

Welcome

## Purpose of the seminar



- Updated IPMS and LIVES project about the research status
  - Share the preliminary findings of the 1<sup>st</sup> round research and its progress
- Get feedback from scientists and experts on various issues
  - Seek for additional information and outlook
  - Questions and issues need to be considered in my 2<sup>nd</sup> field trip
- Explore future collaborations
  - How to utilize the output of the research
  - Publications: (scientific journals and policy papers are expected)





# Resilience-based natural resources management in Ethiopia:

*Towards a sustainable and gender balance communal  
grazing land management in Bure, Amhara region*

Lemlem Aregu **BEHAILU**

Supervisors: Prof. Ika **DARNHOFER**

Dirk **HOEKSTRA**

Centre for Development Research

University of Natural Resources and Life Sciences (BOKU)

**25 January 2013 ILRI, Addis Ababa**



# Resilience-based management



- A concept focuses on NRM in a changing world
  - its goal is to understand the interrelated dynamics of society and ecosystem
  - to contribute to ensuring a sustainable flow of ecosystem services
- Indeed ecosystem service is threatened by unsustainable agriculture practices
- People's management practices impacted by
  - Environmental changes
  - Socio-political as well as
  - Climate vagaries

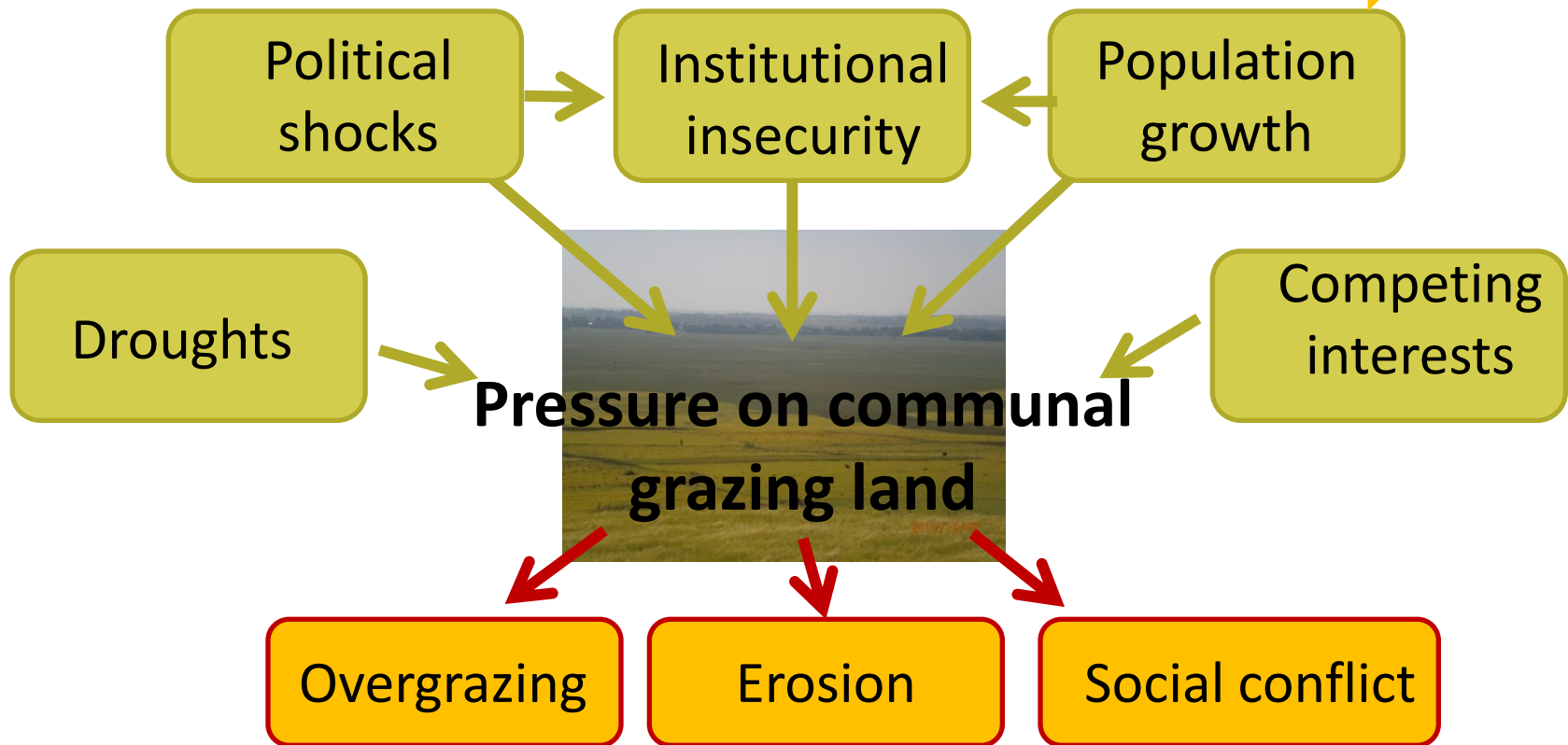


# How to ensure sustainable use CGL?



1974

2012

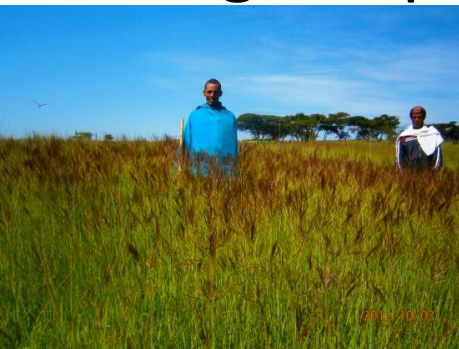


**Despite this, some communities have ensured a sustainable management of their communal grazing land**

# Why we need to initiate this study ?



- To understand how community managed their CGL for resilience as a result of all changes over the last 40 years
  - The role of community based institution
  - Role of women in the management of CGL
  - Levers a community can use to flexibly respond the future challenges
- To design improved interventions and scale up good practices and experience of such community

