

# World Agroforestry Center (ICRAF) Ethiopia

*Transforming Lives and Landscapes with Trees*

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Consultative Meeting on:  
Strengthening CGIAR - EARS  
partnerships for effective agricultural  
transformation in Ethiopia

**Addis Ababa, Ethiopia**

**4 - 5 December, 2014**



# ICRAF - Regional offices



# World Agroforestry Centre ICRAF

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## Vision

- Transform lives and landscapes with trees

## Mission

- Generate science based knowledge about the diverse roles of trees in agricultural landscapes and provide policy advice

# Challenges addressed by agroforestry

## Livelihood oriented:

1. Poverty and Hunger
2. Inequity (rights, gender, negotiation, recognition, access)
3. Malnutrition and human health
4. Energy scarcity

## Landscape (environment) oriented:

1. Land degradation
2. Climate change
3. Deforestation and habitat loss
4. Water scarcity
5. Biodiversity loss



## Strategic goals

- *Goal (1):* Build livelihoods by generating knowledge, choice and opportunities
- *Goal (2):* Improve landscapes and their sustainability by better managing their complexity
- *Goal (3):* Transform agroforestry impacts to large-scale through policy, innovation and partnerships

# Science Domains

- SD1 - Agroforestry Systems
- SD2 - Tree Products and Markets
- SD3 - Tree Diversity, Domestication & Delivery
- SD4 - Land Health
- SD5 - Environmental Services
- SD6 - Climate Change

What do we do?....

Research & Capacity  
development

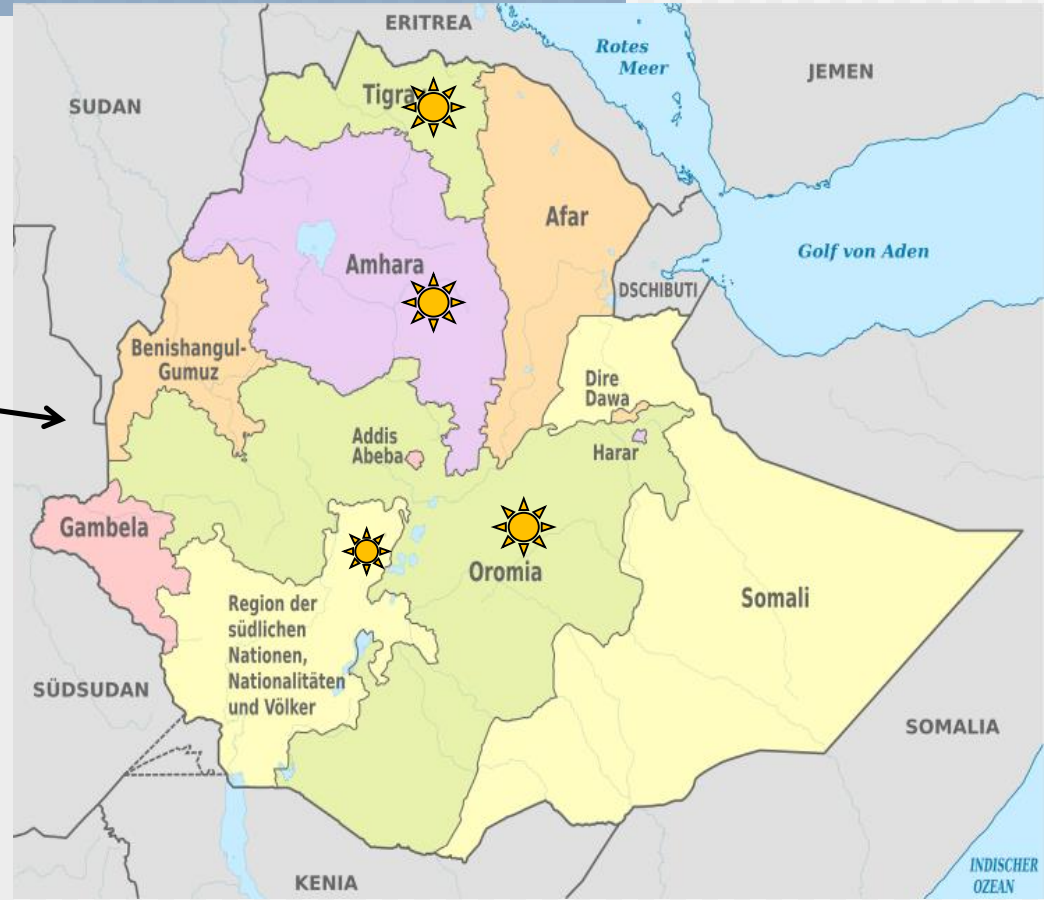
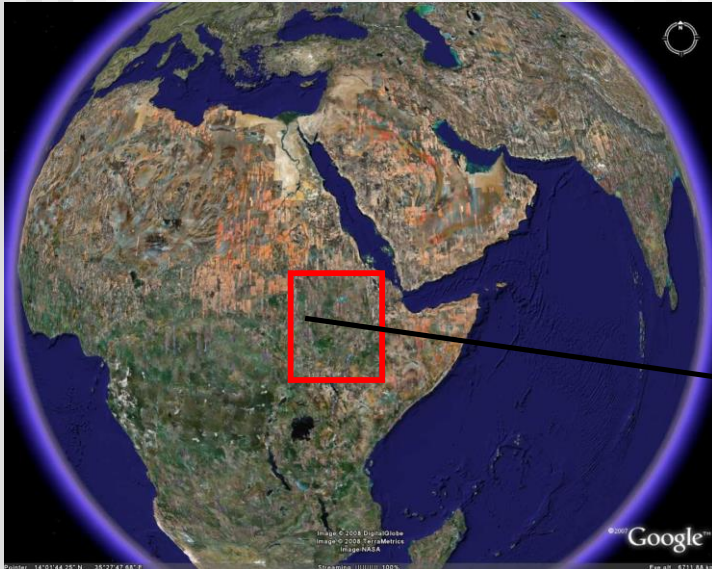
(Knowledge  
generation &  
capacity building)



