Sasakawa Africa Association

Study Report on the evaluation of multiplier effects of TOPs, WADs, PTPs and the impact of training provided by EAs / CBF on technology diffusion in the regions of Sikasso and Segou through the strategic plan 2012-2016 of SG 2000.

By

SEADD

Sokonafing Bamako near the primary school

PO BOX: 109, Phone: 00223 76 17 64 58/69 77 03 91

Email: seadd_mali@yahoo.fr.

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I. Context and Justification of the study

The Malian economy is based primarily on agriculture. About 80% of Malians live in rural areas and the agricultural sector contributes 46% of GDP. One of the main objectives of Malian's agriculture is to exploit the potential of existing production with the mobilization and effective use of available resources. This can be done with training tailored to the needs of producers and strengthening the capacity of trainers and other extension agents.

The role of agriculture in the national economy was highlighted in all of Mali development strategies. However, the weakness of the training received by small producers represent a huge handicap of expectations for productivity, improving incomes and food security. These handicaps are reflected in:

- A bad choice of agricultural seeds;
- An incorrect application of agricultural techniques;
- A lack of monitoring of producers;
- Inappropriate use of agricultural inputs (mainly chemicals);
- A low level of producers' organization.

It is in this context of uncertainty that SAA has implemented training for extension agents recruited and those for the National Direction of Agriculture (NDA) through the theme of CPE. In addition, the Malian farmers have obtained of SAA the best agricultural techniques such as: TOPs, WADs, CVPS ... to help them get more output. Theme 1 overall objective is to improve production and productivity.

SG 2000/SAA through T1 has trained 302 EAs (CBEAs + CBFs), 20,839 farmers and reaches 28,186 school fields.

Over the past 6 years, SG 2000 has promoted the demonstration of technologies and promotion plots, namely, TOPs, WADs and PTPs.

TOPs demonstrate the various options of technologies based on the different cost levels on 500 m2. WADs are essentially plots managed by women farmers on 1000 m2 of land and SG2000 provides free inputs and extension advice.

CVPS demonstrate several options of technologies on 50 m2. PTPs are unlimited in size, farmers use their own inputs, applying the lessons of TOPs and WADs are supervised by extension agents.

The aim is to offer to small farmers a wide range of such options of technology and training so that farmers are convinced to take these technologies to scale corresponding to their economic conditions that utters economic benefits.

Since 2009, significant progress has been made among small farmers through the TOPs, WADs, CVPS and PTPs in Mali.

In Mali, SG2000 managed 440 TOPs, WADs 1,320 and 143 CVPS. It is clear that significant investments have been made in the promotion and implementation of training sessions, PTPs, TOPS and WADs CVPS. The capacity building, PTPs, TOPs, WADs and CVPS have reached and made significant changes to the livelihoods of farmers remains a question is to know the adoption rates of promoted technologies.

I. Objectives of the study:

1.1 Overall objective:

The overall objective of this study is to evaluate the multiplier effects of TOPs, WADs, PTPs and the impact of training provided by EAs/CBFs on technology diffusion in the regions of Sikasso and Segou.

1.2 Specific objectives:

The specific objectives of this study are among others:

a) The assessment of the adoption rate of technologies TOPs, WADs, PTPs;
b) The performance evaluation of technologies and their impact on men and women of small farmers in Mali;
c) The evaluation of the technology adoption rate in terms of their scope and effectiveness;
d) Assessing the impact of training conducted by T1 to EAs and CBFS on technology diffusion in the identified areas.

II. Expected finding:

Five (5) results were expected in this study among which are:

2.1 Finding 1: Adoption of improved seeds

It was for us here to do investigations on the rate of adoption of improved seeds by locality and culture. Analyze this technology and to bring out strengths, weaknesses and make proposals and suggestions for more adoption.

2.2 Finding 2: Varietal choice by crop

The study allowed making investigations about the varieties that have been more adopted by the beneficiaries and by this crop, and brought out the reasons for the choice of beneficiaries.

2.3 Finding 3: Choice the level of mineral fertilization of crops

This study has allowed classifying the mineral fertilization levels by crop (100%, 50%, 25% and micro dose), to highlight the causes for the choice of beneficiaries.

2.4 Finding 4: Association of crop (Millet pre germinated + cowpea in inter packet)

Here we evaluated the adoption rates of each association:

Djiguifa x Wilibali

Djiguifa x Djiquiya

Djiguifa x Korobalen

2.5 Finding 5: impact of training provided by EAs/CBFs on technology diffusion

This study has allowed measuring the impact of trainings, to measure the reliability of the SG 2000 training strategy.

III. Sampling and sample size

To determine the sample size, we used generally three considerations:

- The variability or dispersion of the variable of interest;
- The budget constraint for determining the number of units that can be observed with the budget available;
- The accuracy constraint of at least one estimator in terms of confidence interval.

As part of this study, this is the second approach that was chosen because of constraints.

Thus the proportion method was used to calculate the sample size $n = \frac{4p(1-p)}{k^2 p^2} deft$

Percentage of people affected	Relative error	Deff	Size
0,78	0,05	1	100

With a confidence level of 95% and an indicator of 80% of affected producers, a sample of 100 producers is necessary if the margin of error is 5% and a Deff (design effect) of 1.1.
L'échantillon des 100 producteurs à été choisi comme suit:

1) Members of TOPs, WADs and PTP (40);

2) Producers villages TOPs, WADs and PTPs (40);

3) The producers of the control villages (20).

IV. Methodology:

To achieve the objectives and results of this study, the following methodological approach was adopted:

➢ PHASE 1: PREPARATORY STAGE

In general, the study was conducted following the preparatory steps below:

- ***Scoping Meeting with the contracting authority (SG 2000):***

The exchange meetings were made with the SG 2000 team for a better understanding of the terms of reference of the study. Also, during the meeting, a start-up plan for the study was developed and accompanied by a schedule for the rest of the field steps, analyzing the results, submission of interim report and restitution final reports.

Sponsor proposed its modalities of overall intervention and a schedule (to be updated) that the consultant approved while its own amendments, this were also validated by SG 2000. At the outcome of this meeting, a number of documents has been announced by the sponsor and was made available to the consultant

- **Documentary review:** The aim was to collect secondary's data through the exploitation of the documents;
- **Development and validation of data collection tools:** surveys tools were made by the consultant (Household questionnaire and guides of surveys) and share with the sponsor.

➢ PHASE 2: FIELD SURVEYS

This phase took place in several stages of discussions with the main players involved in general meetings, focus groups, or through semi-structured interviews through the application of a survey guide, nearby to target actors were:

- *Villager's animators;*
- *The village development committee;*
- *Individual producers;*
- *Extension Agents;*
- *Heads Sectors;*
- *Field Agents of SG 2000;*
- *Seed traders;*
- *The charge of program of thematic 1;*
- *The Head of the thematic 1;*

- **PHASE 3: PROCESSING DATA ANALYSIS AND PREPARATION OF REPORTS**

This phase was conducted as follows:

- **Processing and analysis of field data:**

This step of office concerned the counting in the form of processing of data collected in the field in order to draw relevant information and conclusions, whose the results have been collated in this report.

- **Redaction of study report:**

Once the counting and analysis completed, the consultant proceeded to draft an interim report that will be filed nearby the sponsor.

- **Redaction and filing of the final report:**

A final report incorporating all recommendations of Sponsor shall be filed in deadline in cooperation with the sponsor. This period shall prescribe in the service contract made between the sponsor and the consultant.

3.3. HUMAN RESOURCES AND MATERIALS USED

For the realization of this study some humans resources and material have been mobilized.

3.3.1. Human resources

The study team was composed of an agronomist who worked closely with investigators throughout the duration of the mission:

- **Agronomist:** He has extensive experience in support of the value chains in the agricultural sector. He has a good knowledge of the agricultural sector in Mali. He has good experience on evaluating the effects of innovations in rural areas. He was responsible for analyzing the results of the multiplier effects of TOPs, WADs, PTPs and impacts of training provided by EAs/CBFS on technology diffusion.
- **The investigation team:** The investigation team: Those persons assured the administration of individual survey questionnaires in a sample of producers. They are the juniors consultants most experienced of the office which have experience in this activity sector.

3.3.2. Materials resources:

The means of transports were available to the team by the Sponsor for all the duration of the investigation.

V. Analysis of the data collected:

5.1 Finding 1: Adoption of improved seeds

5.1.1 Region of Sikasso:

Crop of Maize:

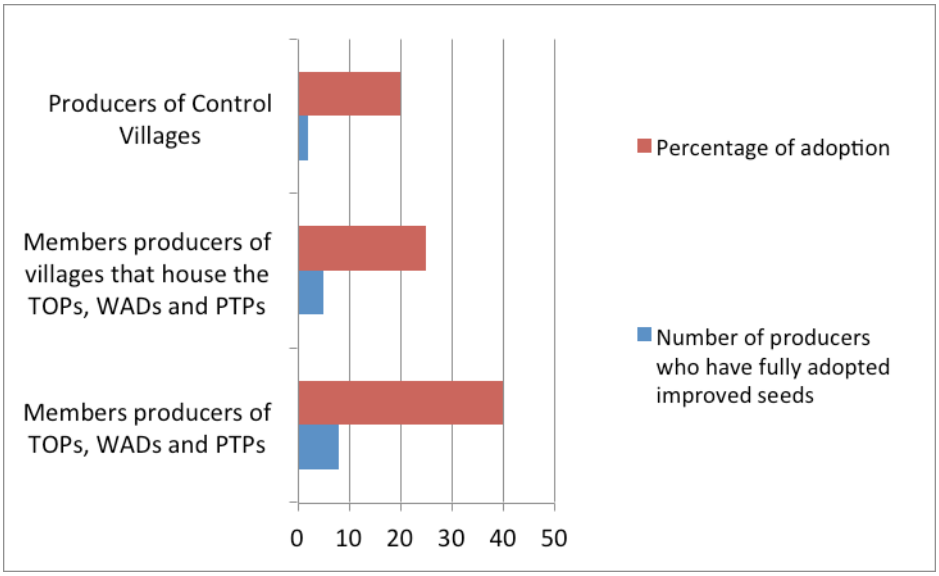
Analytical table of Maize:

Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	10	10	10	0	20
Members producers of villages that house the TOPs, WADs and PTPs	8	12	8	0	20
Producers of Control Villages	6	4	6	0	10
TOTAL	24	26	24	0	50

The results of this study showing that on the 50 households surveyed, 24 are still producing the local maize seed and 26 produced the improved maize seeds.

The activities of TOPs, WADs and PTPs have then convert the 24 households that are still producing the improved seeds. To this date where we are all the households surveyed produces the improved maize seeds.