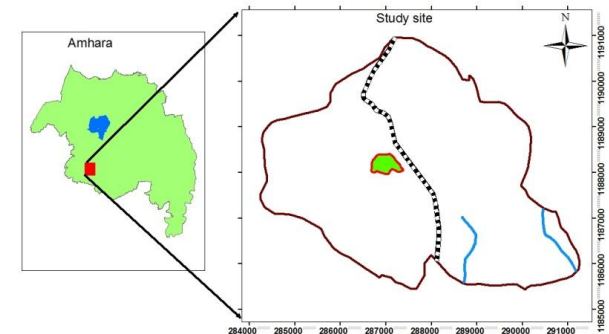
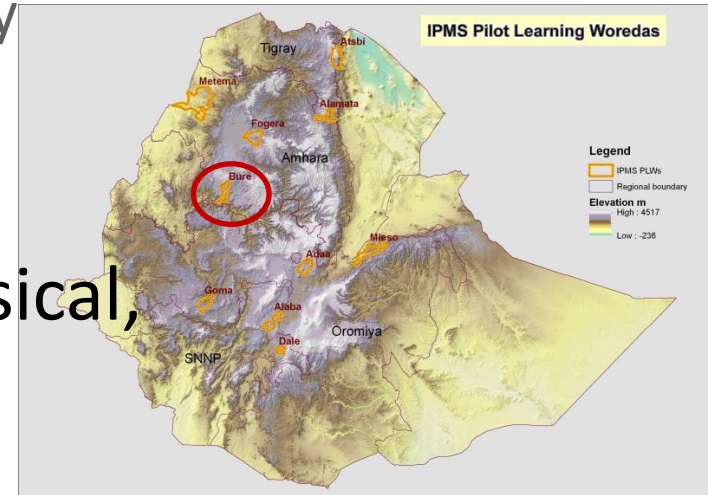


# Research questions

- What institutional structure and which mechanism allow a community to respond to changes?
  - Perceptions about the changes
  - Initiatives to adapt new rules (formal and informal)
  - New opportunities and constraints
  - Levers used to adapt institutions
- Do gender consideration strengthen or hinder resilience based management
  - Differential knowledge and interest of men & women
  - Shift in gender roles over time
  - Ability of community to integrate different interest

# Methods

- A case-study made in Bure district
  - For some of the issue an in-depth study made in one community (*Got*)
- So site selection handled critically
- Using a range of criteria (bio–physical, socio-economic
- Using three steps
  - 1<sup>st</sup> : 12 potential Kebeles for study identified
  - 2<sup>nd</sup> : 5 Kebeles further screened for sustainability
  - 3<sup>rd</sup> : one study kebele selected
- Experts engaged in various steps
  - 1<sup>st</sup> : 3 higher officials engaged
  - 2<sup>nd</sup> : 11 experts
  - 3<sup>rd</sup> : 6 DAs engaged in community discussion



# Sites visited in the 3<sup>rd</sup> stages of SS



1. Zeywshuwn
2. Baguna
3. Wangedam
4. Jibgedel
5. Wundgi



**Finally Wundgi has been selected**



# Methods

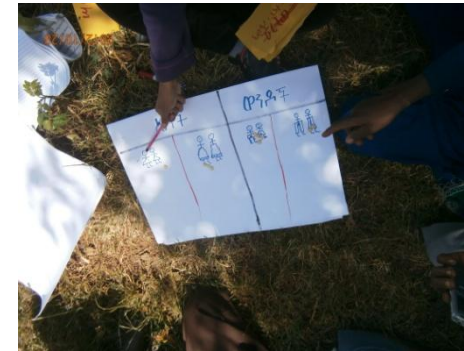
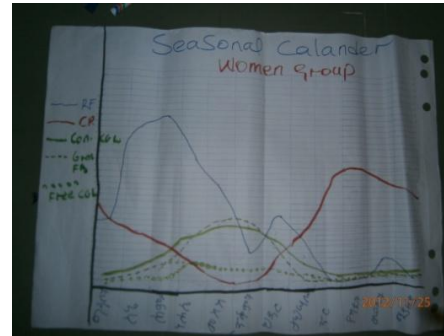
## ■ Data collection

- Focus group discussions (6-8 )with
  - Core group ( 3 meetings)
  - Men group (3 meetings)
  - Women (3 meetings)
  - Informal Management body of the CGL (1 meeting)
- Key informant interviews with
  - Experts ( 6 experts) and
  - Communities (14 community 7 men and 7 women)
  - Representative of villagers (10 )



# Methods

- Participatory tools



- Participant observation

- Reflection meeting



# In Farmers context

## Wundgi

- 2 closure seasons
- 2 grazing seasons
- To control the blotting effect of *Trifolium* and *Medicago* spp. grazing
- Utilize the resource through grazing

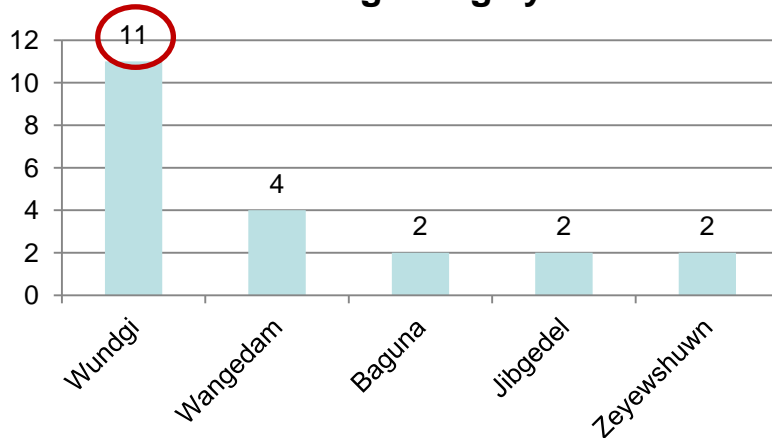
## Wangedam

- One closure season
- One harvesting season
- Free grazing in the remaining seasons
- Utilize through stall feeding

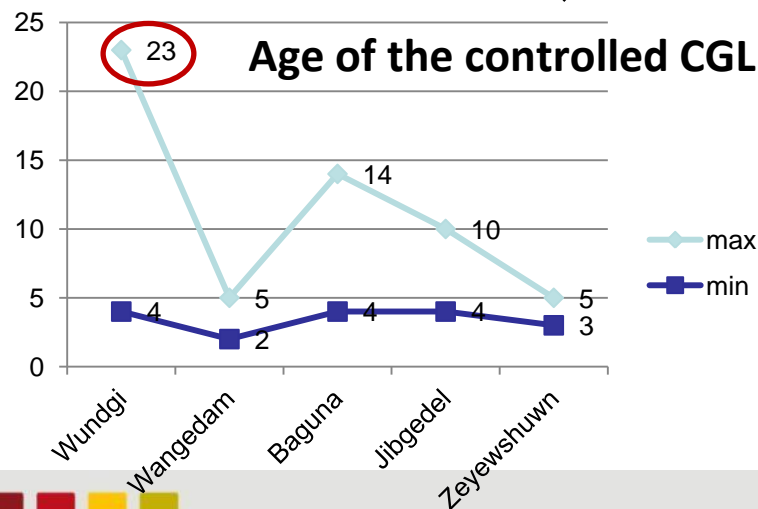
# Why Wundgi is selected as a study kebele