Technology development &  
Transfer

(Application of knowledge and  
pre-extension popularization,  
scaling-up/out)

# Where do we work?



 **ICRAF sites in Ethiopia**



# Partners

- ❑ **Oromia:** ELAR, OARI, FRC, Medawelabu University, BoA
  - East Showa - Boset, Mojo, Meki, Alemtena, Ziway, Melkasa
  - West Showa - Bako, Tibe, Anno
  - East Wollega - Arjo, Uke,
  - East Hararge - Gursum and Jarso
  - WVE, Ethiopian Orthodox Church, Community
- ❑ **Amhara:** ARARI, Debreberhan University,
  - BoA – Bassona, Debreberhan, Goshebado
  - Private sector – Temperate fruit farm
- ❑ **SNNPR:** SARI, Wachamo University, Hawasa University, BoA
  - Hossaena area (Apper-Gana & Jawe Kebeles)
  - Private Sectors: Private seed venders
- ❑ **Tigray:** TARI, Mekelle University, BoA
  - Atsbi-Wonberta, S.T. Emba
  - WVE, REST,
  - Wukro Agr. technical college, Saint Mary technical college

# Projects

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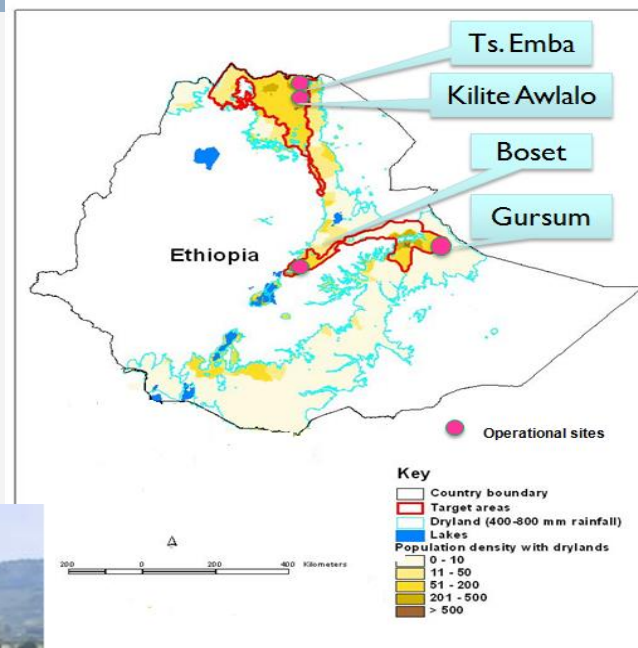
1. **Enhancing food and water security for Rural economic development**
  2. **AfricaRISING project on Sustainable Agricultural Intensification**
  3. **Trees for Food Security**
  4. **Enhancing Integrated Watershed Management with Climate-Smart Agriculture**
- **Research, Capacity building and technical Support - as cross cutting issues across all projects**

