



**2018 Sub-activity : Promoting improved dual sorghum for  
crop-livestock integration and income generation in Sikasso  
Region/Mali.**

Contact: [B.Nebie@cigar.org](mailto:B.Nebie@cigar.org)

Africa Rising Science Review meeting

Sikasso, 11-13 March, 2019



**FEED THE FUTURE**  
The U.S. Government's Global Hunger & Food Security Initiative



**USAID**  
FROM THE AMERICAN PEOPLE



## Methodology

- Material: 3 dual purpose sorghum + local check
- 2 types of fertilizers: (i) DAP+Urea (ii) Cow manure (iii) No fertilizer
- **Trials in technology parks: 1 in Madina/Bougouni and 1 in M'pessoba/Koutiala**
  - ✓ 2 replications
- **Trials in on-farm:**
  - ✓ 4 villages in Bougouni and 5 villages in Koutiala
  - ✓ 3 farmers per village = 12 farmers in Bougouni and 15 farmers in Koutiala
- **Data collected:**
  - ✓ Trial condition: Geographic coordinates, rainfall/village, Sowing date, ...
  - ✓ Varieties performances: Grain yield, stover yield, farmers preferences



# Farmers implantiing the trials in Africa Rising villages

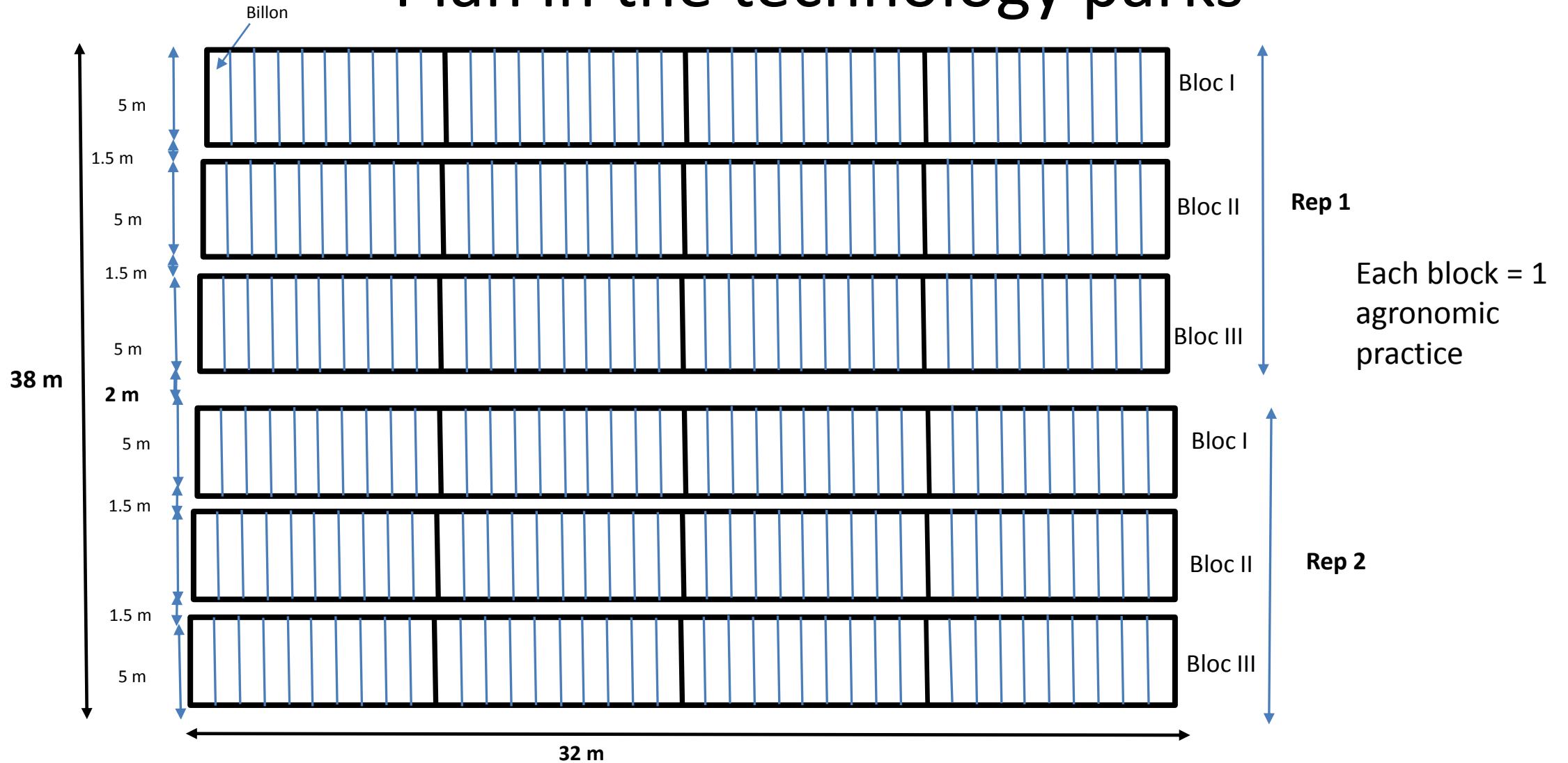
Zone	Village	Number of farmers implementing trials	
		Men	Women
Koutiala	M'Pèssoba	2	1
	Namponsela	2	1
	N'Golonianasso	2	1
	Sirakele	2	1
	Zanzoni	3	0
	<b>Total Koutiala</b>	<b>11</b>	<b>4</b>
Bougouni	Dieba	2	1
	Flola	2	1
	Madina	2	1
	Sibirila	2	1
	<b>Total Bougouni</b>	<b>8</b>	<b>4</b>

