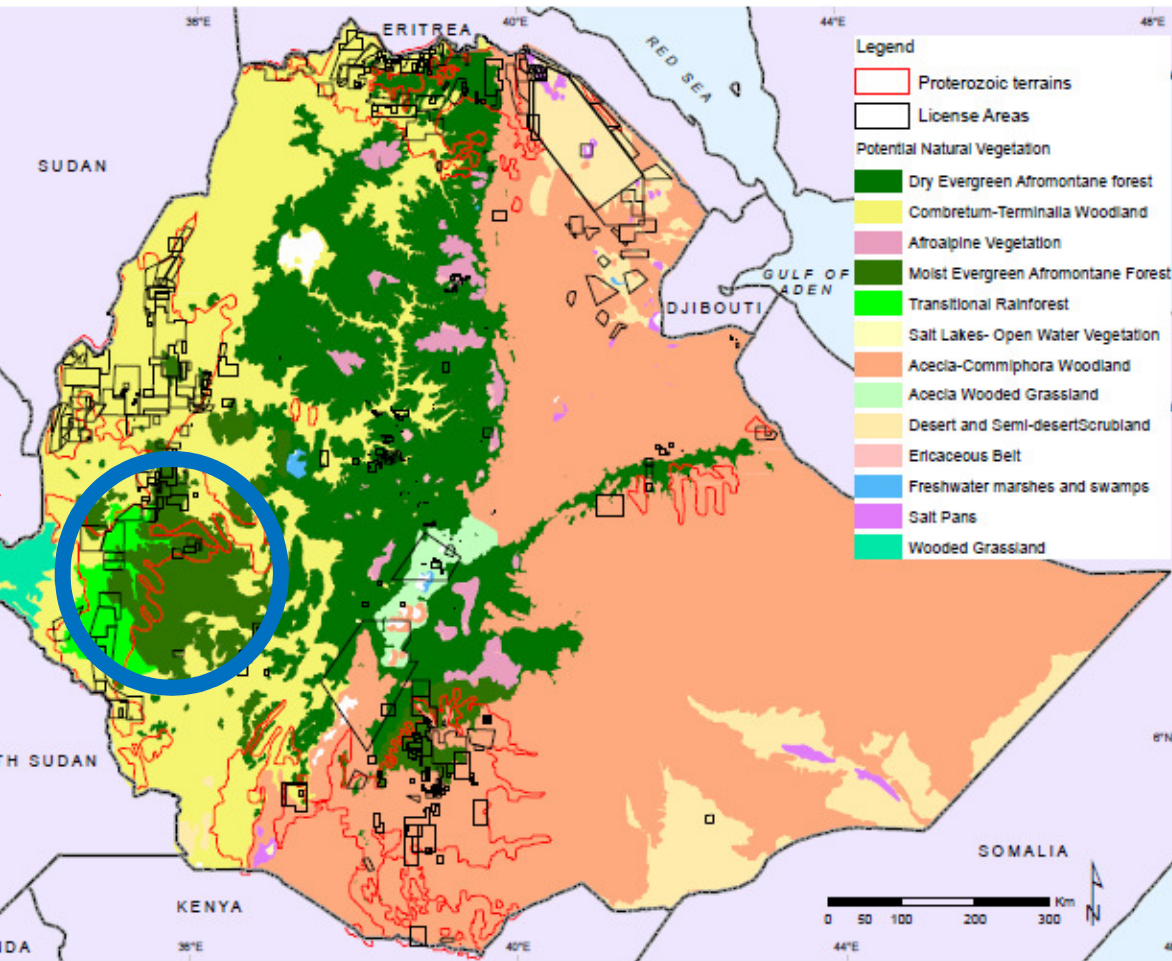
apparent degradation over decades – without  
the development of extractive industries



Between 1973 and 1990 – closed high forest reduced from 2.64% of the country's area to 0.2%  
 In the same time span – degradation high forest increased from 0.8% - over 3%  
Additional Forest Priority Areas – encroached and boundary not enforced

# Interventions at Landscape level for NRM in Ethiopia

What are the criteria/driving forces for landscape level interventions?