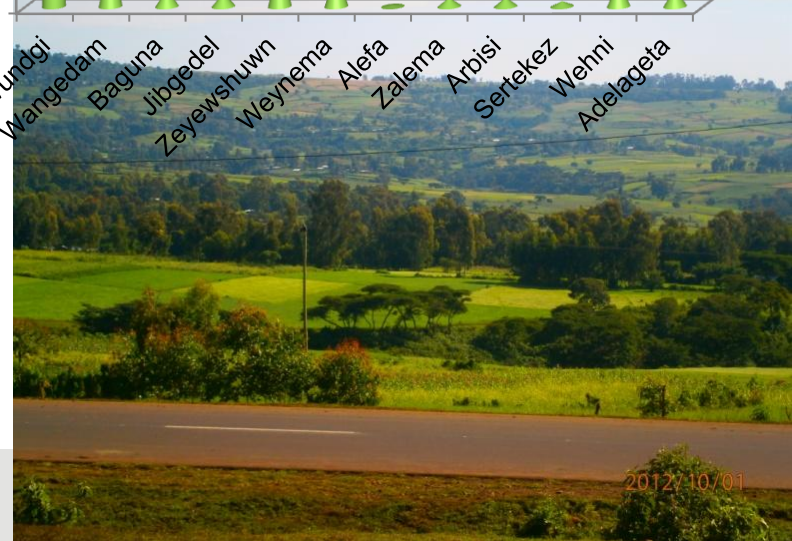
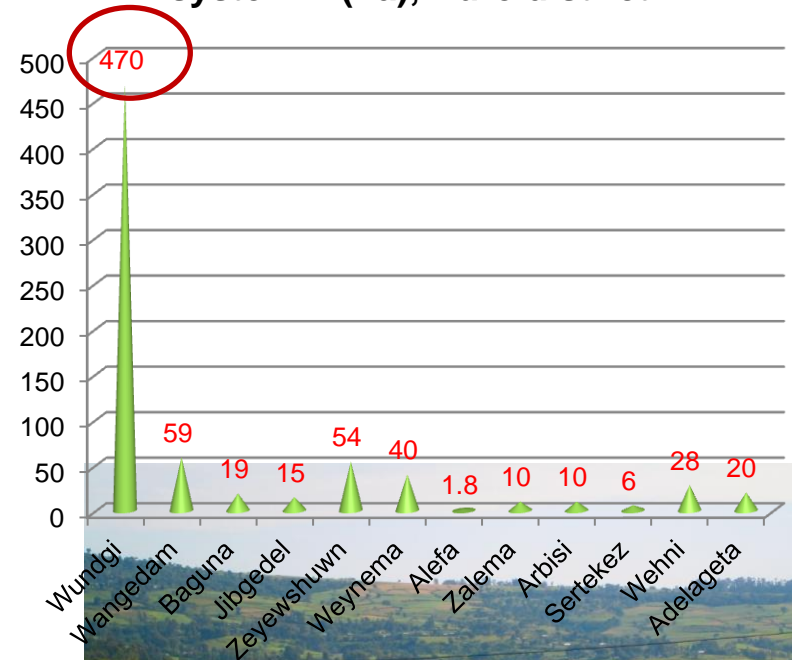
Number of villagers adapted the controlled grazing system



Age of the controlled CGL



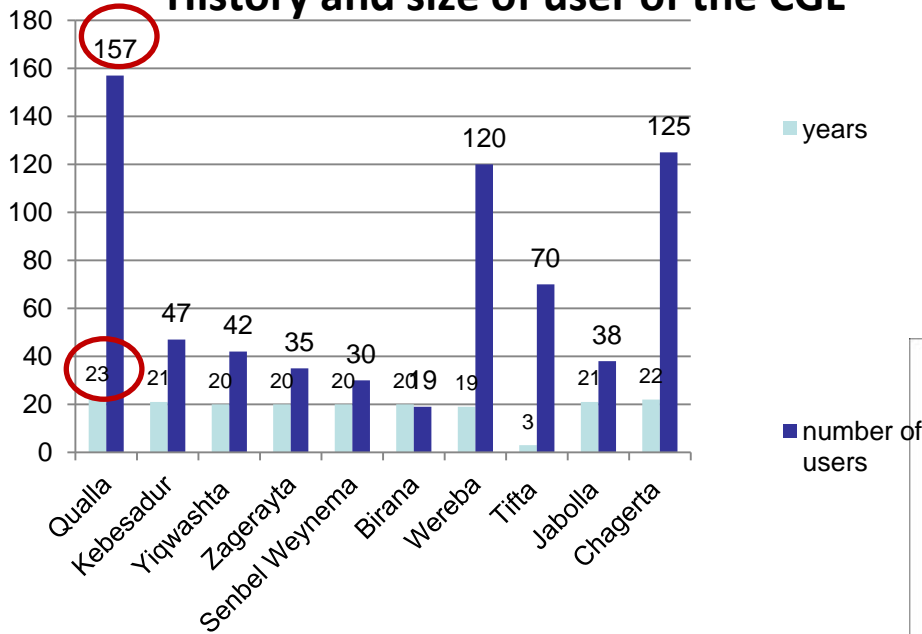
Size of the CGL under the controlled system in(ha), Bure district



# Why Kuwalla Got is selected from Wundgi



History and size of user of the CGL



- Strategically placed
- Cross the CGL
  - Every Sunday
  - Monthly for Tsewa
  - Funeral place

- Kuwalla is the oldest
- More users



# Timeline of changes/events affected CGL

## ■ Political and policy changes

- **1974:** Land for tillers (1974)
- **1975:** Establishment of peasant associations
- **1984:** Agricultural producers cooperatives
- **1987:** Villagization program
- **1990:** Collapse of cooperatives and villagization
- **2007:** Land redistribution
- **2004:** Land registration and certificate