✓ Total farmers implemented trials = 27 farmers

✓ Women = 30%

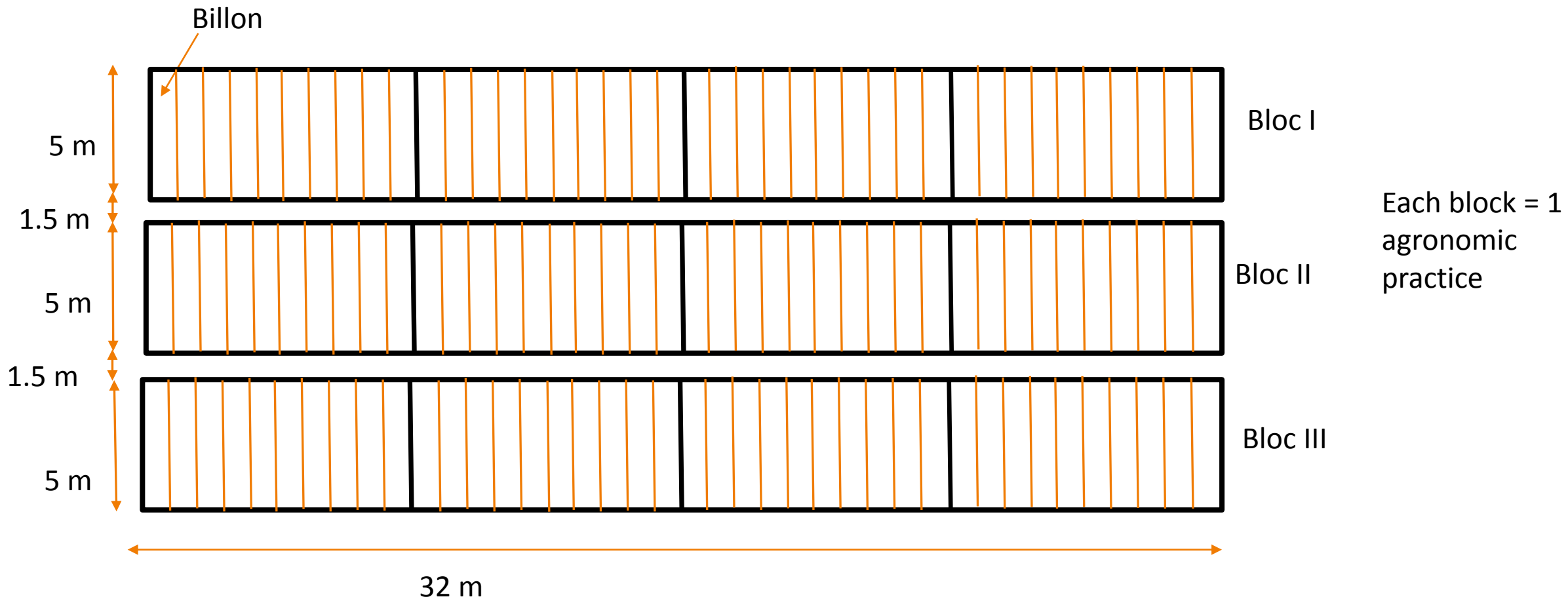


# Plan in the technology parks





## Plan in farmers field: 2 improved varieties + local check





**Field visit on farm Madina/Bougouni**



**Discussions after field visit in Flola/Bougouni**





**Farmers evaluating dual purpose sorghum varieties  
in Madina technology park, Bougouni**

**Group evaluation**



**Farmers evaluating dual purpose sorghum varieties  
in M'Pessoba technology park, Koutiala**