# Key Environmental impacts of extractive industries

*Land use competition*  
*Habitat destruction*  
*Contamination – tailing designs and management*  
*Acid mine drainage*  
*Water use – most of the resources are located in areas with scarce water resources*

## Environmental impacts

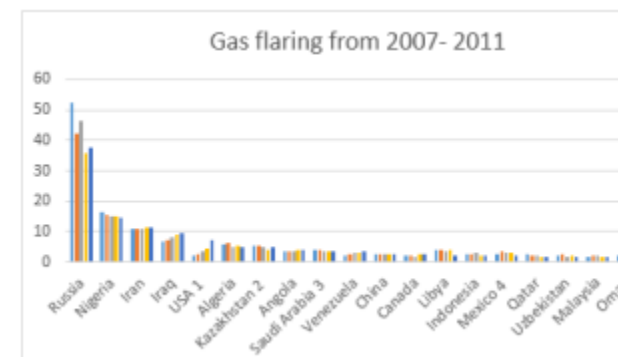
- Exploration*
- Development and production*
- Decommissioning*
- Refining of petroleum products*
- Transportation and distribution*
- Marketing operation*

## Gas flaring

*Natural gas pipes leakages – burning*  
*Accidental oil spill and escape of certain chemical*

*Integrating the process into the environment*

***Cumulative impacts: build up in the environment and affect agricultural production***

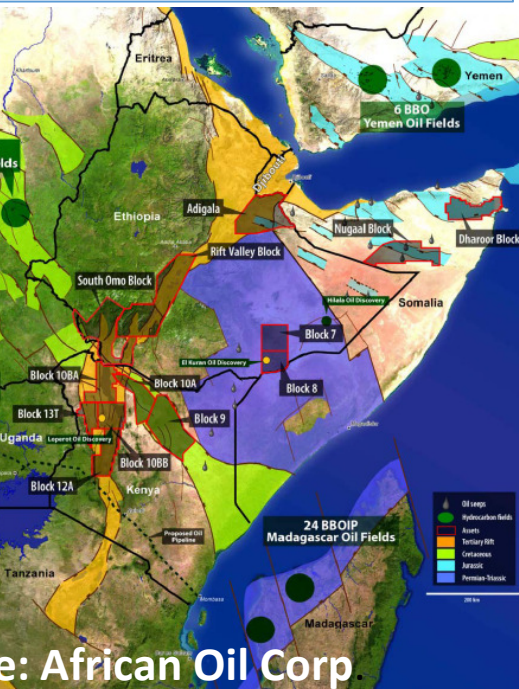


Source: The World Bank/GGFR –  
 National Oceanic and Atmospheric  
 Administration

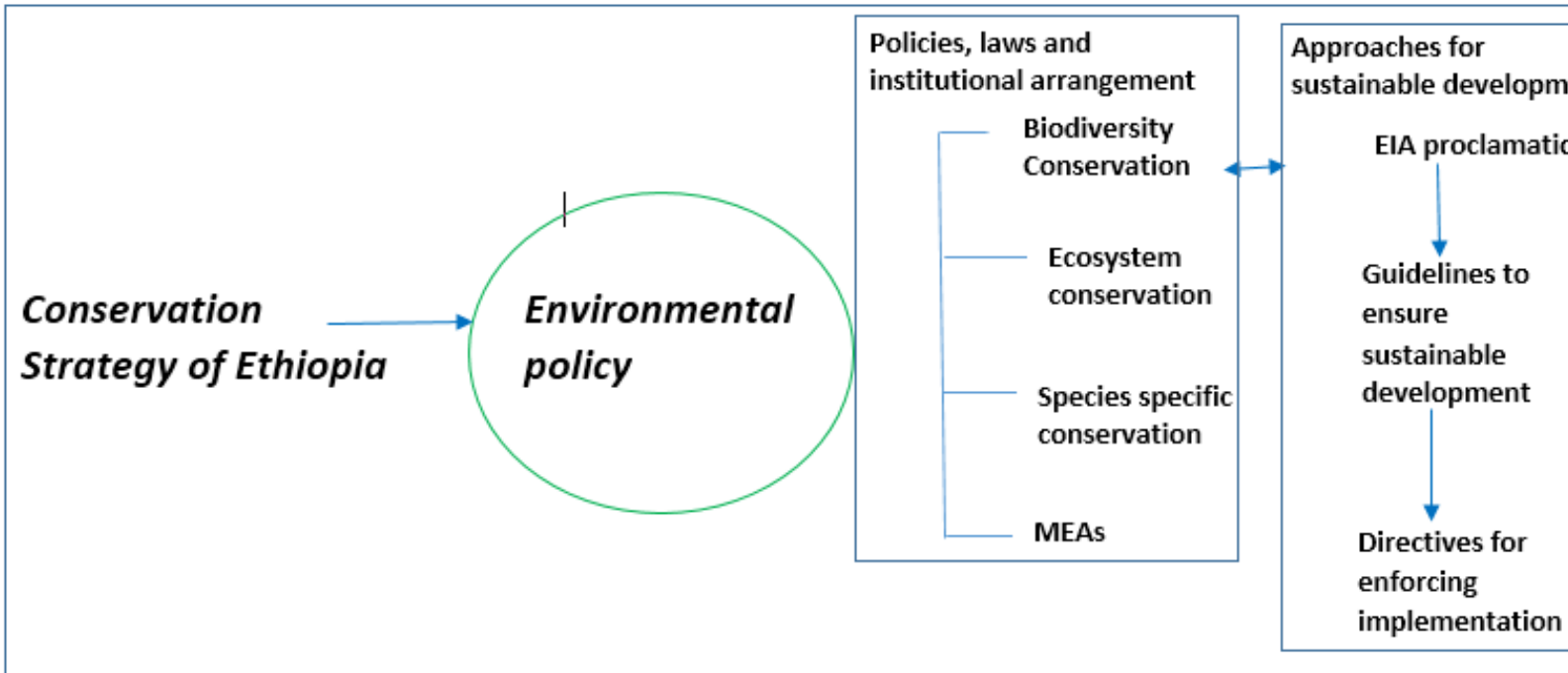
# Natural Resources Management tools in Ethiopia