Analytical figure by sample of the Maize:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, 100% have fully adopted the improved seeds.

On the 20 households selected from the producers of villages sheltering the TOPs, WADs, PTPs, the 100% have fully adopted the improved seeds.

About the 10 households selected in the control village, 100% have also adopted the improved seeds.

Crop of Sorghum:

Analytical Table of sorghum:

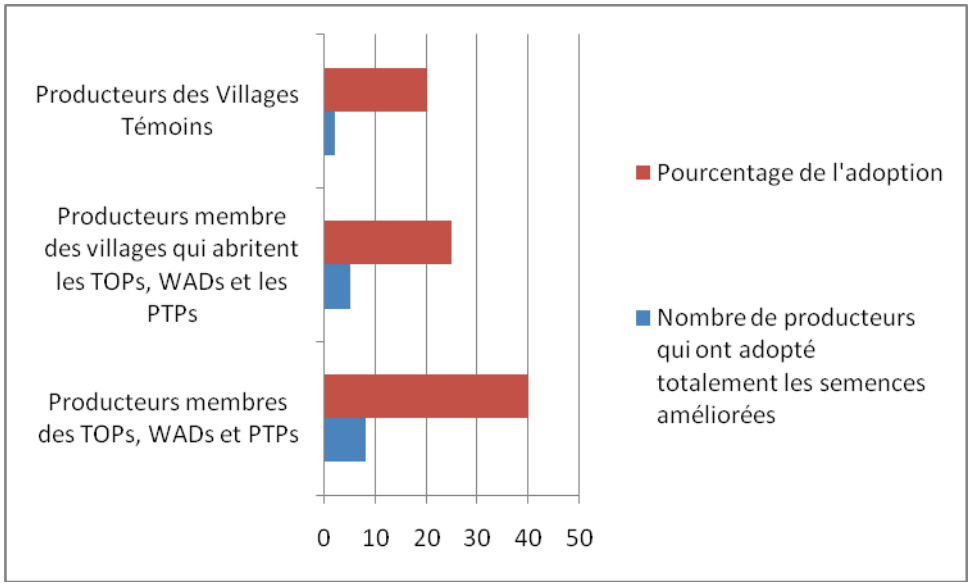
Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	0	8	12	8
Members producers of villages that house the TOPs, WADs and PTPs	20	0	5	15	5
Producers of Control Villages	10	0	2	8	2
TOTAL	50	0	15	35	15

The results of this study show that on the 50 households surveyed, all are producing the local seed of sorghum, none produced a single with improved sorghum seeds.

After the activities of TOPs, WADs and PTPs, 15 currently produce with improved seeds of sorghum, and 35 are still remained with the local variety.

It is emphasized that this area of Sikasso is not a big problem of rainfall, this fact that producers can still produce with local sorghum seed. In general, the improved varieties have a very short cycle; this has meant that during the introduction of these varieties are much ripe while the rainy season was not yet complete. Efforts should be made to further popularize the long cycle varieties with a higher level of performance to the local variety.

Analytical Figure by sample of sorghum:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, 40% have fully adopted the improved seeds.

On the 20 households selected from producers villages Sheltering the TOPs, WADs, PTPs, 25% have fully adopted the improved seeds; and about 10 households selected in the control village, only 20% have also introduced improved seeds.

Crop of Millet:

Analytical table of Millet:

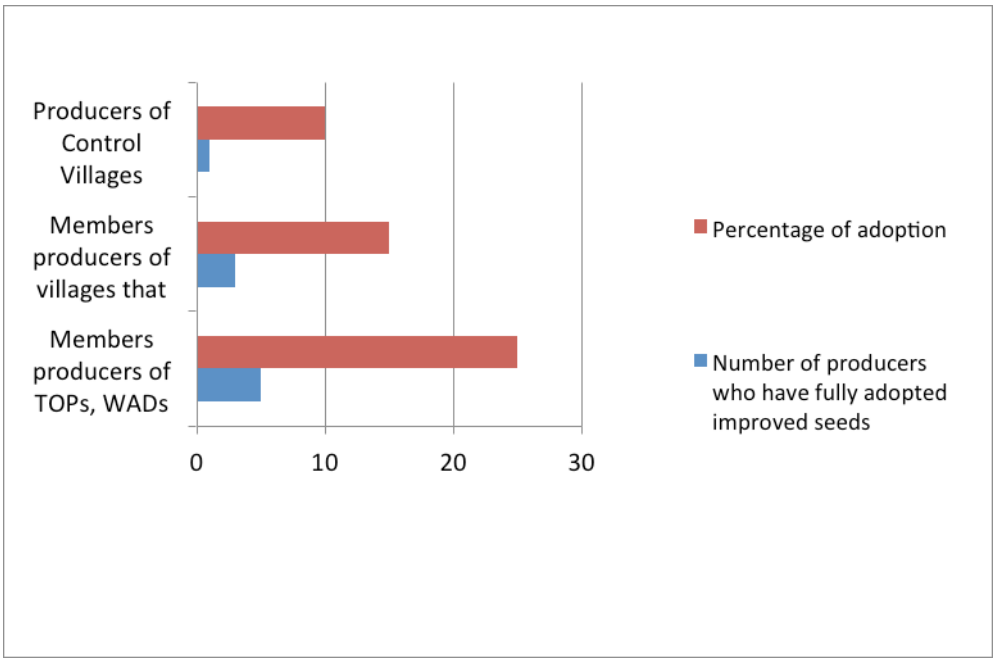
Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	0	5	15	5
Members producers of villages that house the TOPs, WADs and PTPs	20	0	3	17	3
Control Villages	10	0	1	9	1
TOTAL	50	0	9	41	9

The results of this study show that on the 50 samples moved surveyed, all were doing millet production with local seed before the arrival of the TOPs, WADS and PTPs. There was not a single household that was making the improved seeds of millet before 2012.

Following the activity of TOPs, WADs and PTPs, 9 producers have fully adopted the improved seeds of millet, 41 households are always remained with local seeds.

The improved varieties of millet face the same problem that improved varieties of sorghum. The first improved varieties that were vulgarity in the area had a very short cycle compared to the wet season in the locality. Today the producers pay attention to the methodological forecast before making the choice the variety for the year. Works must be done to popularize the long cycle varieties with the level of superior performance to the local variety.

Analytical figure by sample of millet:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, 25% have fully adopted the improved seeds.

On the 20 households selected from producers of villages Sheltering the TOPs, WADs, PTPs, 15% have fully adopted the improved seeds.

About the 10 households selected in the control village, only 10% have also introduced improved seeds.

Crop of Peanut:

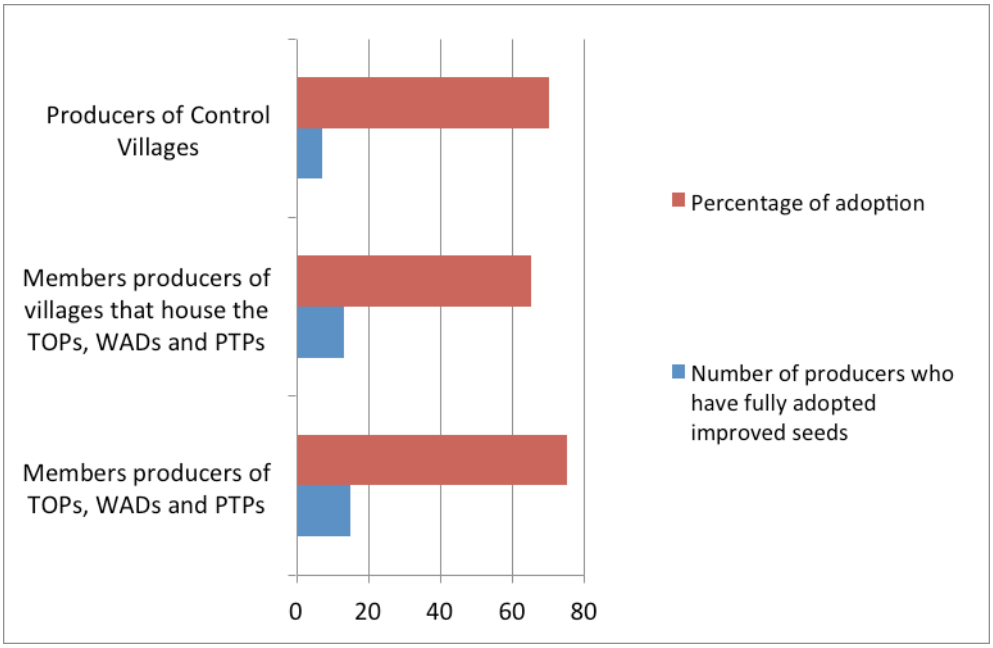
Analytical Table of the Peanut:

Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	0	15	5	15
Members producers of villages that house the TOPs, WADs and PTPs	20	2	11	7	13
Control Villages	10	2	5	3	7
TOTAL	**50**	**4**	**31**	**15**	**35**

The results of this study show that 50 sample households made the groundnut cultivation through local seeds. It is also remarkable that among the 50 households, the 4 households used both types of seeds (local and improved) simultaneously.

After the activities of TOP, WADs and PTPs, the 35 households have fully adopted the improved seeds and only 15 remain with the local seed.

Analytical figure by sample of the Peanut:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, the 75% have fully adopted the improved seeds.

On the 20 households selected from producers villages Sheltering the TOPs, WADs, PTPs, the 65% have fully adopted the improved seeds.

About 10 households selected in the control village, the 70% also have fully adopted the improved seeds.