**Individual voting**

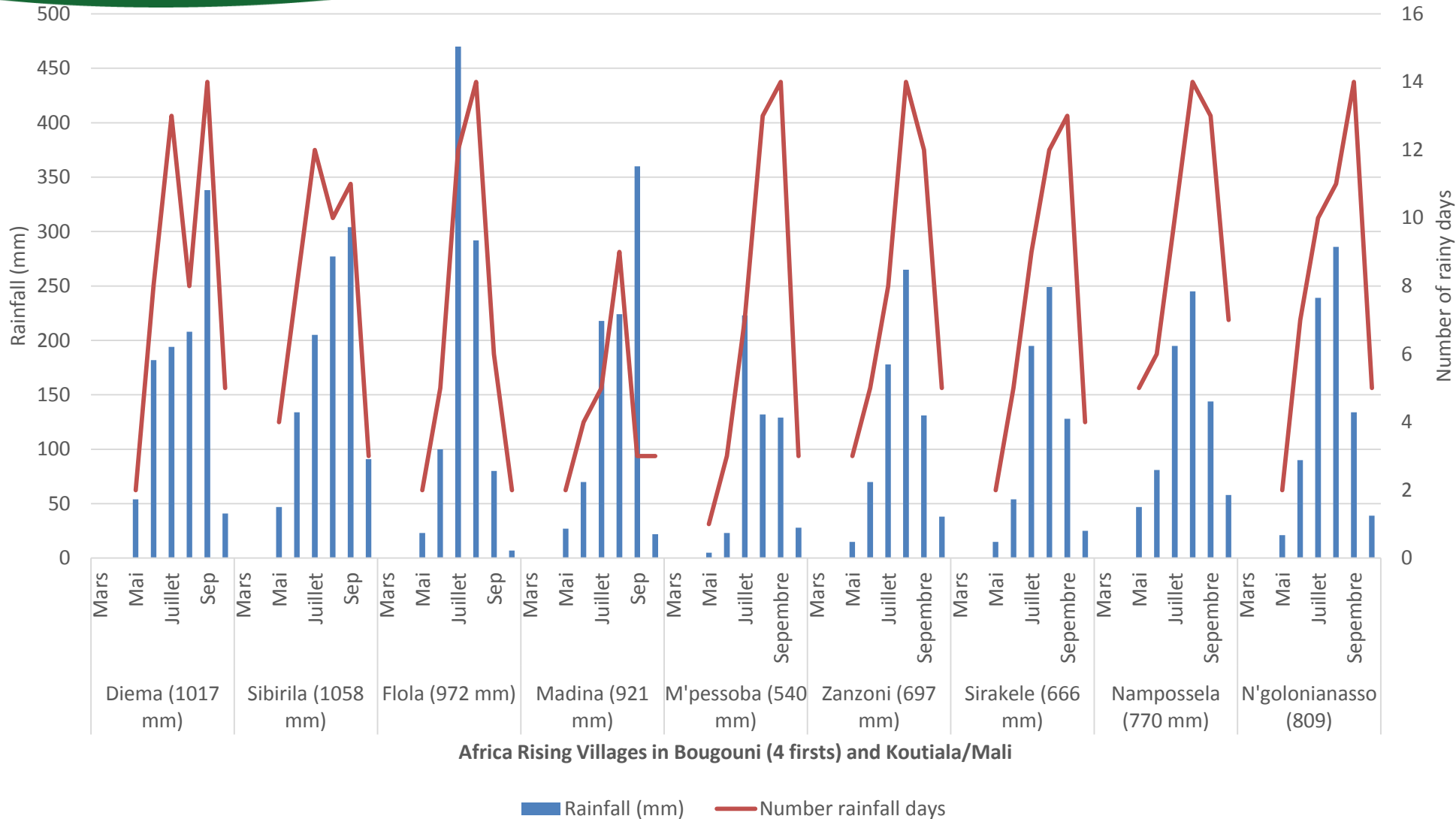






# 2018 Trials conditions (Africa Rising villages)

Conditions of trials locations 2018



Africa Rising Villages in Bougouni (4 firsts) and Koutiala/Mali

- 2 main zones (or target population of environment/TPEs) in Bougouni :

- ✓ TPE1 = Diema + Sibirila
- ✓ TPE2 = Flola + Madina

- 3 main zones (or target population of environment/TPEs) in Koutiala :