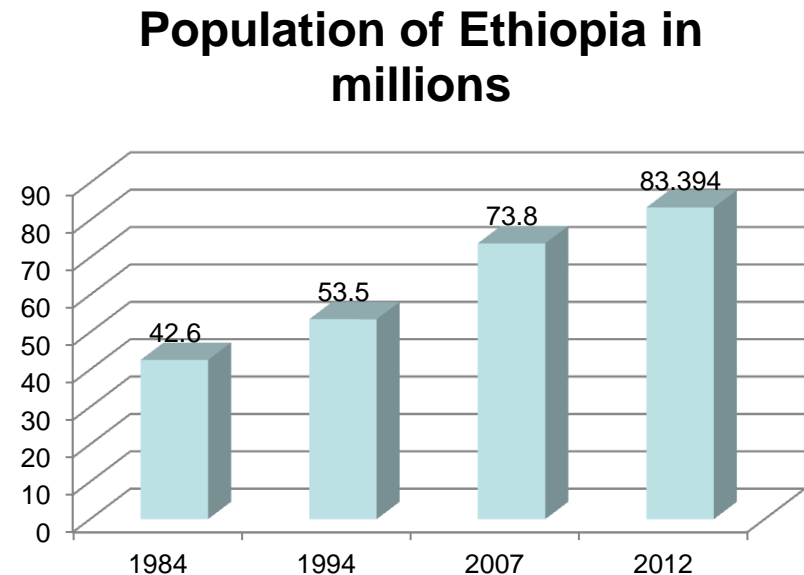
## ■ Ecological

- **1976:** Domination of *Trifolium* spp caused death of 50 cattle
- **1985:** Drought
- **Since 2004:** A recurrent shortage of rain fall

# Timeline..changes affected CGL



- Population growth  
Folded over 28 years
- Livestock population increased
  - There is land competition for crop production



- In effect CGL size of the west Gojam zone decreased by **0.71%** in three years (CSA, 2012; BoFED, 2010)

# Timeline of ..... affected CGL

## ■ Program and project interventions in the district

- Promoted controlled grazing system in various angles
- **1988-1993:FLDP**- 4<sup>th</sup> livestock development project\_  
CG area enclosure and over sowing
- **1999-2004:NLDP**- National Livestock Development  
project\_CG area enclosure & over sowing
- **2006-2011:IPMS**-Improving Productivity and Market  
Success of Ethiopian farmers\_ Controlled  
grazing system management
- **Since 2007 to date: SLM**-Sustainable Land  
Management program\_ Area enclosure  
with cut and carry system
- **Since 2012 to date: AGP**- Agricultural Growth  
Program\_ Area enclosure with cut and carry  
system

# History of the *Kuwalla* CGL mag't



## Before *Derge* (before 1975)

- Had a range of grazing area
  - Communal grazing land
  - Fallow land
  - Individual's grassland holdings



- Somehow they had also controlled grazing system

## During *Derge* (1975-90)

- The size of CGL reduced due to
  - Frequent land redistributions
  - Fallow lands allocated for individuals for farmland
- Animals restricted within the kebele to graze
- Forced to have free grazing system



# History.....*Kuwalla*

**As a result of free grazing the resources are over grazed**

- Low growth rate of feed species
  - Low biodiversity
  - Low feed biomass
  - Dominancy of un palatable feed species
- Soil erosion
  - Removal of soil nutrients
  - Gully formation
- Decreased the productivity of livestock



# History ...*Kuwalla*



## Collapse of the *Wundgi* Producers cooperative (1990)

- The new controlled system started in 1982 E.C (1990)
  - As the CGL transferred to *Kuwalla* villagers
  - to substitute their CGL that has changed to forest
- Elders mobilize people to adapt the controlled GS
  - Because it was over exploited through free grazing
  - Realized the CGL could not support their livestock anymore
- The event taken as an opportunity by the villagers
  - Relatively the size of the new CGL is large
  - Reside near to the vicinity for the majority of villagers





# Actions taken by community in 1990

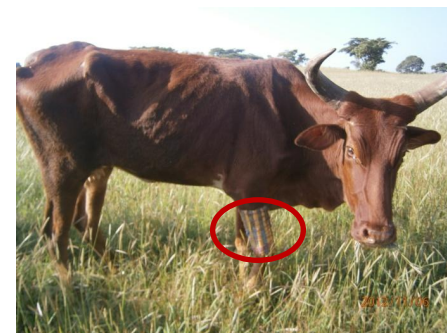
- Shared the idea of controlled grazing system from elders
  - Through neighborhoods
  - Idir
- People agreed and decided to adapt the new management system
- Agreed to experiment in the following year on
  - A ha of the CGL
  - Extended to the area what they have now
- Elected leaders for the new manag't system
  - Informal management body delegated
  - Fathers of herders reorganized in more effective ways
- Developed plan how to conserve CGL resources



# New mang't rules and regulations

## Users' rights

- Restricted only for livestock owners
  - Poor (most of FHHs) do not have access right
- Grazing is also sorted out by animals
  - Only cattle are allowed to graze
  - Priority is given to oxen: no restriction in number per HH
  - For cow the max number is 2 per HH
- Special access right are there
  - for weakened, injured animals until they get recovered



# New...regulations

## Users' obligations

- Users obliged to take collective action on mag't rules
  - **Kello:** Guarding the entrance of animals in the CGL during the day time in turn
  - **Hura:** the practice of manuring the CGL in rotation during the wet season
  - **Kirat:** Looking after the cattle stayed on the CGL overnight by users in turn during the *Hura* season
  - **Fencing and weeding:** Seasonally they do collective for one or two days
- Defaulters pay penalties in cash
- Elders, FHHs and migrants can pay fee for **Kello &**