# Food and Water Security for Rural Economic Development –

*WVE, Ethiopian Orthodox church, REST, EIAR, OARI, TARI, Offices of agriculture and water resources in each wereda*

## Objecties/Outcomes

- Improved water & food security in the drylands
- Improved commercialization of the rural economy
- Strengthening capacity of rural institution



# Africa-RISING - ICRAF component -

*EIAR, SARI, ARARI, OARI, TARI, Debrebrhane university, Mekelle University, Wachamo Universtiy, Medawelabu University, Debremarkos University, offices of agricultutre in each project areas/weredas, private sector, Addis Ababa university,*

## Objectives

- Promotion of high value trees and capacity building in the highlands

## Ongoing researches

- Temprate & semi-dyland fruit trees research
- Fodder trees research



# Trees for Food Security project –

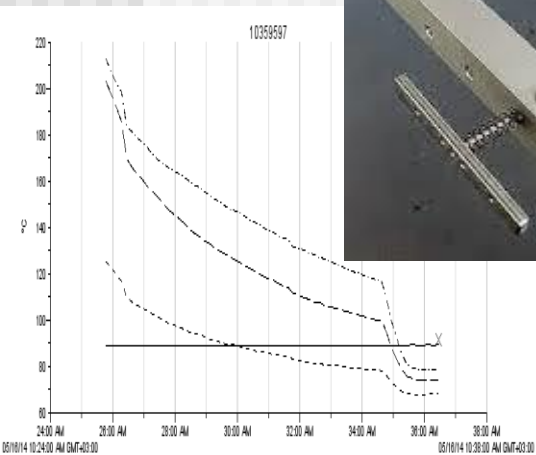
*EIAR, OARI, FRC, Office of Agriculture in each project sites , Addis Ababa university, Hawassa University , Jimma University*

## Objective

- Promotion of trees on farm

## Ongoing researches

- Long term tree-crop interaction trials
- Participatory trials
- Eco-physiology study on how do trees impact crops and ecosystem
- Resilience to climate variability and change

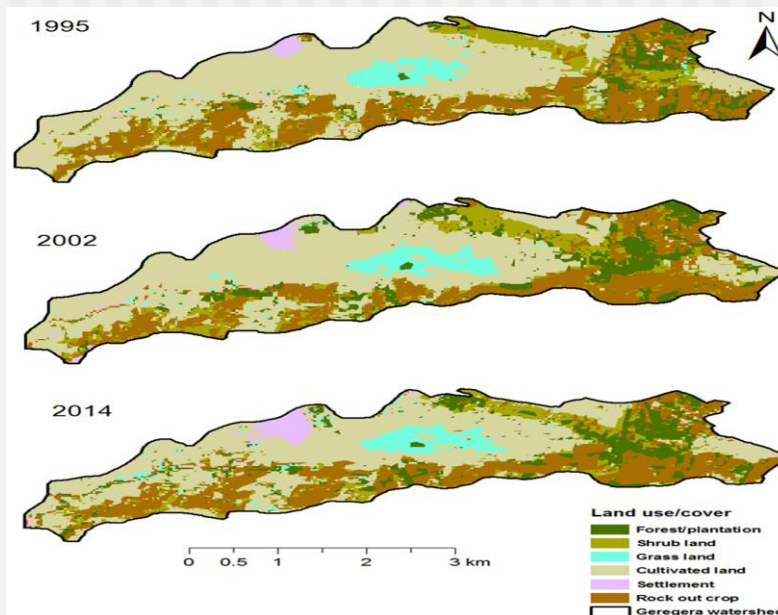


# Enhancing Integrated Watershed Management with Climate-Smart Agriculture - TARI, Mekelle University, Regional BoA, Atsbi-Wonberta office of Agr., Wukro Agr. collage, Saint- marry technical collage,