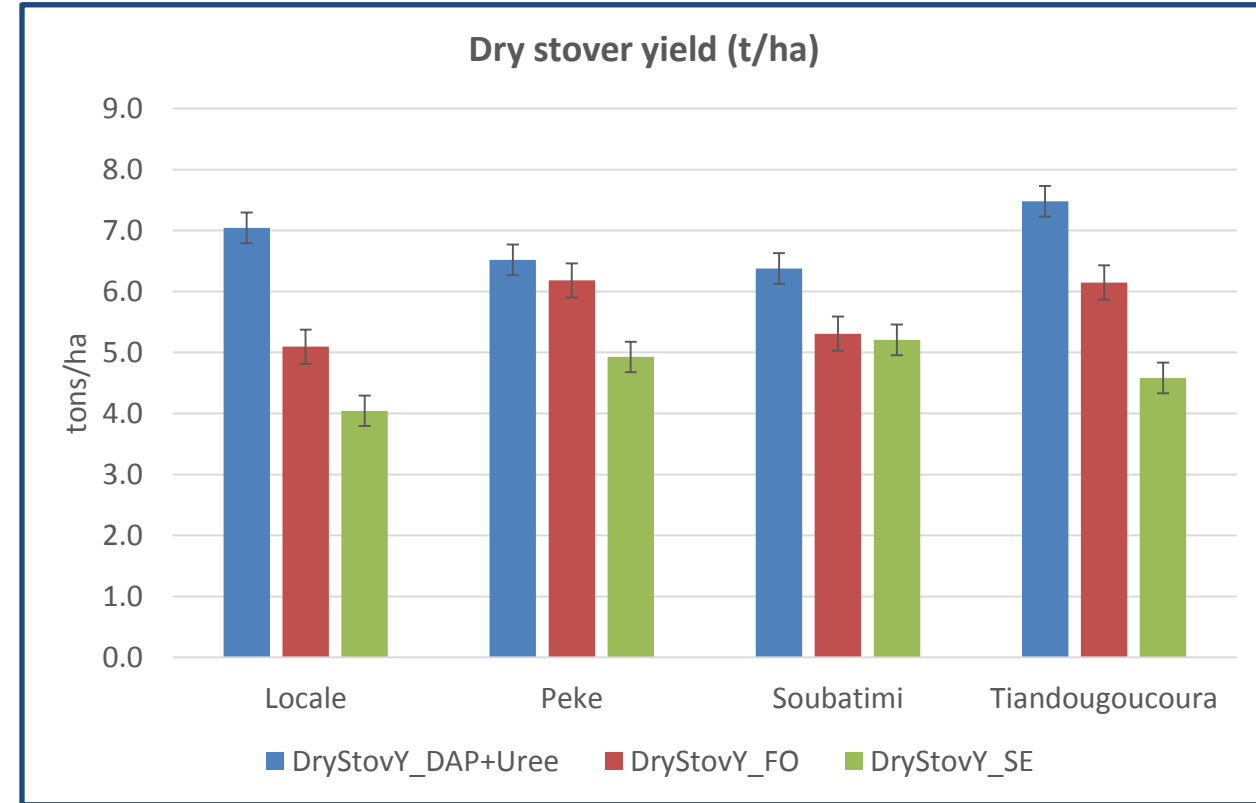
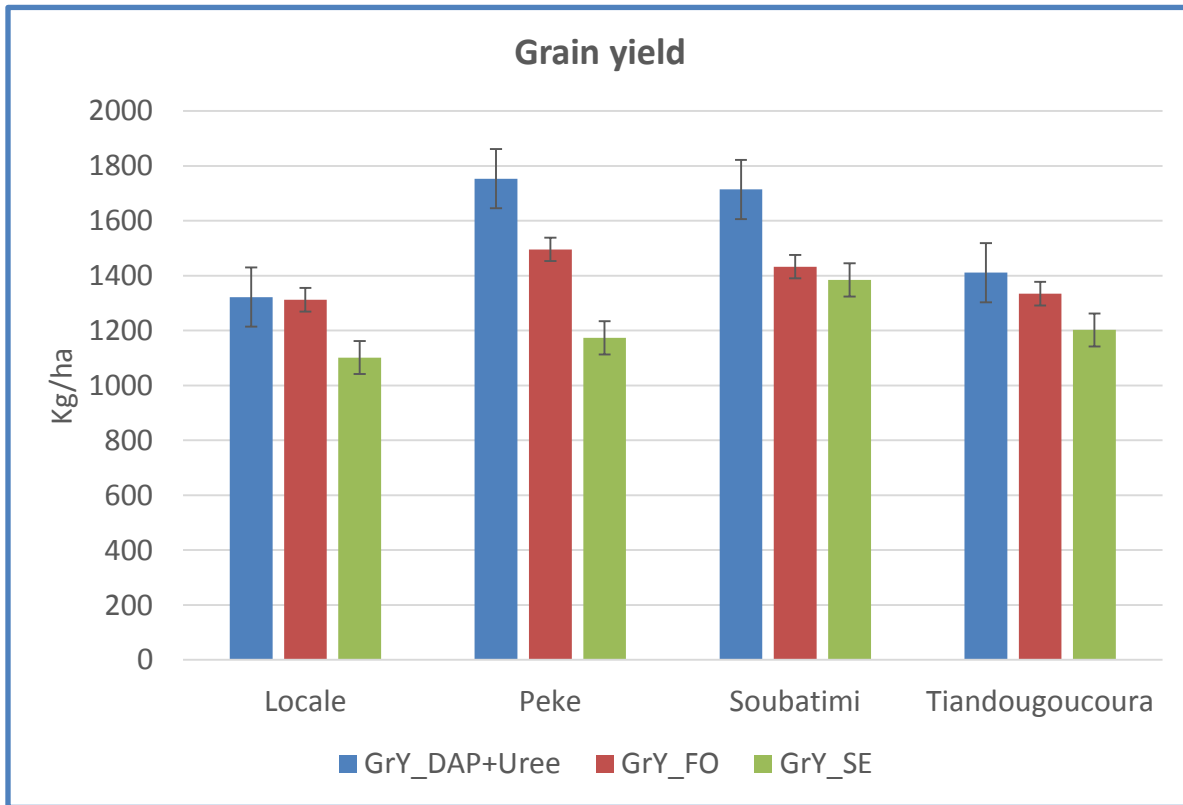
- ✓ TPE1 = M'Pessoba
- ✓ TPE2 = Zanzoni + Sibirila
- ✓ TPE3 = Nampossela + N'golonianasso