**Kirat**



# Institutions (traditional/informal)



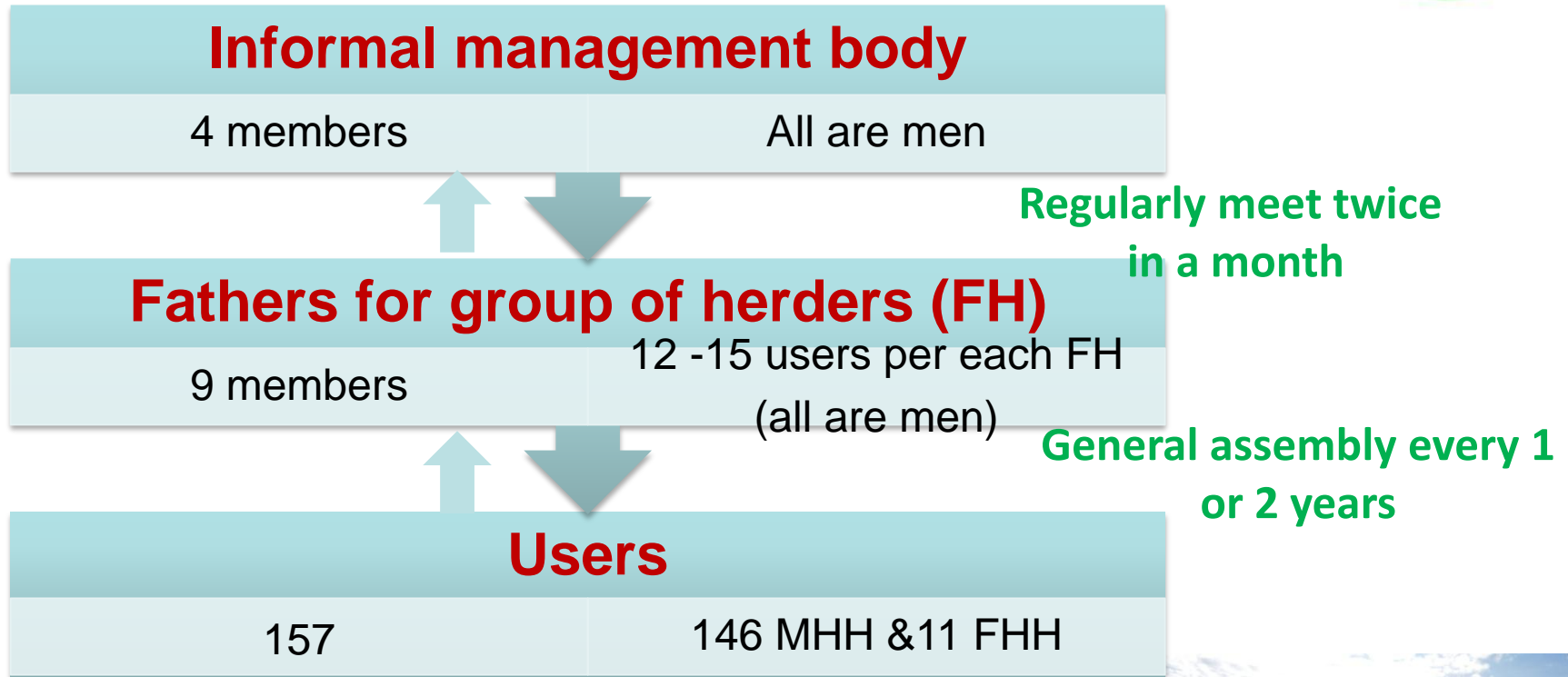
- Key mechanisms-sustainable use of CGL resources
- Serve as a venue for collective actions
- All villagers-adopted controlled grazing mag't system do have an informal institutions
  - Key players in governing and guiding the mag't rules
  - Ensuring the efficient utilization of the CGL resources
- Though their arrangements are so divers
- They share similar features
  - All of them are self-organized
  - Have flexible rules and regulations
  - The guiding rules are responsive to changes
  - Coordinate collective actions



2012/10/31



# Institutional structure



The management is highly dominated by men

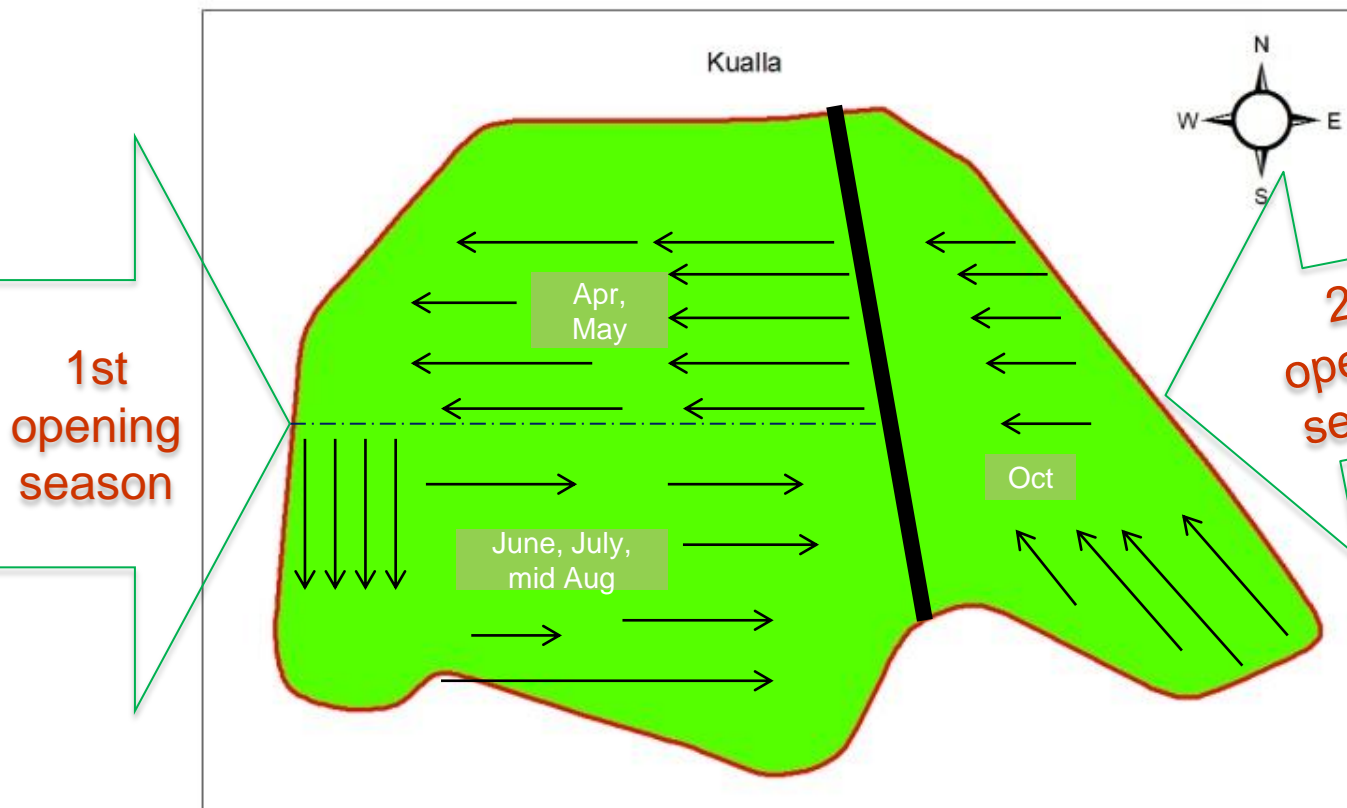
- Women never been member of mang't body
- Some post seem labeled only for men (Father of herders)



