



**"Bambara Nut Farmer Research Network" -
Institutionalizing farmer-researcher cooperation to
increase research relevance and positive impacts for
female farmers".**



Bambara nut plant



Bambara nut pods



Bambara nut seeds



Some Bambara nut local based meals





Objective

The project has the objective to formalize, sustain and increase the impact of results of nine years of collaboration of 30 female farmers' organizations and researchers involved together in Bambara nut research and development. Specifically it is to go for a federation in the cover of INERA which will use "Farmers Research Network" and most of principles and sub principles of agro ecological intensification (AEI) to optimize the use of natural resources in female farmers' farming system.



Ultimate goal is to strengthen the moving of members of female famers' organizations and researchers from conventional agriculture for a sustainable and agro ecologically intensified female farmers' farming system in each village. A clear phase identification of female farmers' farming system constraints of negotiation

Current state of knowledge in Farmers' Research Network (FRN)

- Using Mother and baby trials and “Farmers Fields schools”;
- Female farmers’ fully managed experiments varying between 500 and 600 every year
- Institutionalize participatory research and development between farmers’ organizations and researchers in 30 villages;
- Clear steps identified steps for implementing AEI

Current state of knowledge in Farmers' Research Network

FRN through Mother and baby trials

- Farmers choose locations of fields and combined options for implementing in their baby trials
- Farmers choose combined options to be implemented in their “field’s school”
- Farmers meet in their “field’s school” at regular periods for working and evaluating options and yields
- Farmers monitor field’s management such as date on ploughing and sowing, weeding, earthing-up, harvest and evaluation were done by female farmers’ together.

Current state in Agro ecological intensification (AEI)

- Farmers and researchers involved in the Bambara nut project are moving from conventional farming system in semi-arid and low input agriculture contexts to using agro ecological intensification (AEI);
- Female farmers' farming system based on legumes (Bambara nut and cowpea) and cereals (maize, sorghum and millet) chosen as unit of intensification through
- Minimizing use of synthetic fertilizers and substitution by locally available natural fertilizers such as ash and organic matter; increasing crops diversities; support of farmers' organizations governance;

On the way of a sustainable and an efficient production of food by/for smallholders.

Activity of institutionalization of Bambara nut producers' federation

- Meeting in March 2019 at Ouagadougou
- 2 to 4 female farmers organizations leaders at Ouagadougou
- Voluntary choice of village Bambara nu FRN responsible by village
- Voluntary choice from a set of villages from the same county of the Bambara nut FRN responsible by County
- Election of the national Bambara nut FRN responsible

Networks facilitate learning and knowledge sharing across farmer groups with similar agendas, interests, and constraints.

Activity of institutionalization of Bambara nut producers' federation

- 33 female farmers from village level were elected as Bambara nut FRN responsible
- 8 female farmers from county level were elected as Bambara nut FRN responsible
- 1 female farmer was elected as national Bambara nut FRN leader by all participants

Networks facilitate learning and knowledge sharing across farmer groups with similar agendas, interests, and constraints.



Activity of female farmers farming system diagnostic : Identification of common constraints by female farmers (national level)

- Insufficient rain
- Lack of varieties adapted to rainfall
- Low productivity of traditional varieties
- Inaccessibility to improved varieties
- Inaccessibility to fertilizers because of high prices
- Lack of equipment
- Lack of time leading to non-respect of the recommended technical itinerary
- Lack of training on production techniques and methods
- Poverty of soils

Activity of female farmers farming system diagnostic : Identification of common constraints by female farmers (national level)

- Diseases and attacks of insects, caterpillars and striga
- Absence of agricultural equipment for the execution of cultural operations at the appropriate time resulting in late sowing and non-compliance with the cultural calendar
- Little knowledge of new farming techniques
- poor access to organic manure
- Absence of technical itineraries for women's cultures
- reduction of the working time devoted to individual fields
- Lack of means to acquire the amount of fertilizer needed for crops
- Crop losses related to conservation difficulties

Activity of female farmers farming system diagnostic :

Identification of common constraints by female farmers (county level)

Activity of female farmers farming system diagnostic :

Identification of common constraints by female farmers (village)

Farmer groups set research priorities and influence the research agenda

Activity of negotiation: Crop preference for growing by village in Dapelogo

N°	Soglosi	Pamtenga	Tansèga
1 st	Cowpea	Cowpea	Cowpea
2 nd	Peanut	Bambara nut	Peanut
3 rd	Bambara nut	Peanut	Okra
4 th	Sesame	Okra	Sorghum
5 th	Okra	Sorghum	Millet
6 th	Millet	Millet	Sesame
7 th	Sorghum	Sesame	Bambara nut
8 th	Sorrel	Sorrel	Sorrel