Crop of Cowpea:

Analytical table of Cowpea:

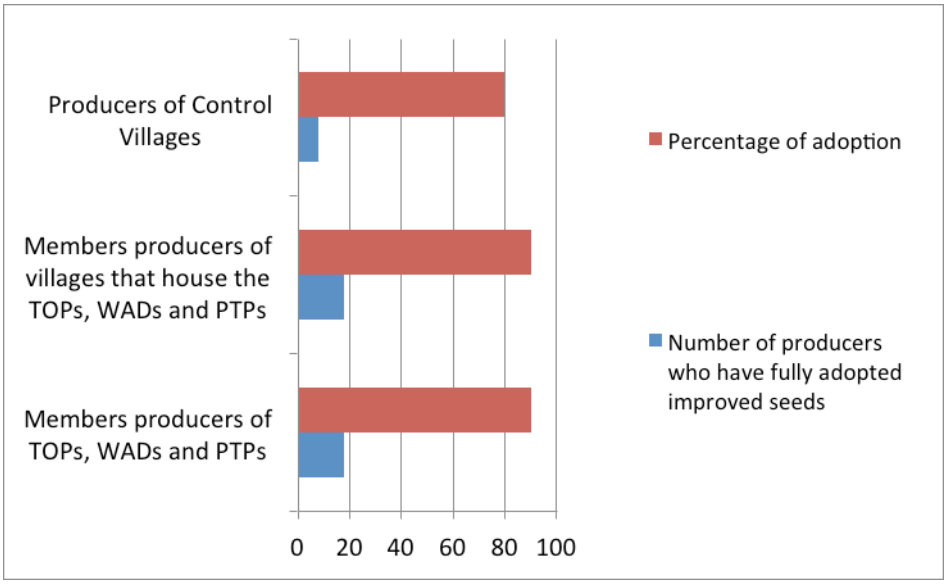
Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	14	6	12	2	18
Members producers of villages that house the TOPs, WADs and PTPs	12	8	10	2	18

Control Villages	10	0	8	2	8
TOTAL	36	14	30	6	44

The results of this study show that the 36 households were still producing local seed of cowpea to arrive the TOPs, WADs and PTPs, and that the 14 households only produced with improved seeds of cowpea.

After the activities of TOPs, WADs and PTPs, the 30 others have adopted improved seeds of cowpea. At today's date on the 50 that constituted the sample, 44 have fully adopted the improved seeds and only 6 are still with local varieties.

Figure Analytical by sample of Cowpea:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, the 90% have fully adopted the improved seeds.

On the 20 households selected from producers villages Sheltering the TOPs, WADs, PTPs, the 90% have fully adopted the improved seeds.

About the 10 households selected in the control village, 80% also have fully adopted the improved seeds.

5.1.2 Region of Segou:

Crop of Maize:

Analytical Table of the Maize:

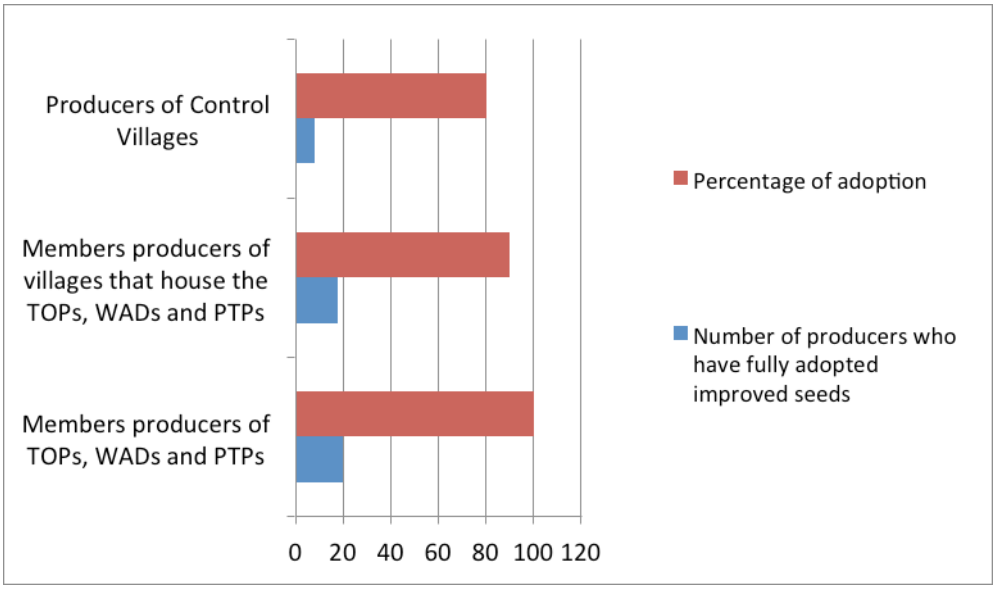
Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	1	20	0	20
Members producers of villages that house the TOPs, WADs and PTPs	18	1	18	2	18
Control Villages	10	0	8	2	8
TOTAL	48	2	46	4	46

The results of this study show that of the 50 samples, the 48 were producing the local seed of maize and only 2 were producing with improved maize seeds.

The activities of TOPs, WADs, PTPs, have allowed to 44 others to be added to previous 2 to make 46 to produce only with the improved maize seeds.

After the activities of TOP, WADS, PTPs, the 4 households were still producing the local seeds.

Analytical Figure by sample of the Maize:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, the 100% have fully adopted the improved seeds.

On the 20 households selected from producers villages Sheltering the TOPs, WADs, PTPs, the 90% have fully adopted the improved seeds.

About 10 households selected in the control village, the 80% also have fully adopted the improved seeds.

Crop of Sorghum:

Analytical Table of Sorghum:

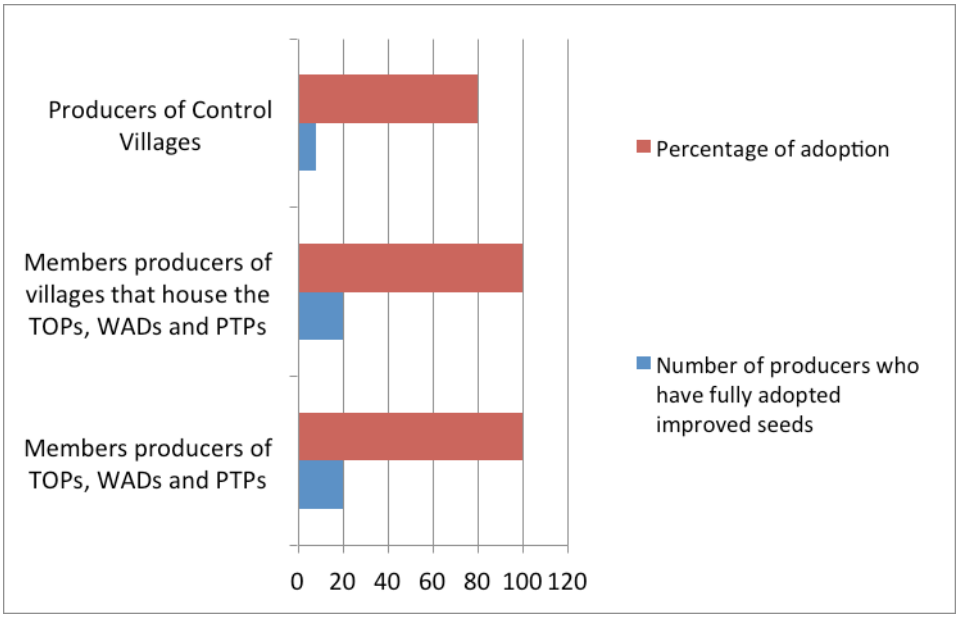
Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	4	16	0	20
Members producers of villages that house the TOPs, WADs and PTPs	20	3	17	0	20
Control Villages	10	0	8	2	8
TOTAL	**50**	**7**	**41**	**2**	**48**

The results of the study show that on the 50 surveyed households, the 7 households were producing of sorghum with improved seeds at the same time with local seeds.

After the activities of TOP, WADs, PTPs, the 41 households were added to 7 to produce the sorghum only with improved sorghum seeds.

After the activities of TOP, WADs, PTPs, the 2 households still produce with local seeds.

Analytical figure by sample of sorghum:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, the 100% have fully adopted the improved seeds.

On the 20 households selected from producers villages Sheltering the TOPs, WADs, PTPs, the 100% have fully adopted the improved seeds.

About 10 households selected in the control village, the 80% also have fully adopted the improved seeds.

The improved seeds of sorghum were very adopted in Segou compared to Sikasso, this is explained by the fact that this area of Segou has a low level of rainfall, that is favourable most of the improved seeds that are hasty (short cycle).

Crop of Millet:

Analytical Table of Millet:

Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	0	20	0	20
Members producers of villages that house the TOPs, WADs and PTPs	20	5	15	0	20

Control Villages	10	1	8	1	9
TOTAL	50	6	43	1	49

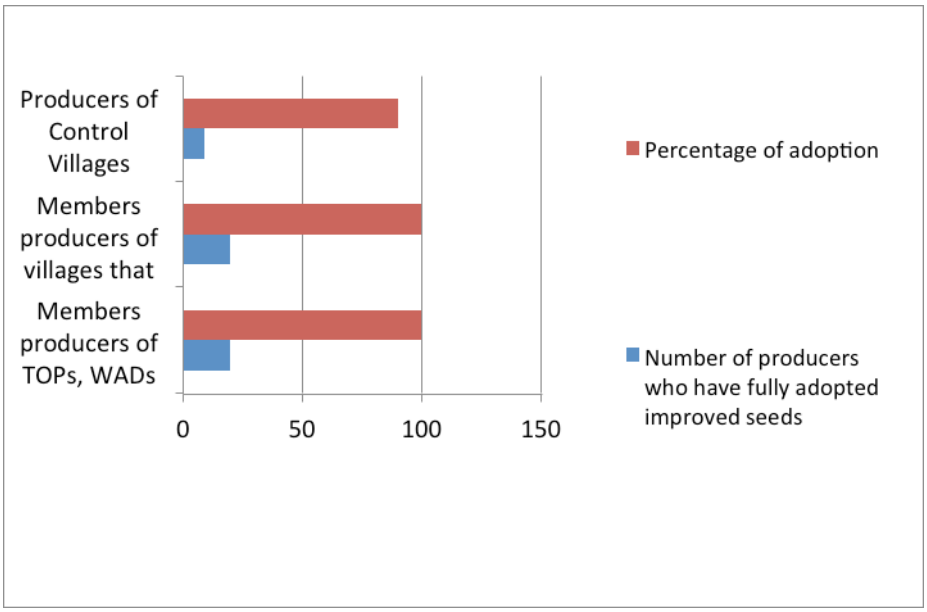
The results of the study show that of the 50 samples, the 6 households were producing with two seeds (local and improved).

After the activities of TOPs, WADs, PTPs, the 43 others were added to the 6 to make 49 households that produce today only with improved millet.

At the date of today only one household in 50 households produce with local seed of millet.

The improved seeds of millet were very adopted in Segou compared to Sikasso, this always reflects the fact that this area of Segou has a low level of rainfall, that is favourable to most of the improved seeds that are hasty (short cycle).

Analytic Figure of Millet:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, the 100% have fully adopted the improved seeds.

On the 20 households selected from producers of villages Sheltering the TOPs, WADs, PTPs, the 100% have fully adopted the improved seeds.

About 10 households selected in the control village, the 90% also have fully adopted the improved seeds.

The improved millet were very adopted in Segou compared to Sikasso, this is explained by the fact that this area of Segou has a low level of rainfall, that is favourable to the most of the improved seeds that are hasty (short cycle). It's also a great millet production area.