# How the new CGL mang't functions



Two opening or grazing seasons in a year



- IMB guide the mang't rules
- Each FH make a boundary for the area to be grazed every 9 days
- Each users take responsibility for a day under his/her sub group every 12 or 15 days

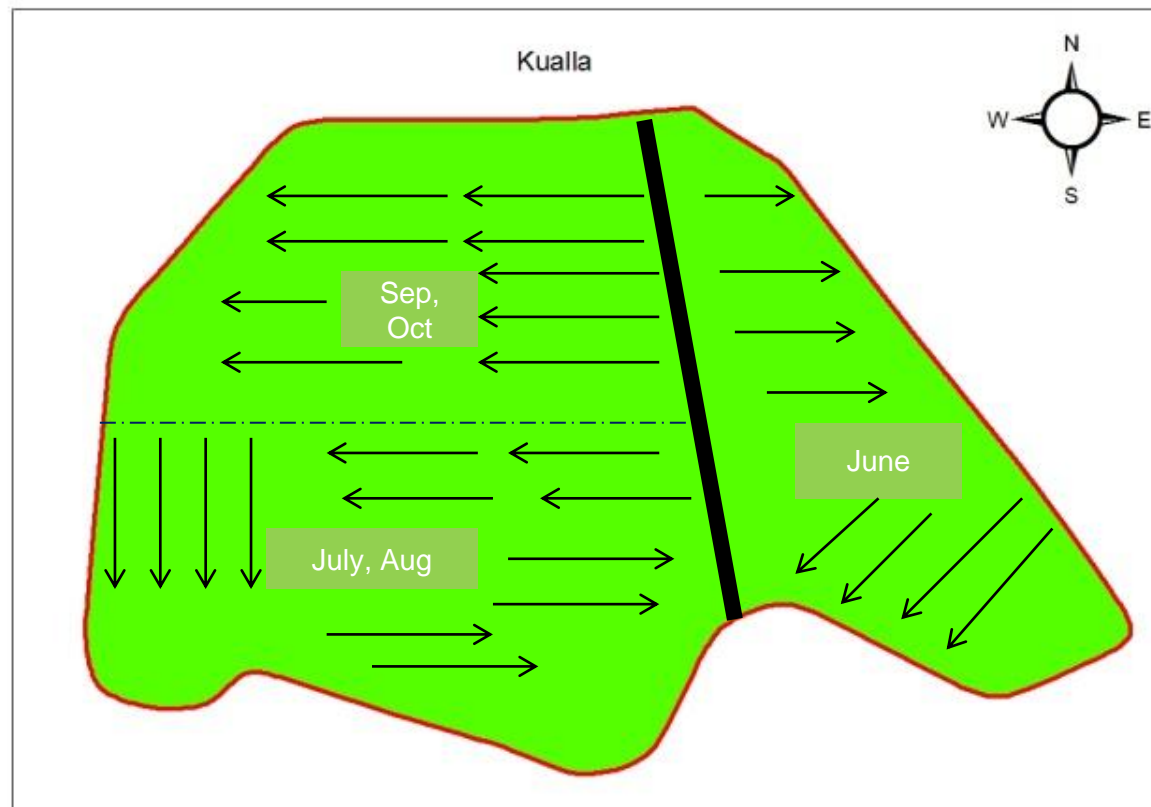
Everyday only for 2 hours -afternoon (4:00-6:00 pm)

Oxen =260, Cows =37, Calve=7



# How the new.....functions?????

*Hura*: the practice of manuring CGL in rotation

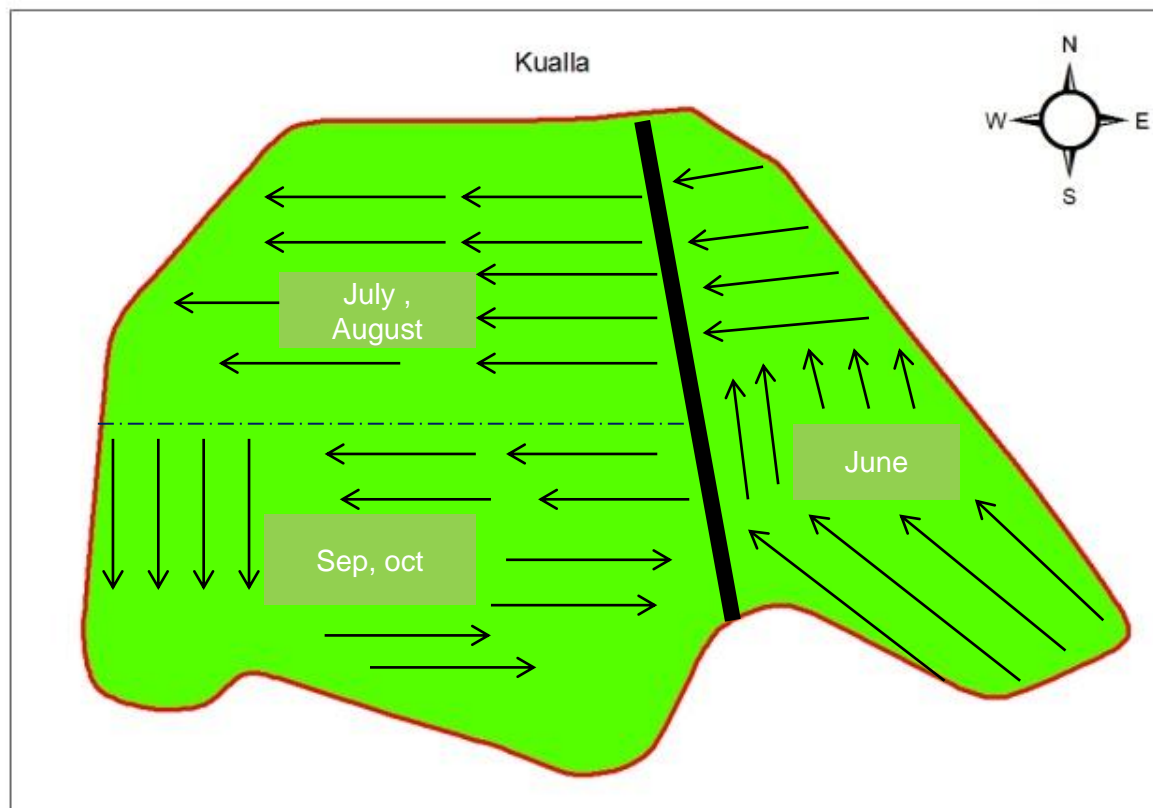


- Let out the cattle overnight & tether
  - 900 cattle
- Users supposed to bring & tether their cattle every night
- But only 9 users from each sub group do *Kirat*
- 1 FH supervise the *Kirat* & movement

