

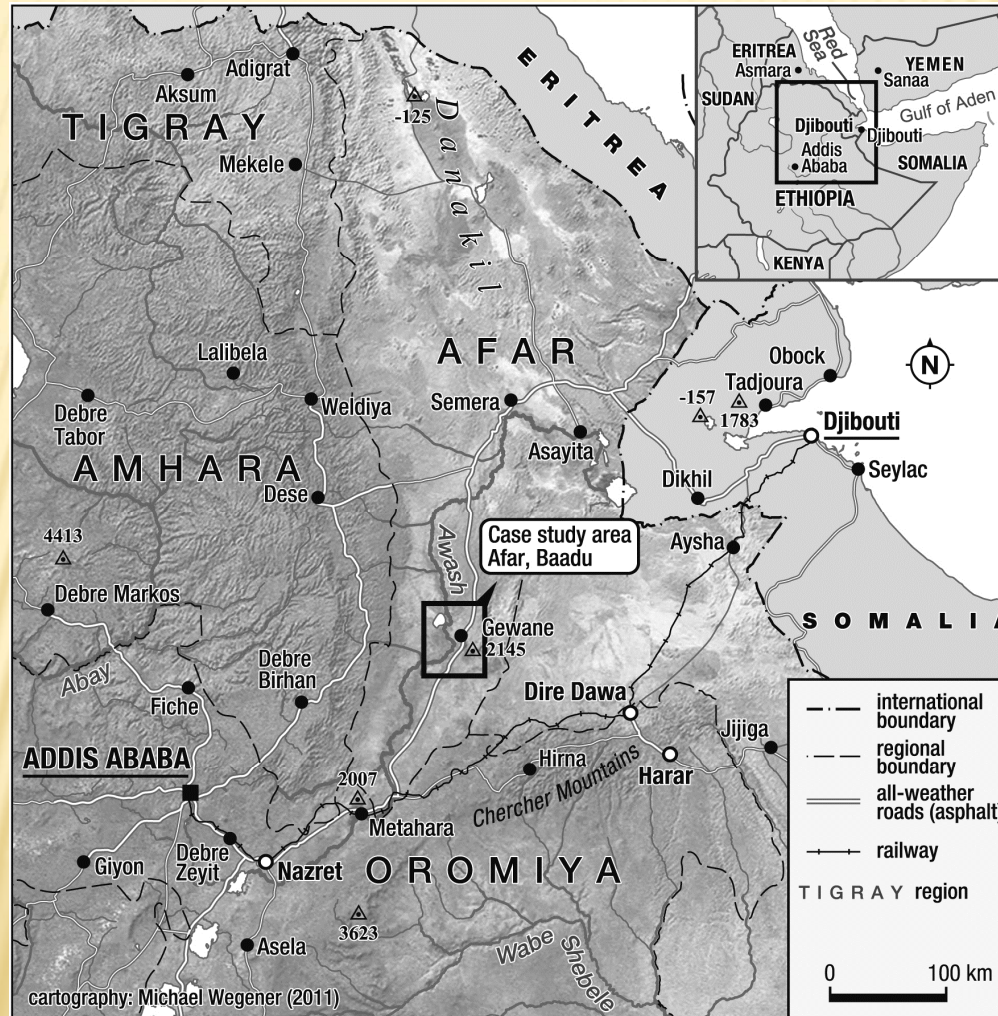
# LOCAL PERCEPTIONS ON PROSOPIS INVASION AND SOCIO-ECONOMIC IMPACTS OF THE TREE IN SOUTHERN AFAR



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April 2014

# STUDY AREA



# PROBLEM CONTEXT

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- Major agricultural development constraints
  - Recurrent drought
    - Livestock feed and water shortage
    - Induces livestock disease outbreaks
  - Reduced volume of Awash River
  - Rangeland degradation
    - Invasion by weedy plants like prosopis
    - Overgrazing

# BACKGROUND

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- Prosopis introduced in to Afar Region around the late 70's and early 80's
- Introduced as part of afforestation program of the Ethiopian Government
- So far it invaded over a million ha in Ethiopia most of which is in Afar
- Affecting the life of pastoral and agro-pastoral communities
  - Replaces native grass and tree species used as livestock feed
  - Claims croplands and incurs more labor for land clearing
  - Causes health problems on humans and livestock

# FINDINGS

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- ✘ Historical trend of prosopis invasion
  - ✓ Introduced by the Ethiopian Government in 1980s in Gewane and 1990s in Burimodayto as part of combating desertification program
  - ✓ Spread fast to the surrounding areas through droppings of livestock and wild animals
  - ✓ Spread of prosopis facilitated by the seasonal migration of livestock in search of water and feed