Crop of Peanut:

Analytical Table of Peanut:

Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	3	17	0	20
Members producers of villages that house the TOPs, WADs and PTPs	15	1	16	3	17
Control Villages	10	1	6	3	7
TOTAL	**45**	**5**	**39**	**6**	**44**

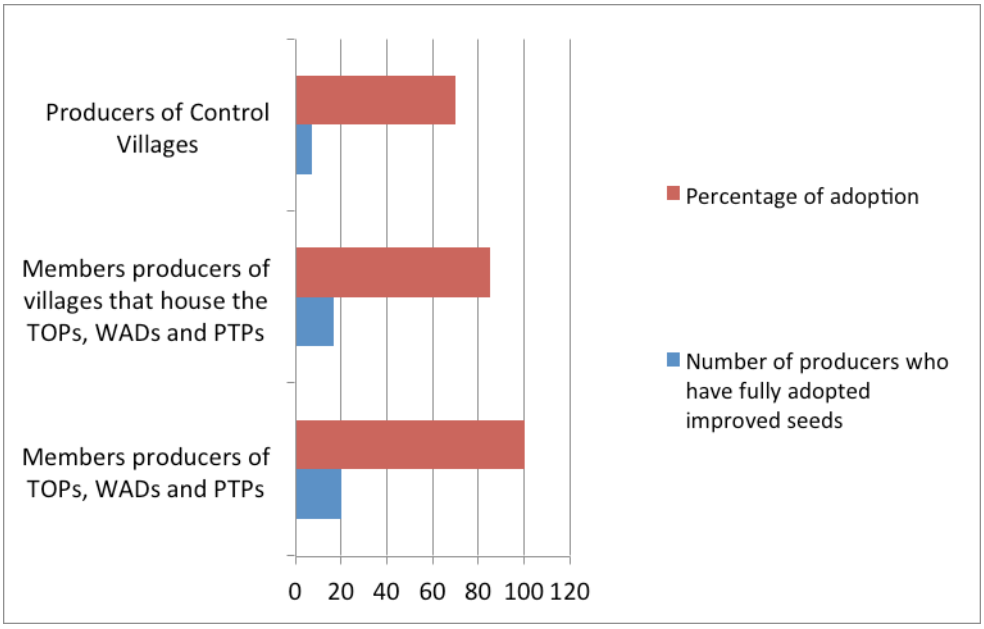
The analysis of this study showed the following results:

Before the TOPs, WADs, PTPs, the 45 households with local produce seeds, the 5 produced with improved seeds.

After the TOPs, WADs, PTPs, the 39 other households were added to 5 households to make a total of 44 households that produce to day only with improved seeds.

Only the 6 households still produce with local seeds.

Analytical figure of adoption rate of Peanut:



On the 20 households selected from producers that led the TOPs, WADs, PTPs, the 100% have fully adopted the improved seeds.

On the 20 households selected from producers villages Sheltering the TOPs, WADs, PTPs, the 85% have fully adopted the improved seeds.

About 10 households selected in the control village, the 70% also have fully adopted the improved seeds.

Analytical Table of Cowpea:

Sample	Production from local seeds before 2012	Production from improved seeds before 2012	Production from improved seeds after the TOPs, WADs and PTPs	Number of producers who always used the local seeds	Number of producers who have fully adopt improved seeds
Members producers of TOPs, WADs and PTPs	20	0	19	1	19
Members producers of villages that house the TOPs, WADs and PTPs	20	0	20	0	20
Control Villages	10	3	5	2	8
TOTAL	**50**	**3**	**44**	**3**	**47**

The analyzes of the study show the following results:

On the 50 sample households, 3 were making the crop of improved cowpea seeds along with local seeds cowpea. Following of TOPs, WADs, PTPs, the 44 households were added in the 3 preceding for making 47 households to produce only with improved seeds of cowpea.

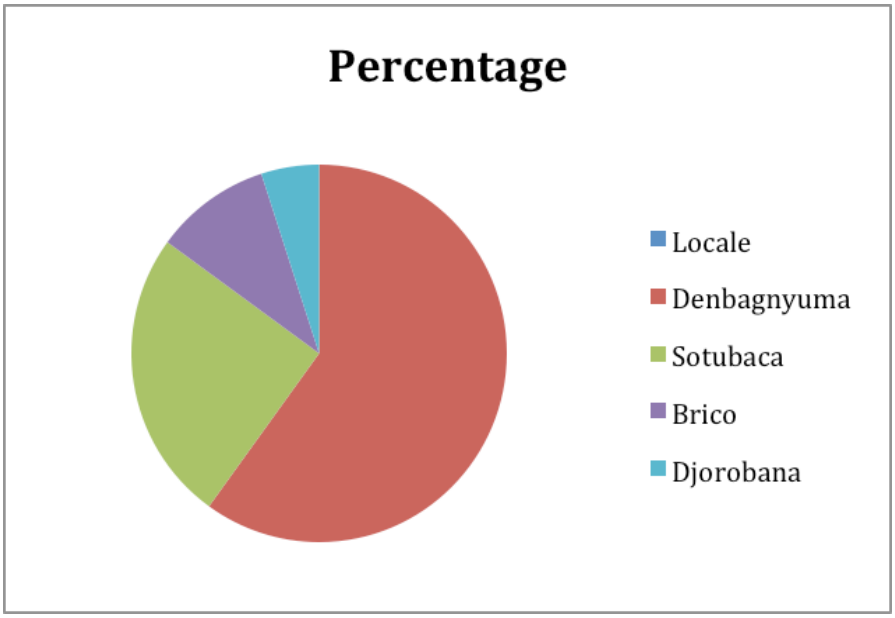
Only three (3) households still produce with local seed Cowpea.

5.2 Result 2: Choice of varieties per crop

6.2.1 Region of Sikasso:

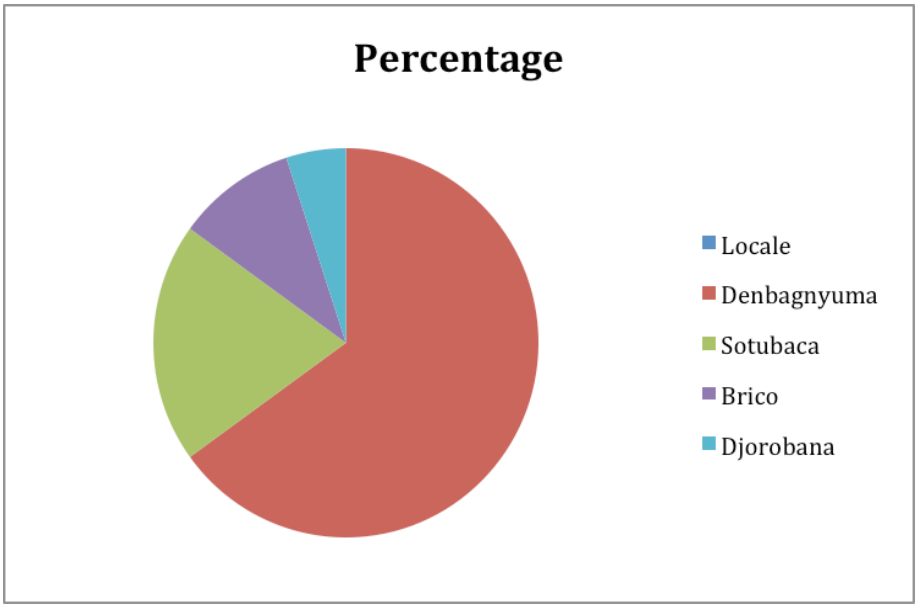
Crop of Maize:

The members households of TOPs, WADs, PTPs:



For the households members of TOPs, WADs, PTPs; the 60% have adopted the Denbagnyuma variety; the 25% have adopted the Sotubaca variety; the 10% have adopted the variety Brico and the 5% have adopted the Djorobana variety.

The households of villages sheltering the TOPs, WADs, PTPs:



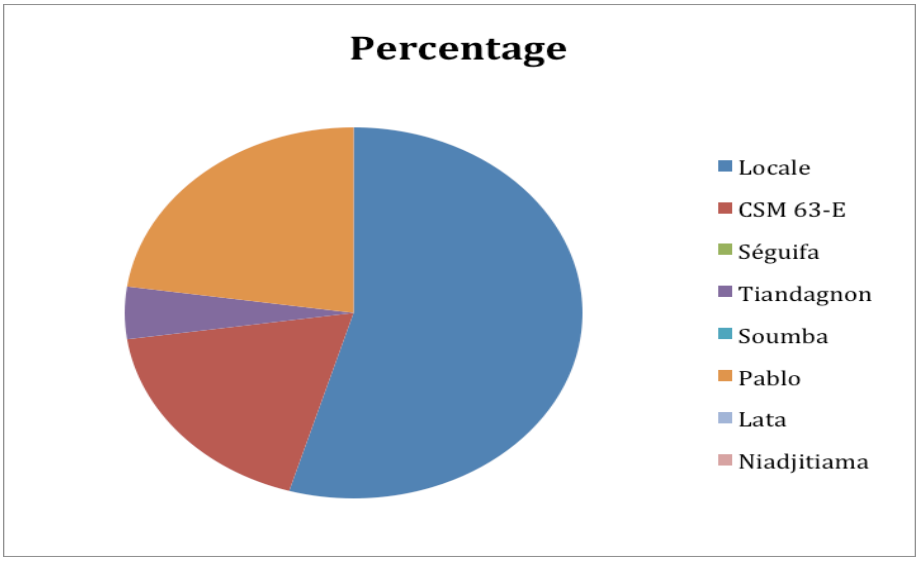
For households in villages that house the TOPs, WADs, PTPs; 65% have adopted the Denbagnyuma variety; 20% have adopted the Sotubaca variety; 10% have adopted the variety Brico and 5% have adopted the Djorobana variety.

The households of control villages:

For the households of control villages, the 60% have adopted the Denbagnyuma variety; the 20% have adopted the Sotubaca variety; the 10% have adopted the variety Brico and 10% have adopted the Djorobana variety.