*Kirat*: Users looking after the cattle overnight

# How the new.....functions

*Hura*: the practice of manuring CGL in rotation



- Let out the cattle overnight & tether
- 900 cattle
- Users supposed to bring & tether their cattle every night
- But only 9 users from each sub group do *Kirat*
- 1 FH supervise the *Kirat* & movement

*Kirat*: Users looking after the cattle overnight

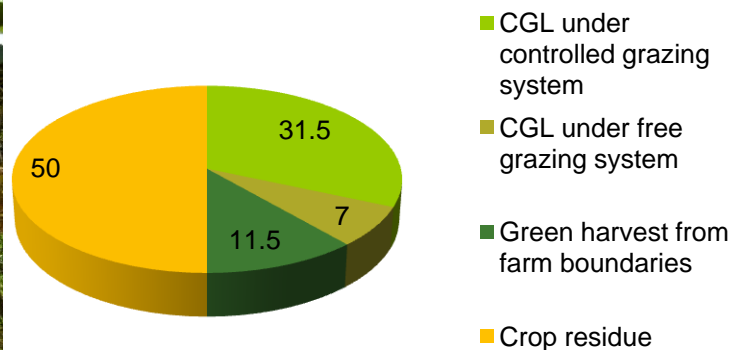
# What are the incentives for CA



## Cattle performance improved



## Various feed sources averaged from men and women group



## Special access to weakened & injured animals



# Gender and controlled CGL manag't

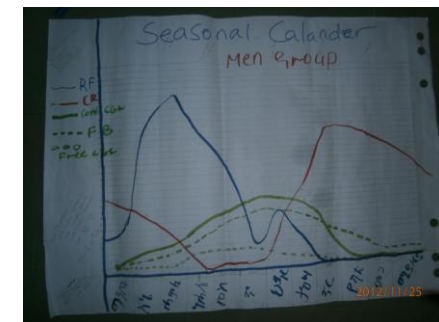


- Gender influences users contribution for CA
  - Their position in the community as well
  - By the responsibilities of men & women in the HHs
- For e.g women (FHH & in MHH) do not take part in the decision making process of mang't
- FHH users don't physically take part in *Kello& Kirat*
  - Instead they pay annual fee
- While women (adults and girls) from MHH take part in *Kello*
  - Following high attendance of children to school
  - Women's roles in most of the livestock management activities has increased



# Local knowledge of CGL mag't

- It is another key elements to guide the efficient utilization of the CGL resources
  - The traditional soil fertility mang't (*Hura*)
- The way they synchronize the utilization of CGL resources
  - With other feed resources
  - In response to the growth pattern of feed spp.
- Men and women do have distinct and shared knowledge about the CGL resources
- However women knowledge & interests not reflected in the management rules
  - Women wanted to give priority for cows
  - They wanted to collect also grasses for sifet



# Both men and women posses knowledge about feed spp compositions & dominance



G  
r  
o  
w  
t  
h  
  
s  
e  
q  
u  
e  
n  
c  
e

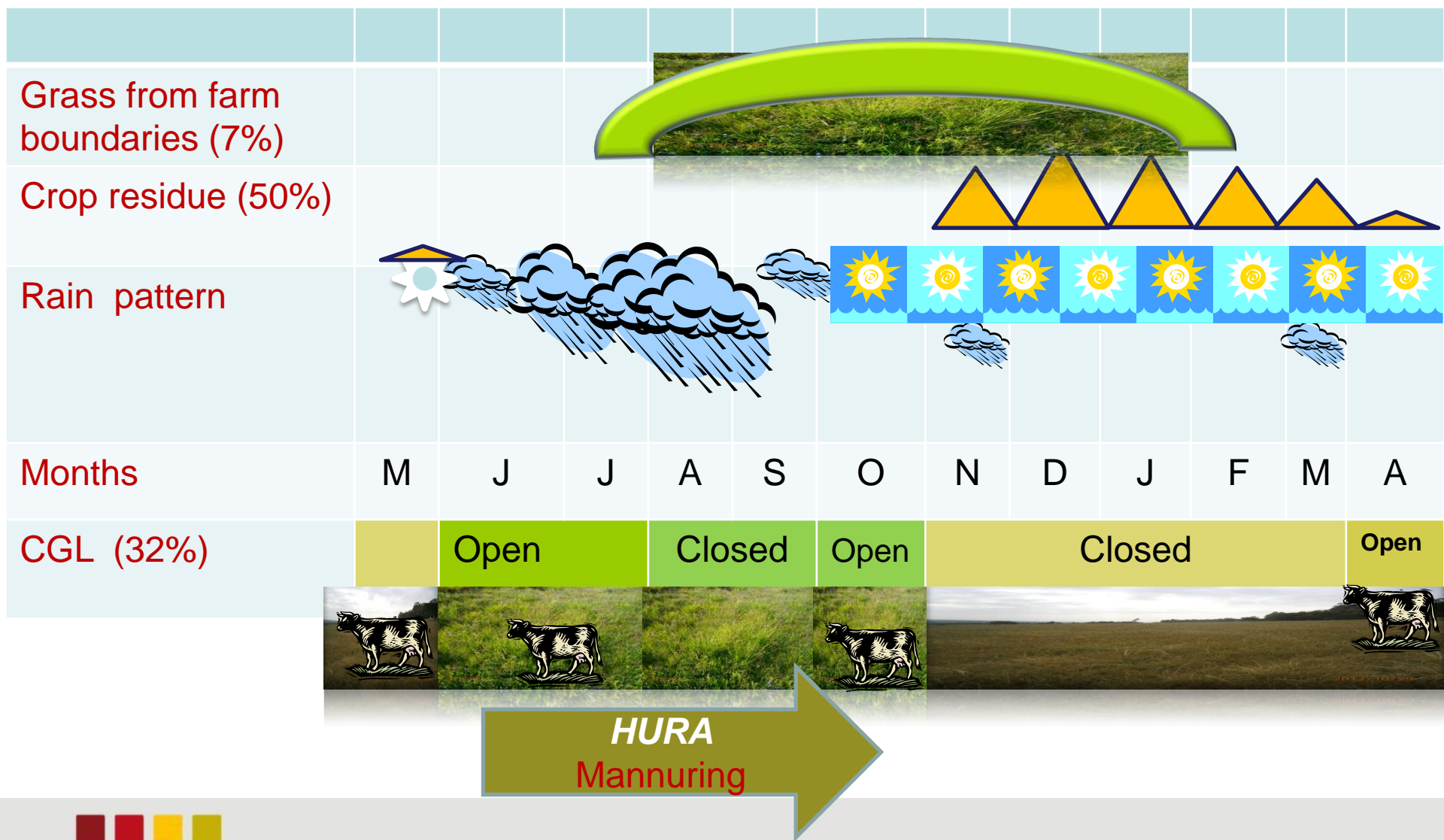
Rank	Importance		Dominance	
	Men	Women	Men	Women
1 <sup>st</sup>	<i>Cynadon dactylon</i>	<i>Cynadon dactylon</i>	<i>Andropogon dactylon</i>	<i>Cynadon dactylon</i>
2 <sup>nd</sup>	<i>Sporobolus natalensis</i>	<i>Andropogon dactylon</i>	<i>Medicago polymorpha</i>	<i>Andropogon dactylon</i>
3 <sup>rd</sup>	<i>Andropogon dactylon</i>	<i>Medicago polymorpha</i>	<i>Cynadon dactylon</i>	<i>Medicago polymorpha</i>
4 <sup>th</sup>	<i>Cyperus rigidifolius</i>	<i>Trifolium spp</i>	<i>Eleusine floccifolia</i>	<i>Sporobolus natalensis</i>
5 <sup>th</sup>	<i>Medicago polymorpha</i>	<i>Armetmato</i>	<i>Sporobolus natalensis</i>	<i>Trifolium spp</i>
6 <sup>th</sup>	<i>Trifolium spp</i>	<i>Sporobolus natalensis</i>	<i>Trifolium spp</i>	<i>Eleusine floccifolia</i>
7 <sup>th</sup>	<i>Eleusine floccifolia</i>	<i>Arthraxon prionodes</i>	<i>Cyperus rigidifolius</i>	<i>Armetmato</i>
8 <sup>th</sup>	<i>Hyparrhenia dregeana</i>	<i>Cyperus rigidifolius</i>	<i>Hyparrhenia dregeana</i>	<i>Cyperus rigidifolius</i>
9 <sup>th</sup>	<i>Gorteb</i>	<i>Gorteb</i>	<i>Gorteb</i>	<i>Hyparrhenia dregeana</i>
10 <sup>th</sup>		<i>Eleusine floccifolia</i>		<i>Gorteb</i>
11 <sup>th</sup>		<i>Hyparrhenia dregeana</i>		<i>Arthraxon prionodes</i>