# FINDINGS...CONT...

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- ✘ Local perception on prosopis invasion
  - Originally considered as a good means of protection from intense solar radiation
  - As it begins to claim more grazing and croplands, the local community started to be worried about the plant
  - When the extent of invasion increased and people suffer from shortage of grazing and cropland, they have become frustrated and started to look for solutions

# FINDINGS...CONT...

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- ✘ Local perception on prosopis invasion
  - One of the solutions, control by using the tree for charcoal making, created another means of livelihood
  - Very few individuals believes prosopis is economically important
  - When the majority of the community see most of the control measures fail, they believe that the introduction and spread of the tree is a 'curse' from Allah and thus the solution too comes from Allah

# FINDINGS...CONT...

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- ✘ Impacts of prosopis invasion on land use and livelihood systems
  - Invasion of grazing and browsing lands
  - Shifting of livelihood to other systems like agro-pastoralism, charcoal making, petty trade, sales of labor etc.
  - Displacement and aggregation to certain localities
    - ✘ Intensive land use



# FINDINGS...CONT...

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## □ Impacts of prosopis invasion on human health

- × Thorn inflicted wounds on hands, legs and eyes some times complicated by secondary infections causing amputations and blindness
- × Reduced availability of milk in the household causing malnutrition in children, women and elderly
- × High incidence of malaria due to the suitability of the prosopis bush for the vector
- × High incidences of attacks by wild animals (lions and hyenas) hiding in the prosopis bush
- × Blockage of road delays the transportation of the sick to medical centers

# FINDINGS...CONT...

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- ✘ Impact prosopis invasion on ecology/environment
  - Reduced plant species
  - Pastoralist compelled to keep more small ruminants than large animals
  - Increased population of wild animals
  - Increased ambient temperature and humidity
  - Diversion of the course of rivers and irrigation canals
  - Land degradation due to intensive land use

# FINDINGS...CONT...

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## □ Impact of prosopis invasion on socio-cultural conditions

- Change in settlement pattern (living very close to each other)
- Change in migration pattern (obliged to migrate to far areas)
- Limitation of resource (rangeland) causes resource based conflict

# FINDINGS...CONT...

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## □ Vulnerability of the affected populations

- People in Gewane and Burimodayto become vulnerable to prosopis invasion due to
  - × Hot and dry climatic condition
  - × Reduced volume of Awash River
  - × Livelihood systems
  - × Large population of wild animals

# FINDINGS...CONT...

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- Vulnerability of the affected populations
  - Pastoralists are more affected from livelihood groups
  - Children, women and elderly are the most affected from social groups
    - × Due to their increased nutritional needs

# FINDINGS...CONT...

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## □ Mitigation measures

### ▪ Local mitigation measures

- × Clearance of the tree by cutting or burning
- × Control through utilization mainly charcoal making, fence and house construction
- × Engagement in other livelihood systems (crop production)

### ▪ Impacts of local mitigation measures

- × Clearance by cutting and burning is only a temporary solution- it is usually followed by reemergence of the tree
- × Charcoal making too facilitates the spread of the tree
- × Charcoal making also has some socio-cultural impacts
  - ★ Dilution of cultural and social norms by outsiders

# FINDINGS...CONT...

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- Most effective way of control of prosopis as perceived by the local community
  - × Continuous use of land for irrigation based fodder and cereal crop production
  - × For this the community is ready to supply labor and land resource
  - × Need supports like supply of agricultural inputs (tools and improved seeds, machineries, technology)

# CONCLUSION

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- ✘ Prosopis invasion is now becoming a nightmare to communities in Gewane and Burimodayto woredas.
- ✘ This assessment revealed that the socio-economic impacts of the invasion by prosopis are diverse and so complex touching every angle of the life style of pastoral and agro-pastoral communities in the studied areas.
- ✘ Prosopis invasion is also affecting the environment in different ways causing serious imbalances in the ecology



# RECOMMENDATIONS

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- ✘ The prosopis invasion needs to be controlled and the grazing and crop lands covered by the tree have to be reclaimed (extensive land clearance using machinery). But this needs giving due consideration to the role of the local community and their CIs;
- ✘ There should be a long-term and integrated plan to clear the land covered by prosopis and introduce irrigation based agriculture and rangeland development which directly benefit the local community;
- ✘ In the meantime, continue the 'control through utilization' approach with mechanisms to monitor the proper removal of the tree;
- ✘ Further studies to quantify the impacts in economic terms and weigh the relative benefits gained through controlling its spread or eradication.



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