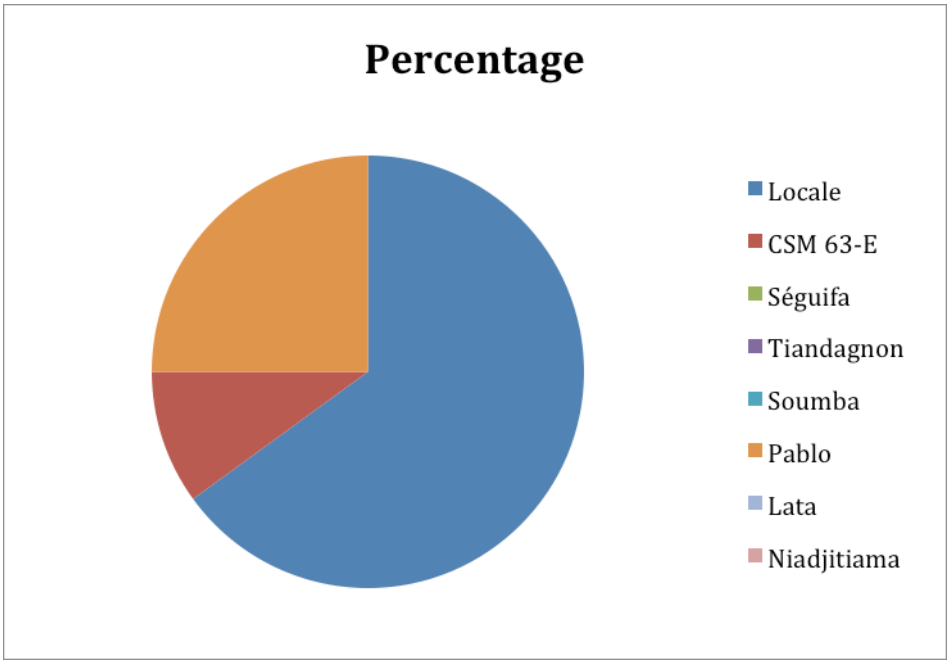
Crop of Sorghum:

The members households of TOPs, WADs, PTPs:



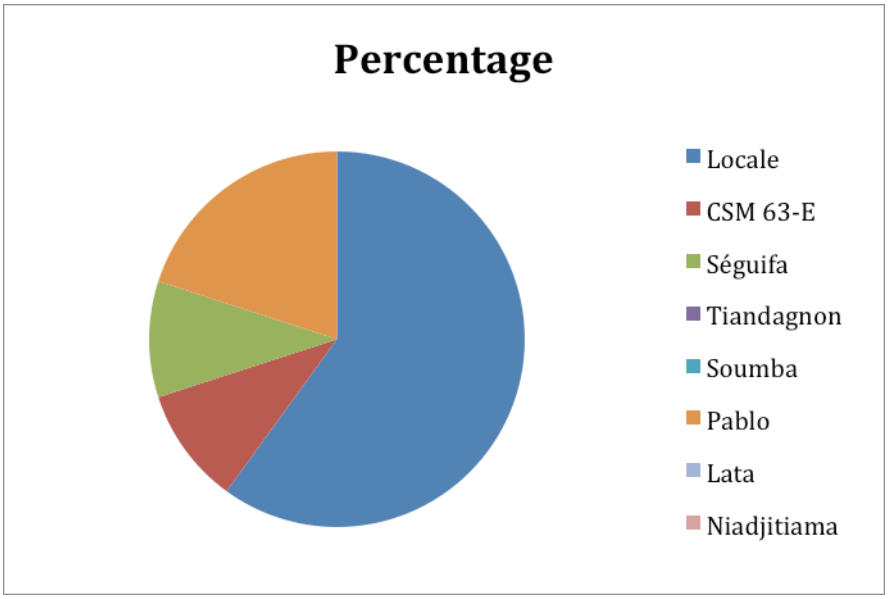
For the households members of TOPs, WADs, PTPs, 60% remained with the local variety; 25% have adopted the Pablo variety; 20% have adopted the variety CSM 63-E and 5% have adopted the Tiandagnon variety.

The Households of villages sheltering the TOPs, WADs, PTPs:



For the members households of villages that house the TOPs, WADs, PTPs, 65% remained with the local variety; 25% have adopted the Pablo variety and 10% have adopted the variety CSM 63-E.

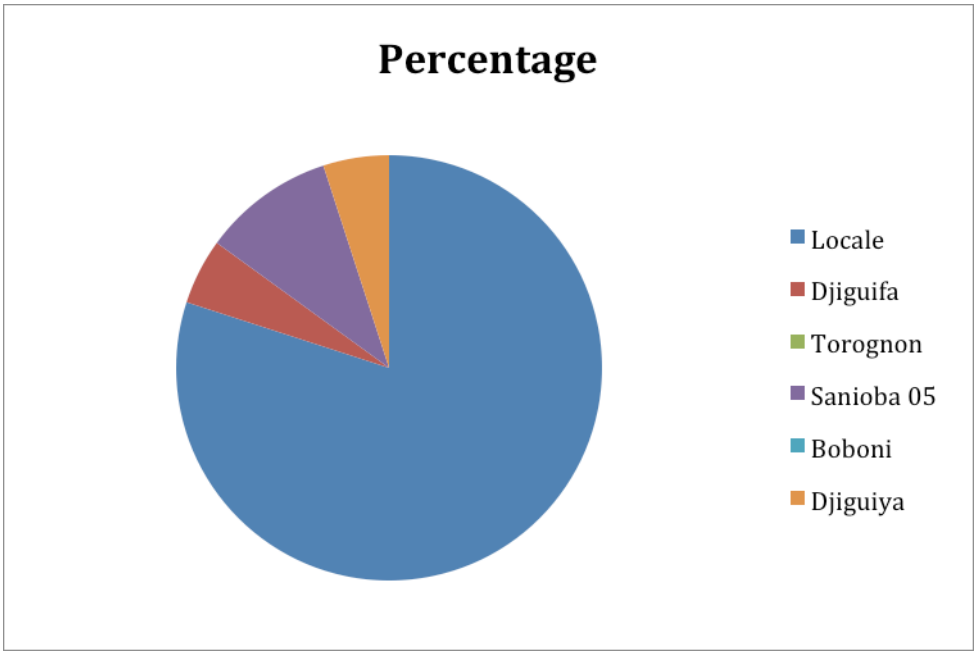
The households of control villages:



For households in control villages, 60% remained with the local variety; 20% have adopted the Pablo variety and 10% have adopted the variety CSM 63-E and 10% of households have adopted varété séguifa.

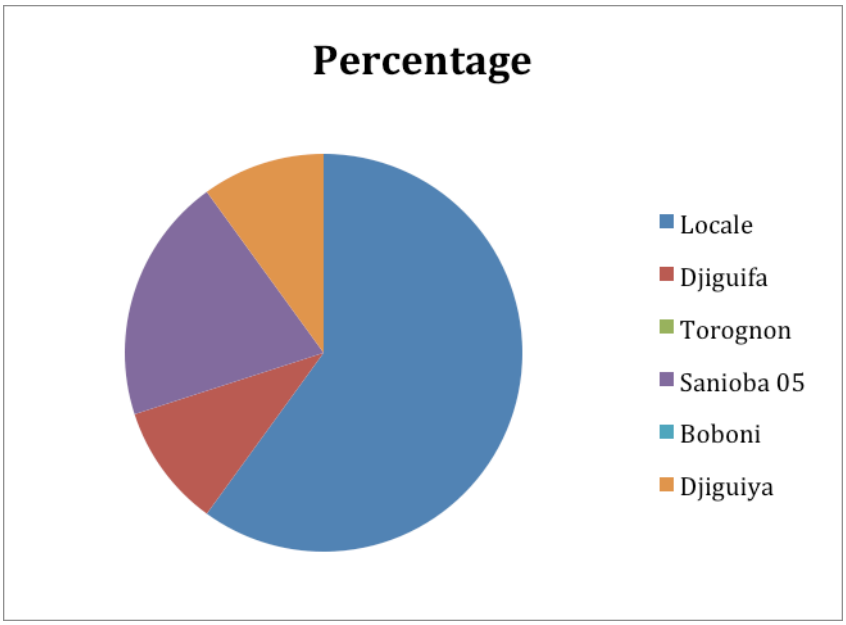
Crop of Millet:

The members households of TOPs, WADs, PTPs:



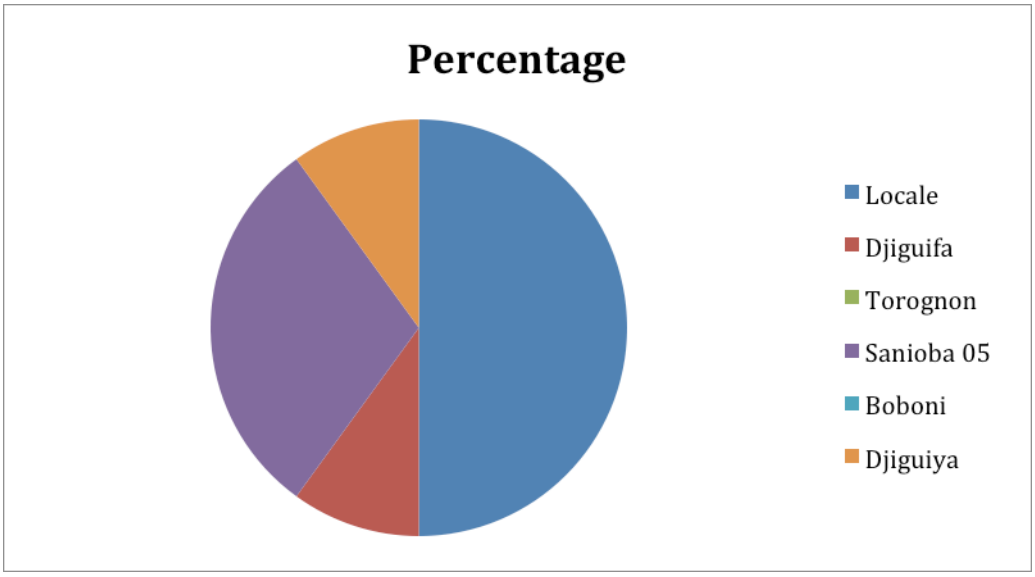
In members households of TOPs, WADs, PTPS, 80% of households still produient with the local variety, 10% with the variety Sanioba 05, 5% with the variety and 5% Djiguifa with Djiguiya variety.

The households in villages sheltering the TOPs, WADs, PTPs:



Among member households of the villages that house the TOPs, WADs, PTPS, the 60% of households still produient with the local variety, the 20% with the variety Sanioba 05, the 10% with the variety Djiguifa and the 10% with Djiguiya variety.