*Cynadon spp, Andropogon spp, Medicago spp, Trifolium spp....*



# Facts & knowledge used for opening & closing of CGL



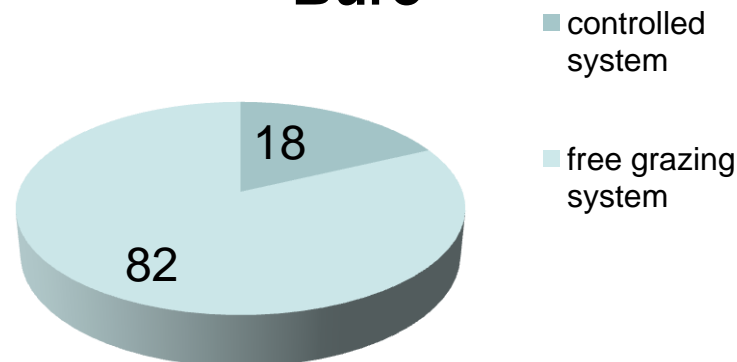
# Opportunities

- Many projects and programs work on CGL in various angles over the last 30 to 40 years

- The time trend analysis indicated that

- The initiation of controlled CGL is particularly the technical part is traced back by projects E.g.
- 2 PA s attributed by **4<sup>th</sup> livestock and NLDP** feed development in the late 80's and 90's
- 9 PA s out of the 12- attributed by **IPMS and SLM** feed dev't as component of VC in 2006 -2011) and area enclosure with cut and carry system as SLM (since e 2007)
- **AGP**- 1 PA work on best experiences cut and carry (since 2012)

**CGL Resources in Bure**



# Opportunities



- The introduction of cut and carry system by SLM
  - Ensure equal appropriation of the resources among users (for the poor and women)
  - Enhance the collective action and compliance of the rules
  - Use of the resources without losing the nutritive quality of the resources
- The new direction and commitment of the region towards the protection of NR
- The current policy that ensured
  - The holding of the communal resources for well defined users (villagers)
  - Provision of rights to villagers to decide how best they utilize the resources



# Challenges

## Land governance

- Absence of land administration experts at Kebele
- No land certificate for the communal holdings

## Reduction of CGL in size

- Expansion of farmland towards CGL
  - By individuals and group

## The type of grazing system-sources of conflict

- Non-users seek for cut and carry system
  - Share the resources equally and sell the surplus feed
- Users want to keep the current rules
  - As a return back for their more contribution for *Hura* by sending more cattle for manuring

# Challenges

## CGL management related

- Imposition of the cut and carry system without understanding the existing controlled management system
  - May jeopardize the controlled grazing system
  - So how the cost of collective action shared among users should be also considered (like how to pay for *Hura*)
- Domination of unpalatable grass species
  - E.g. Arma (*Eleusine floccifolia*)
- Water shortage
  - Animal has to trek longer distance to the water points
  - Particularly during the dry season (2 times /day)

# Implications



- It is important to scale up the controlled grazing system
  - Towards sustainable use of CGL resources
  - To revert the negative impact of free grazing system
- But how the diverse knowledge and experiences of various stakeholders can be utilized is critical
  - Including how we can give farmers chances to make use of the technical knowledge in their own way of traditional institutional arrangements
- How we approached also influence the adoption rate of the controlled grazing system
  - Give a menu options and use the existing local knowledge
  - Rather than imposing only for one interventions



# Implications

- Maximize the benefit from CGL through
  - Integration of beekeeping
  - Using live fencing of the CGL with forage trees
- Strengthen other interventions on improving on the other feed sources
  - Enhancing the nutritive quality of crop residue
  - Promote feed and forage development on farm boundaries and backyard



# Implications



## Gender

- Need to enhance the engagement of women in the decisions of management rules
- Not only to ensure gender equality
  - Including their interests and preferences
- But also to strengthen the sustainability of the CGL management system through
  - Utilization of women's knowledge
  - bring in new ideas and benefits
  - So as to increase their contribution as well





**Thank you!**

2012/09/28