- This will help for better planning for rainy season 2019





# Dual purpose sorghum in the Parks

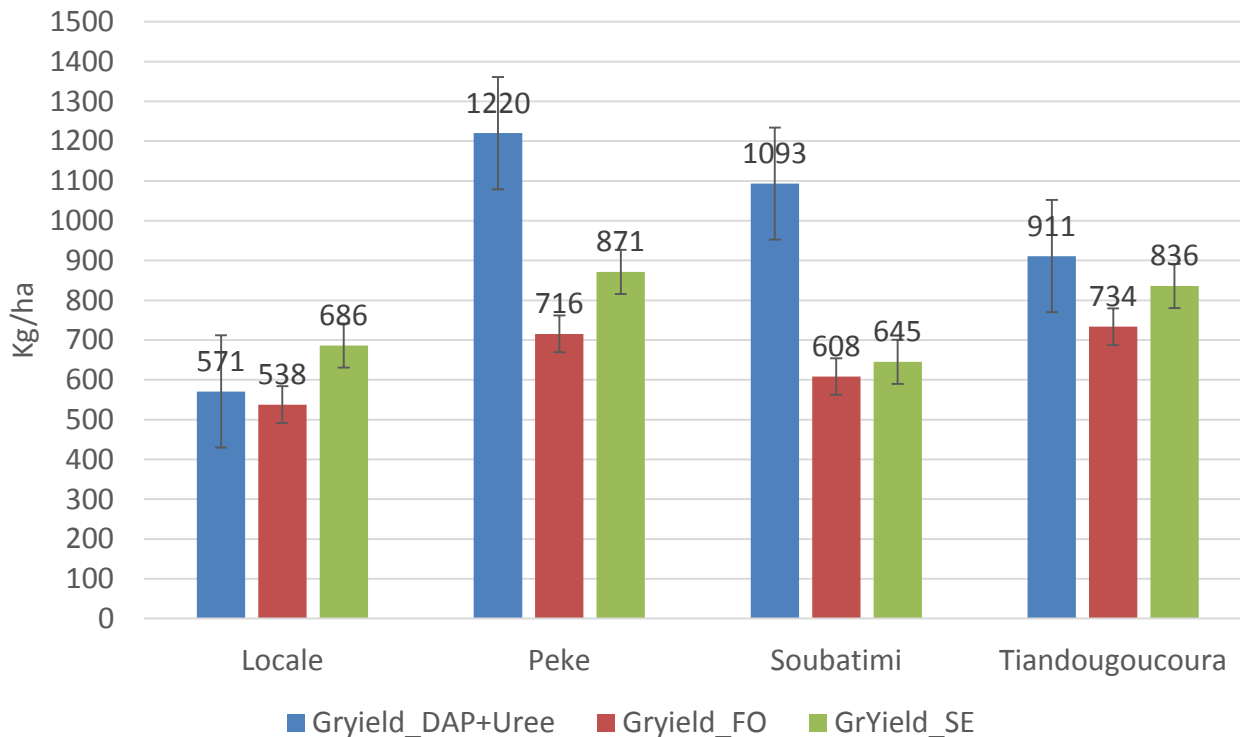


- Soubatimi mean grain yield = 1.5 kg/ha (21% of superiority over the local check)
- Peke mean grain yield = 1.47 kg/ha (18% of superiority over the local check)
- Tiandougoucouira mean grain yield = 1.32 t/ha (6% of superiority compare to the check)
- Stover yield higher for dual purpose sorghum but this difference is not significant