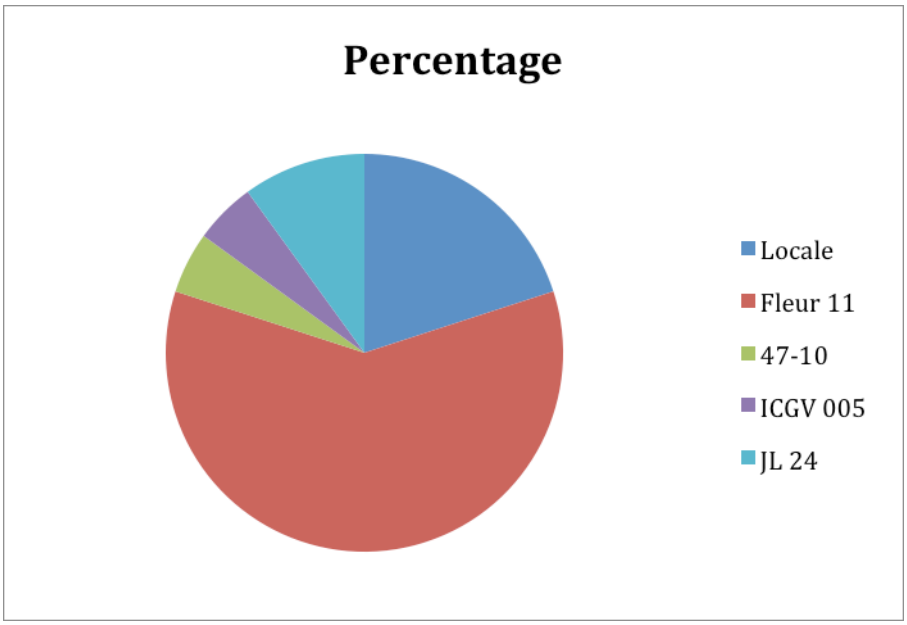
The households of control villages:



For members households of control villages, 50% of households still produient with the local variety, 20% with the variety Sanioba 05, 10% with the variety Djiguifa and 10% with Djiguiya variety.

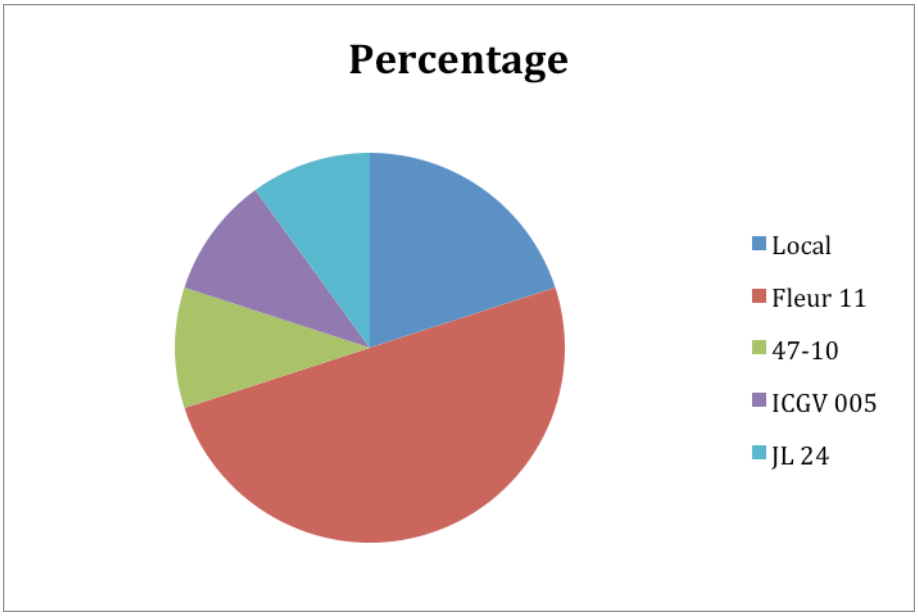
Crop of Peanut:

The members households of TOPs, WADs, PTPs:



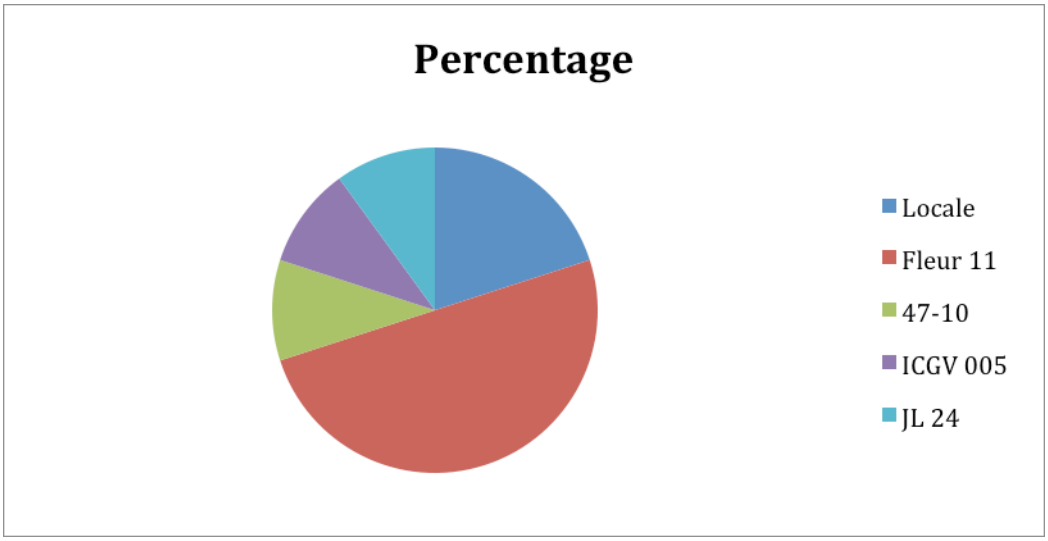
For members households of TOPs, WADs, PTPs, the 20% remain with the local varité, the 60% with the variety Flower 11, the 10% with the variety JL 24, the 5% with the range 47-10 and the 5% with the variety ICGV 005.

The households in villages sheltering the TOPs, WADs, PTPs:



For members households Sheltering villages of TOPs, WADs, PTPs, 20% remain with the local varité, 50% with the variety Flower 11, 10% with the variety JL 24, 10% with the variety 47-10 and 10% with variety ICGV 005.

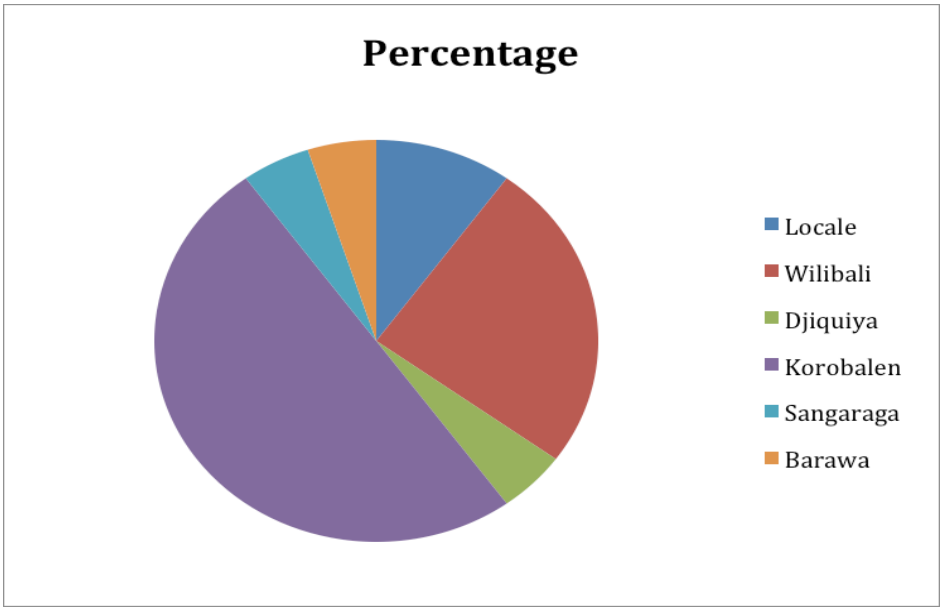
The households of control villages:



For members households of control villages, 20% remain with the local varité, 50% with the variety Flower 11, 10% with the variety JL 24, 10% with the variety 47-10 and 10% with the variety ICGV 005.

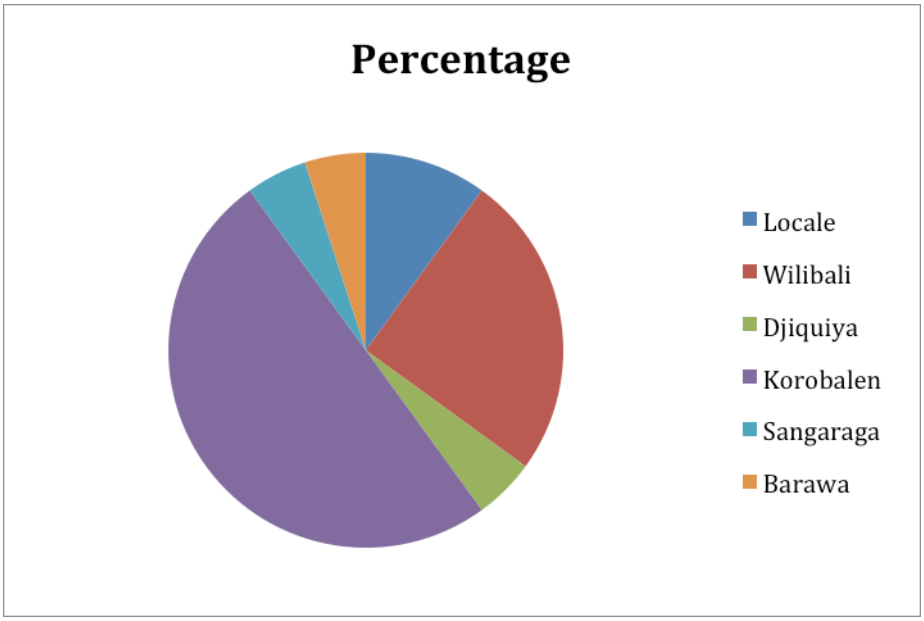
Crop of Cowpea:

The members households of TOPs, WADs, PTPs:



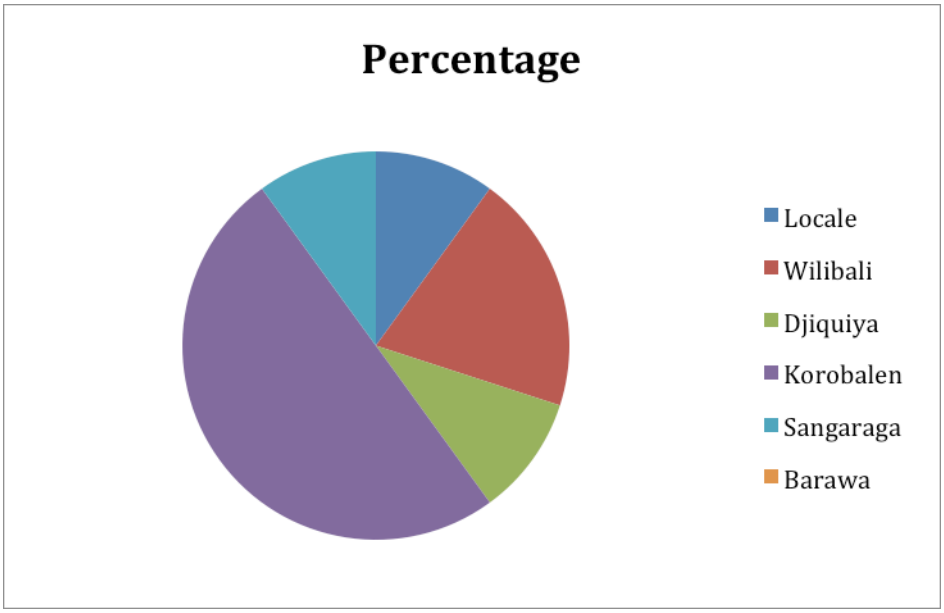
For members households of TOPs, WADs, PTPs; 10% produce through the local seed, 50% with the variety Korobalen, 25% with the Wilibali variety, 5% with the variety Djiquiya, 5% with the Sangaraka variety and 5% with the Barawa variety.