Research effectively addresses farmers' problems and opportunities

Activity of negotiation: Prioritization of research activities by female farmers in the village of Soglozi

N°	Crop	Constraints	Consequence Constraint	Use of product	High proportion
1 ^{srt}	Bambara nut	1. Diseases 2.Late varieties	Low yield	1.food 2.Sale	Sale
2 nd	Okra	1.Larvae attack 2.Diseases	Low yield	2.Food 2.Gift 3.Sale	Food



Partners / Team

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Timing of mounding for Bambara groundnut affects Crop development and yield in a rainfed tropical Environment.

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Bambara groundnut is a grain legume crop mainly cultivated in Africa. The western part of Africa provides 40-50% of world production, which has been estimated to be about 532,000 tons annually mainly from the major producing countries: Burkina Faso, Chad, Côte d'Ivoire, Ghana, Mali, Niger, and Nigeria. It has been stated that the timing of mounding affects the yield of Bambara groundnut. However, in a rainfed area, the effect of mounding on the yield of Bambara groundnut is still unclear. This study was conducted to evaluate the effect of mounding on the yield of Bambara groundnut in a rainfed area of Burkina Faso.



Study area
 The study was conducted in the rainfed area of Ouagadougou, Burkina Faso. The experimental site is located in the north of Ouagadougou in the rainfed area of Burkina Faso.

The experimental layout was a randomized complete block design with four replications. 40 seeds were sown in each plot using one seed per hole.
 Mounding was conducted at three different times, corresponding to the following treatments: (i) mounding done at two weeks after sowing (2 WAA), (ii) at 4 WAA, and (iii) at 7 WAA. Mounding consisted of bringing soil to the crown of the plant with a hoe.

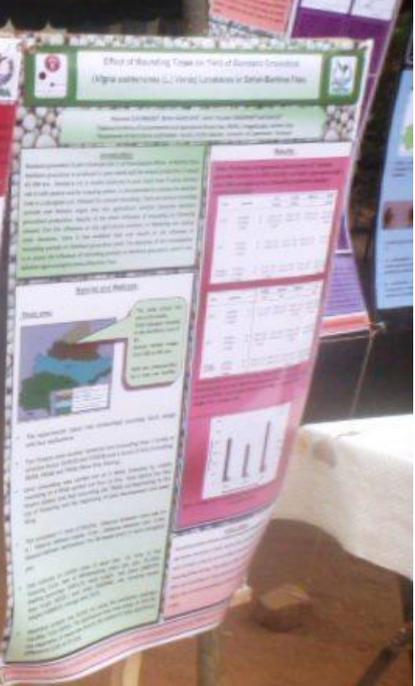
Plant material and treatments
 The cultivar Bambara N. subterranea 23 (INV23) and 40224 (INV40) were used.

The two cultivars differed at approximately the same time and had the same mounding average. There were significant differences between the two cultivars regarding seed yield per plant. Seed yield of INV23 was slightly, but significantly, higher than that of INV40. The seed yield per unit area of the two cultivars was similar in the topsoil in both years.

Year	Cultivar	Mounding Time	Seed Yield (kg/ha)
2018	INV23	2 WAA	1200
		4 WAA	1300
		7 WAA	1400
	INV40	2 WAA	1100
		4 WAA	1200
		7 WAA	1300
2019	INV23	2 WAA	1300
		4 WAA	1400
		7 WAA	1500
	INV40	2 WAA	1200
		4 WAA	1300
		7 WAA	1400

Data were collected on three main characteristics: time to the first node (FTN), time to 50% of plants per plot flowering (50%FL), and seed yield per plant (SY). FTN, 50%FL, and SY were measured at 10, 20, and 30 days after sowing, respectively. The experimental design was a randomized complete block design with four replications. The experiment was conducted at P. 50%.

According to the timing of mounding, 2 WAA, 4 WAA, and 7 WAA, significant differences were observed when the cultivars were compared. Mounding was not significant in 2018, but significant in 2019. Mounding was significant in 2018 and 2019, respectively. Mounding was significant in 2018 and 2019, respectively. Mounding was significant in 2018 and 2019, respectively.



Bambara nut FRN

THE MCKNIGHT FOUNDATION

THANK YOU

MERCI

BARKA

AW NIKIE

GRACIAS

ASANTE

OBRIGADO

SIYABONGA