## Objectives

- Climate-smart landscape management & restoration
- Introduce best-fit technologies and practices for improved productivity & adapt/mitigate climate impacts
- Strengthening and build capacity of rural institutions



| LULC              | Area cover (ha) in year |             |             | Cover change (ha) (1995-2014) |
|-------------------|-------------------------|-------------|-------------|-------------------------------|
|                   | 1995                    | 2002        | 2014        |                               |
| Forest/plantation | 90                      | 119         | 137         | +47                           |
| Shrub land        | 145                     | 146         | 150         | +5                            |
| Grass land        | 63                      | 67          | 73          | +10                           |
| Cultivated land   | 700                     | 659         | 624         | -76                           |
| Settlement        | 12                      | 22          | 36          | +24                           |
| Rock out crop     | 372                     | 369         | 361         | -11                           |
| <b>Total</b>      | <b>1382</b>             | <b>1382</b> | <b>1382</b> |                               |



# Technical support and Advisory roles

- Provision of technical support for farmers' and Extension officers (DAs & Experts)
- Training for more than 200 experts., development agents and farmers' armers
  - propagation and establishment requirements of *Faidherbia albida*
  - principles, approaches , applications and merits of FMNR
  - management plan development for sustainable management and utilization of area closures or exclosures (rehabilitated areas)
  - *establishment requirements , harvesting techniques & benefits of Moringa trees*
  - *temperate and tropical fruits cultivation and management*
  - *Tool for assessing local agrological knowledge*
- Development of extension materials
- Involved in development of Sustainable Land Management Program (phase 2)
- Core member of SLMP technical committee
- Member & secretary of National EverGreen Conservation Agriculture task force



# Capacity building

## PhD and Post doc. (6 being trained)

- 2 from Addis Ababa university
- 1 from Debre-Markos University
- 1 from Mekelle University
- 1 from FRC
- 1 Gonder ARC (post-doc)

## M.Sc. Students (9 being trained)

- 1 from Hawassa University
- 3 Wondo-Genet college of forestry
- 1 from Addis Ababa University
- 1 from Jimma University
- 2 from Mekelle University



# Capacity build.... Facilities

- Strengthening government and community nurseries
- Tree measurement equipments
- Transportation facilities – vehicle to EIAR-FRC



# Capacity build.... Facilities

- Eco physiological lab equipments in Addis Ababa University
- Lab establishment in Wondo-Genet college of forestry for climate change related research (climate information reconstruction and resilience)

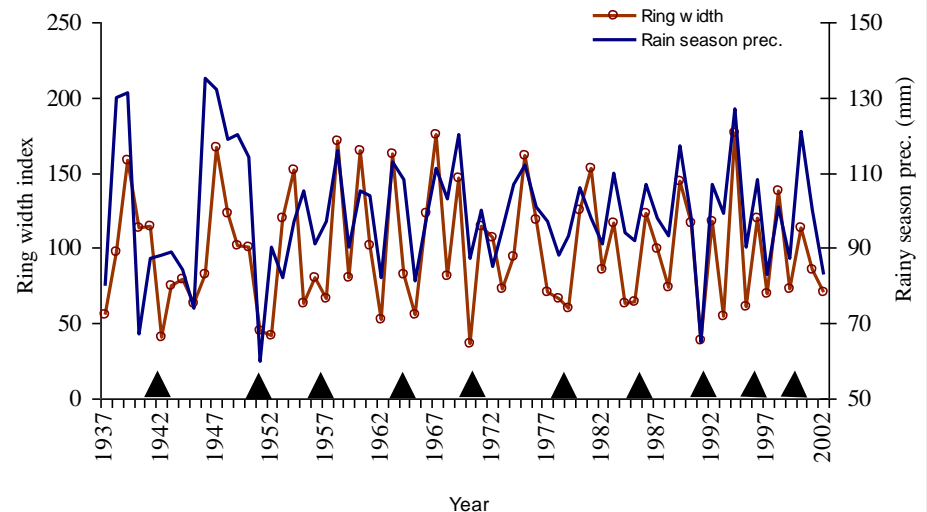
**Fig 2.** Our brand new state of the art Dendro lab at ICRAF Nairobi, Kenya



Thin sections are dyed such that different cell types can be distinguished when viewed under a microscope. Here the computer image shows slide of *F. albida* (note the big vessel size)



The lab is well equipped with microtome, microscope, camera, Lintab with TSAP software, scanner, WinDENDRO, and WinCELL 2012