The households in villages sheltering the TOPs, WADs, PTPs:



For members households of villages that are shelter the TOPs, WADs, PTPs; 10% produce through the local seed, 50% with the variety Korobalen, 25% with the Wilibali variety, 5% with the variety Djiquiya, 5% with the sangaraka variety and 5% with the Barawa variety.

The households of control villages:

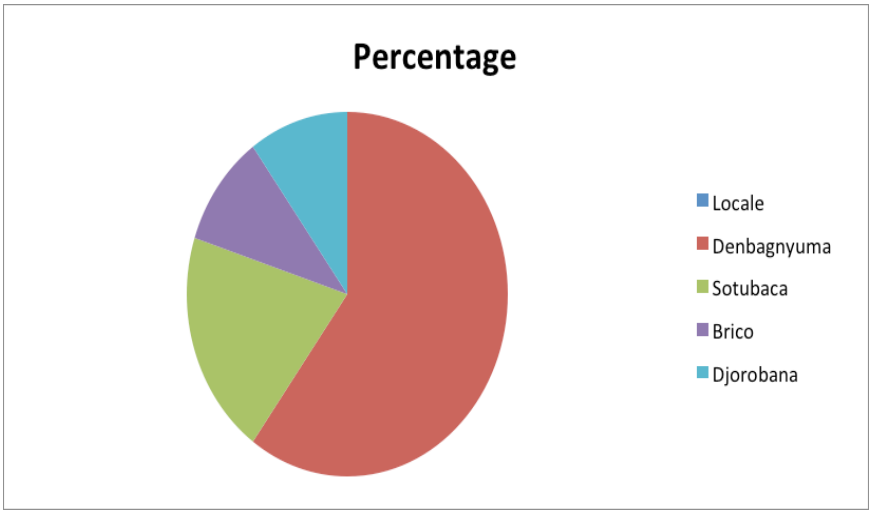


For members households of control villages, WADs, PTPs; 10% produce through the local seed, 50% with the variety Korobalen, 20% with the variety Wilibali, 10% with the variety Djiquiya and 5% with the variety Sangaraka.

6.2.2 Region of Segou :

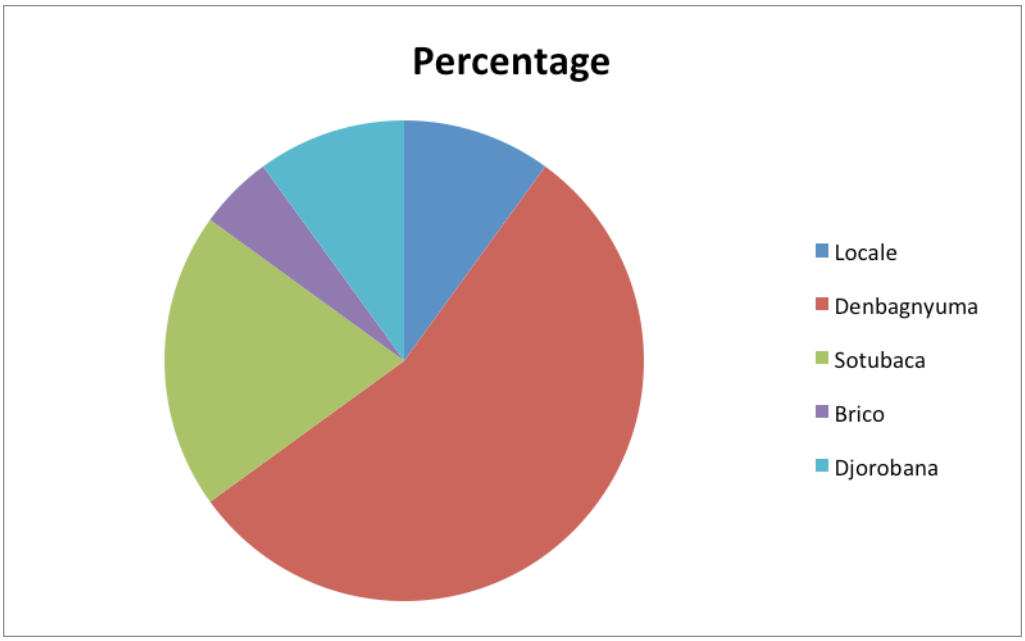
Crop of Maize:

The members households of TOPs, WADs, PTPs:



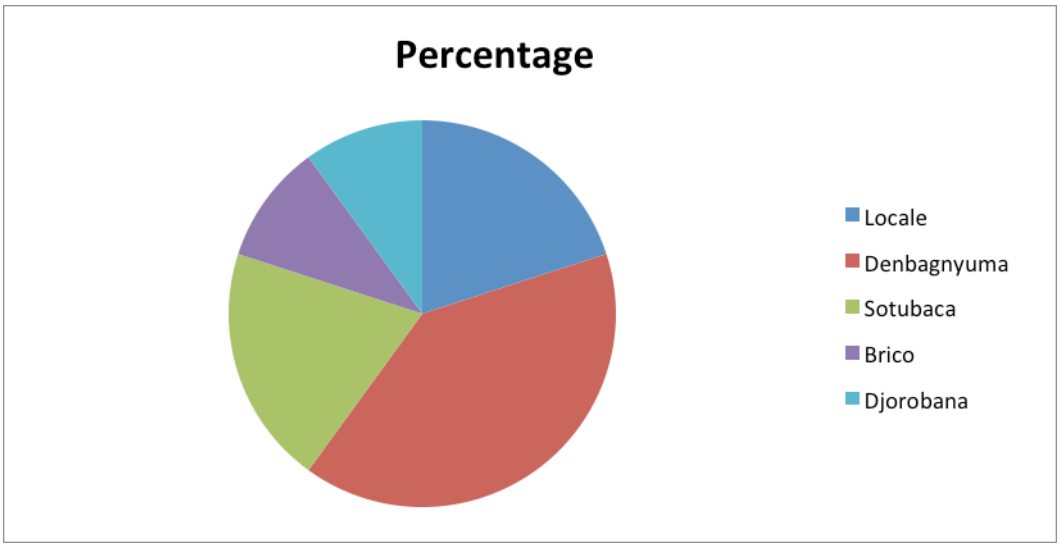
For members households of TOPs, WADs, PTPs; the 60% have adopted the Denbagnyuma variety; the 20% have adopted the Sotubaca variety; the 10% have adopted the variety Brico and the 10% have adopted the Djorobana variety.

The households in villages sheltering the TOPs, WADs, PTPs:



For households of villages that house the TOPs, WADs, PTPs; 55% have adopted the Denbagnyuma variety; 20% have adopted the Sotubaca variety; 5% have adopted the variety Brico, 5% have adopted the variety Djorobana and 10% remained with the local variety.

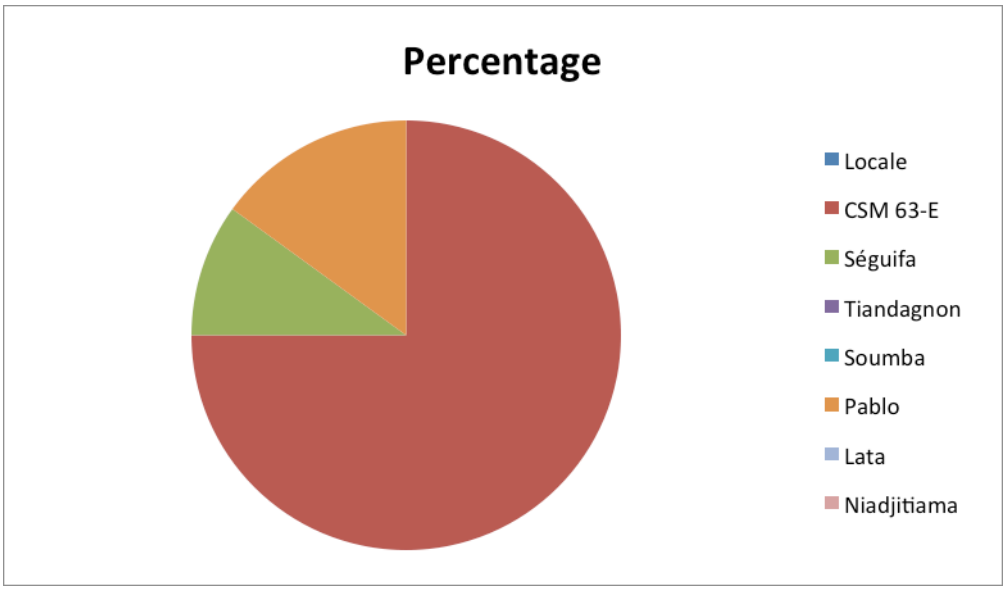
The households of control villages:



For households of villages that house the TOPs, WADs, PTPs; 55% have adopted the Denbagnyuma variety; 20% have adopted the Sotubaca variety; 5% have adopted the variety Brico, 5% have adopted the variety Djorobana and 10% remained with the local variety.