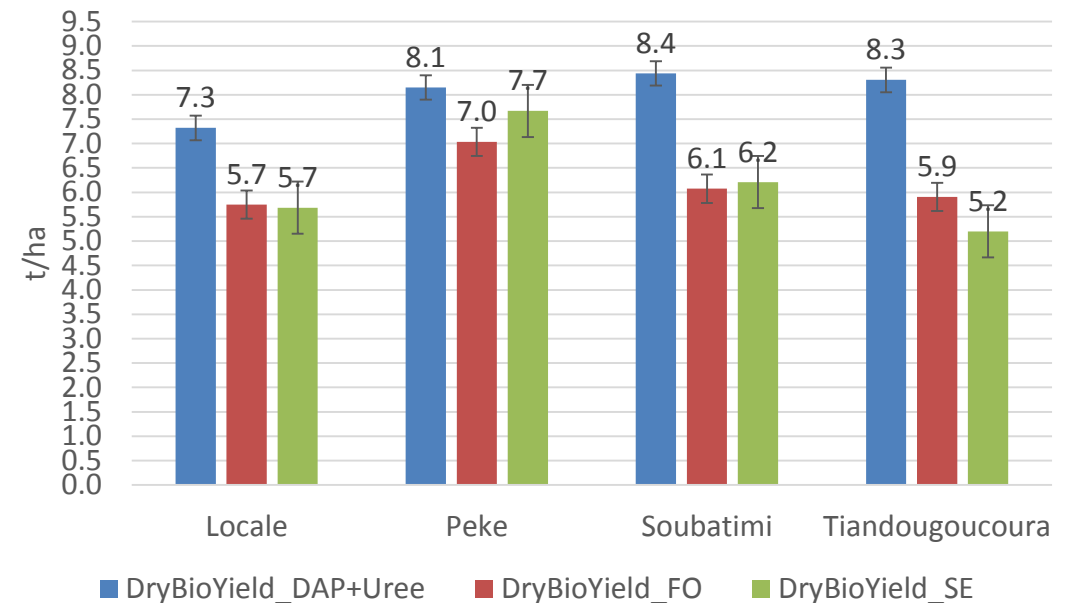


# Dual purpose sorghum on farm

Grain yield (Kg/ha)



Dry Biomass yield (t/ha)



- All improved dual purpose sorghum yield than the local variety with over 60% of grain yield advantage in DAP+urea conditions
- Stover yield of dual purpose sorghum is also higher with an average of 12% of superiority compared to the local
- Farmers preferred more Soubatimi in both zones but also Peke in Bougouni





# Progress towards deliverables

Sub-activity MA1113-18:	Planned Milestones	Statute (where are we?)
<p><b>Evaluating improved dual purpose sorghum for crop-livestock integration and income generation in Sikasso Region/Mali.</b></p>	<ol style="list-style-type: none"> <li>1. Report on farmers training and trial establishment.</li> <li>2. Technology handbook contribution: (Sorghum hybrids) under chapter 1.</li> <li>3. Technology handbook contribution: Technology 3 (Dual purpose Sorghum hybrids) under chapter 1.</li> <li>4. Agronomic and biophysical dataset.</li> <li>5. Map of trial locations on-farm/parks.</li> <li>6. Report on farmers perception of varieties.</li> <li>7. Scientific publication (with 2 years data)</li> </ol>	<ol style="list-style-type: none"> <li>1. List available and associated to the interim report</li> <li>2. In progress (by June 2019)</li> <li>3. In progress (by June 2019)</li> <li>4. And 5. Data available for Bougouni (still need to complete GIS data for Koutiala with AMEDD)</li> <li>6. Data available for 2 year (analysis on going)</li> <li>7. Need to be planed after data quality control for 2019 activities</li> </ol>



# Thank You

*Africa Research in Sustainable Intensification for the Next Generation*

[africa-rising.net](http://africa-rising.net)



This presentation is licensed for use under the Creative Commons Attribution 4.0 International Licence.