recall the mining  
 concession areas  
 and gas exploration  
 areas

- Distributed all across the ecosystems of Ethiopia



Source: African Oil Corp.



## • Some key issues

- *In principle, all areas are open for the development of extractive industries*
- *Constraints: EIA process of Ethiopia identifies environmentally sensitive areas*
- *Exceptions: if believed it is the best option for development, any land could be reserved for extractive industries*

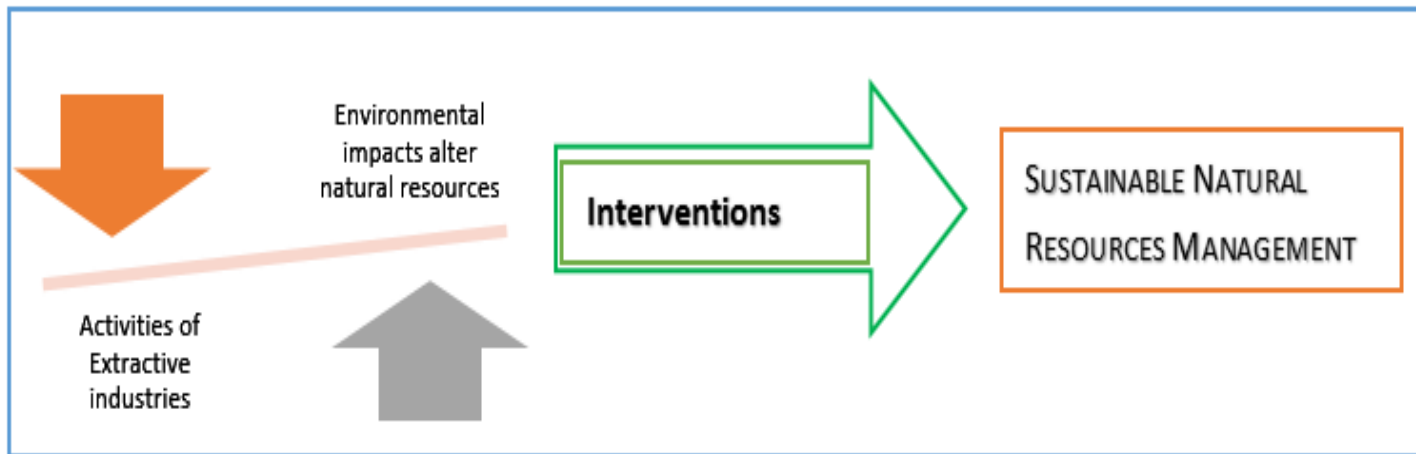
# reflections on extractive industries



- **Cement as a single Contributor to GHGs emissions**
- **2030 – with an increase in Gold, Potash, Coal and T**
- **Gaps:**
  - Petroleum sector not included
  - ASM – high cumulative impacts
  - No abatement strategy or direction for
- Given the intensified oil and gas exploration activities, should landscape level NRM planning look?



# Needs for new NRM paradigms?



***How robust are NRM approaches in Ethiopia in view of this new development?***

***What aspects of the extractive industries to be reflected in the CRGE strategy of Ethiopia?***

***EIA process in Ethiopia – are there sector specific directives to enforce implementation and monitoring environmental performance?***

***What are the limiting factors?***

***What about a need for a reasonable staged horizon scanning approach for the environmental impacts of extractive industries to facilitate effective and sustainable NRM?***

Thank you!