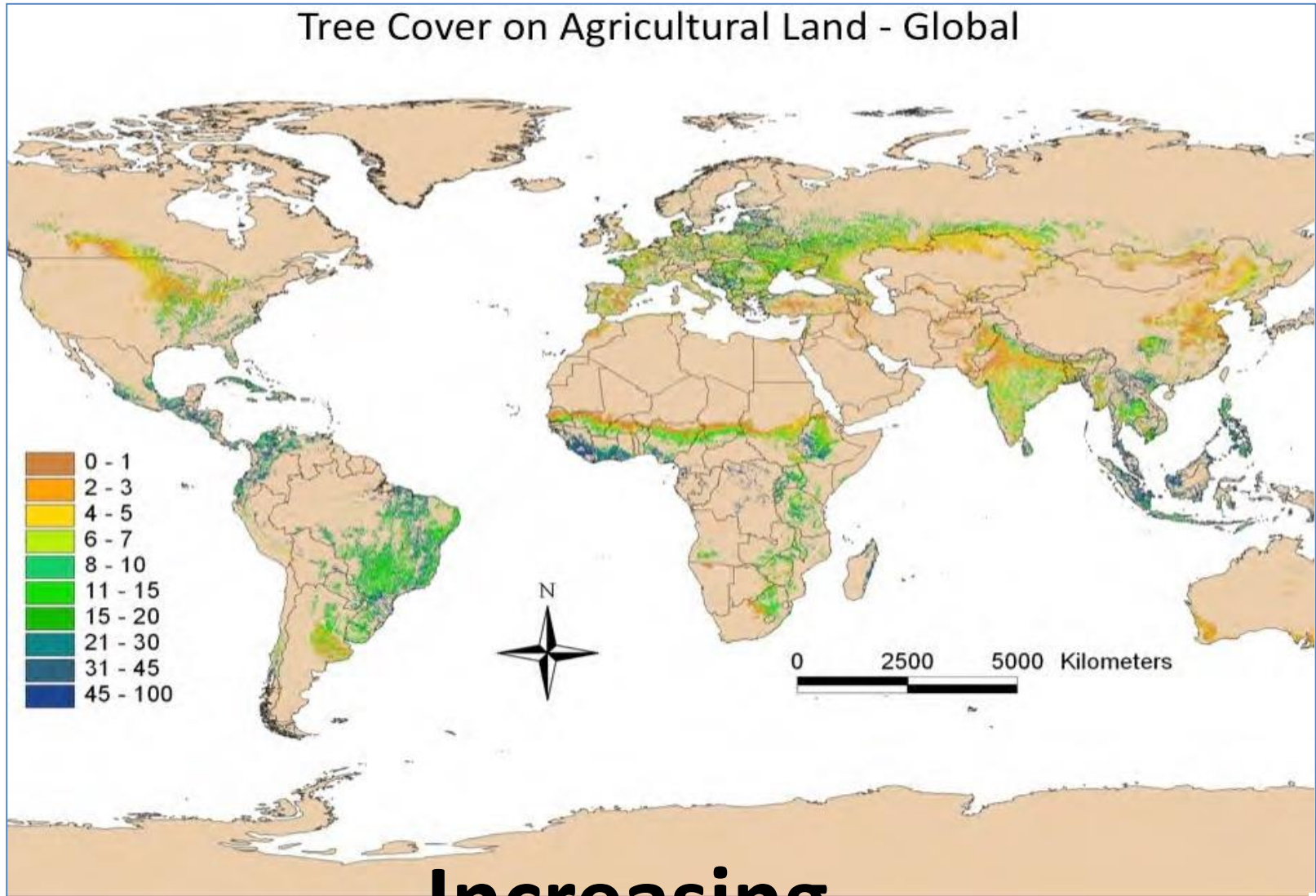


## Possible area of collaboration

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- Strengthening collaboration through joint projects
- Technical support on Agroforestry programmes & projects (national, regional and district levels)
- Seed and seedling issues,
- Free grazing issues,
- and on other emerging opportunities...

# Tree cover on agricultural land



**Increasing**

# All what we work is for.....



Economic  
Sustainability



Social  
Sustainability



Environmental  
Sustainability



Let Us Join  
Hands to Build  
Capacity,  
Knowledge and  
Transforming  
Lives and  
Landscapes for  
Sustainable  
Development

# THANK YOU

**More information:** [www.worldagroforestry.org](http://www.worldagroforestry.org)