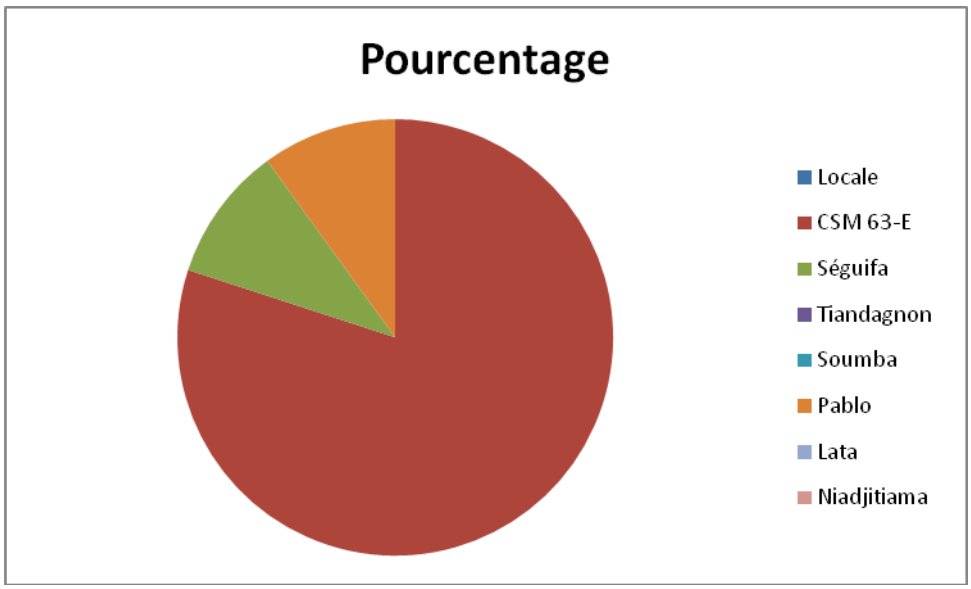
Crop of Sorghum :

The members households of TOPs, WADs, PTPs:



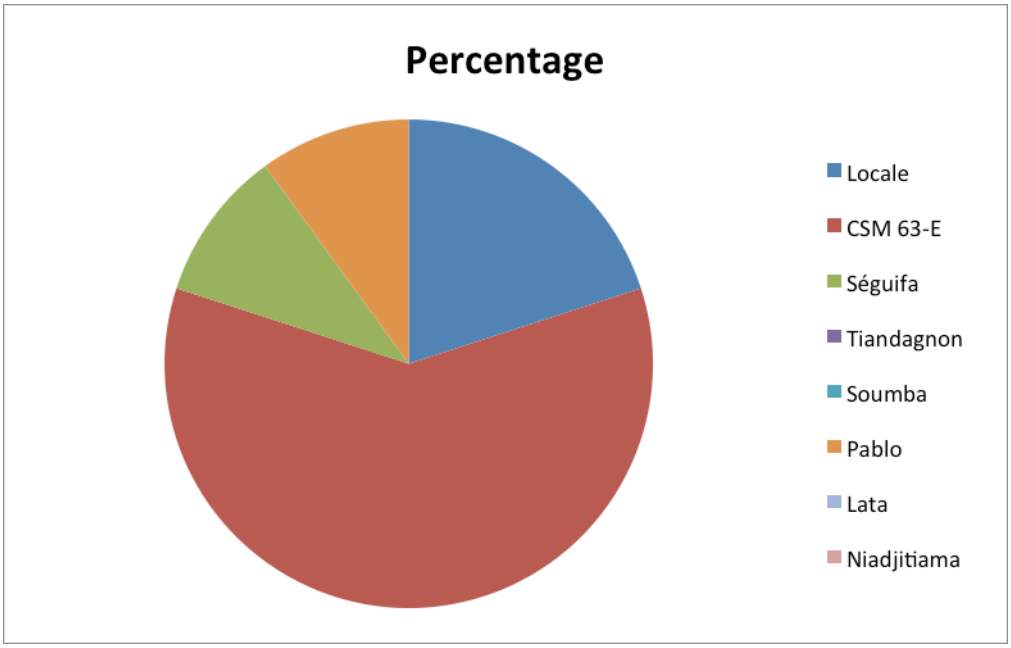
For households members of TOPs, WADs, PTPs, 75% have adopted the variety CSM-63 E; 15% have adopted the Pablo variety and 10% have adopted the Séguifa variety.

The households in villages sheltering the TOPs, WADs, PTPs:



For members households of villages which houses the TOPs, WADs, PTPs, 80% have adopted the variety CSM-63 E; 10% have adopted the Pablo variety and 10% have adopted the Séguifa variety.

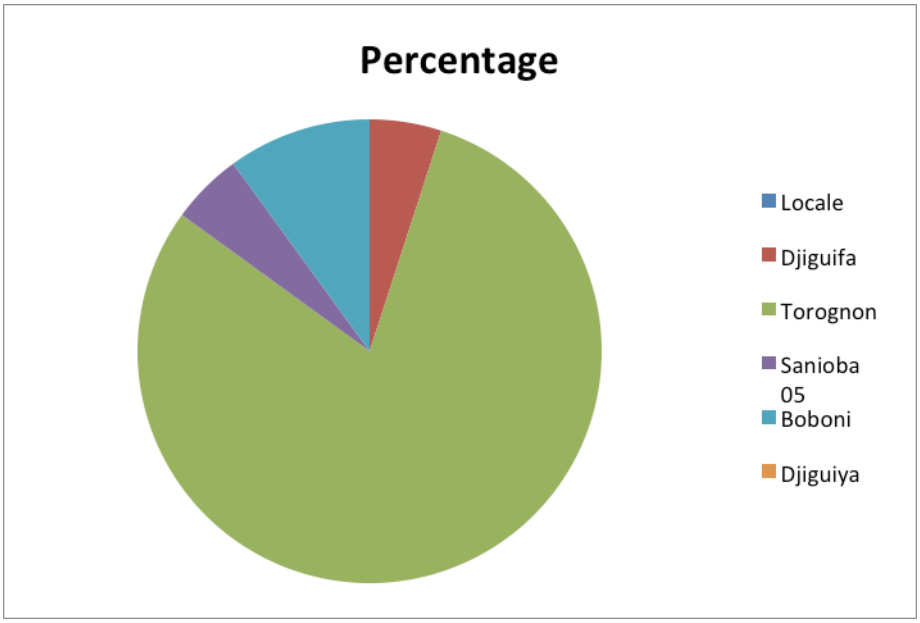
The households of control villages:



Pour les ménages des villages témoins, 60% ont adopté la variété CSM 63-E ; 10% ont adopté la variété Pablo, 10% ont adopté la variété Séguifa et 20% sont restés avec la variété locale.

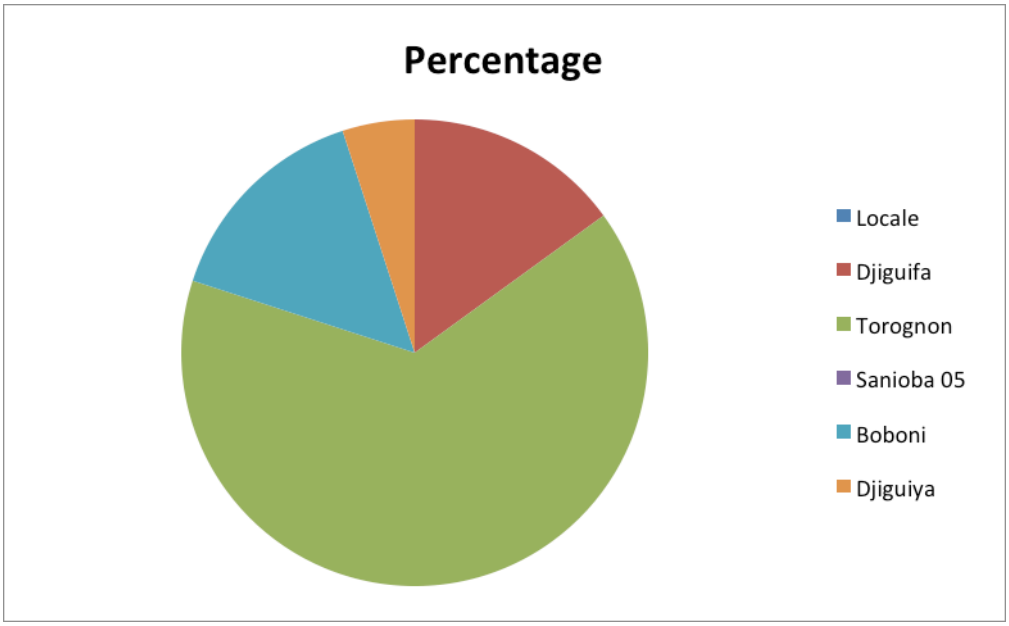
Crop of Millet :

The members households of TOPs, WADs, PTPs:



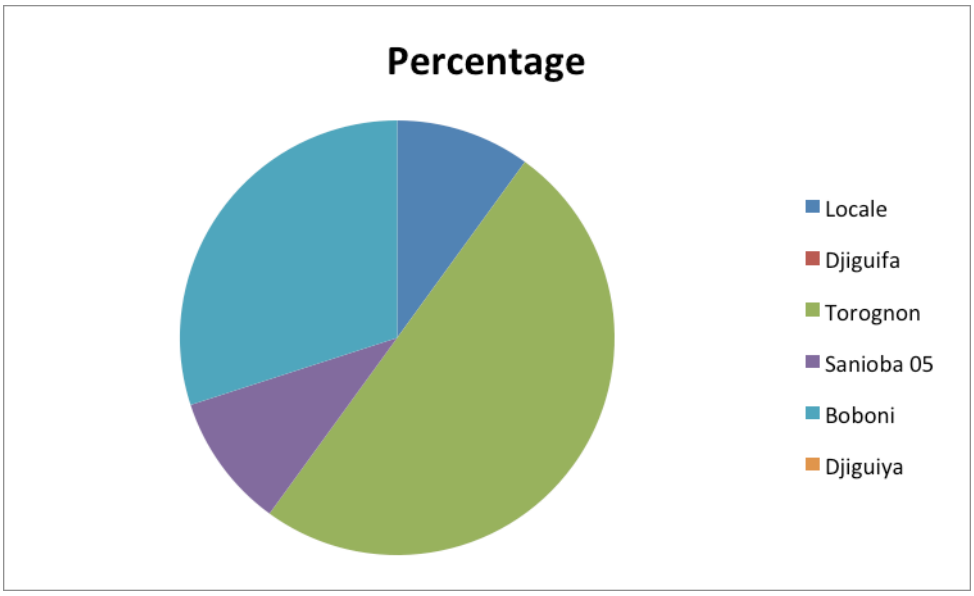
For members villages, of TOPs, WADs, PTPs; 80% have adopted the variety Torognon, 10% have adopted the variety Boboni, 5% have adopted Sanioba 05 and 5% have adopted Djidjuifa.

The households in villages sheltering the TOPs, WADs, PTPs:



For households of villages that house the TOPs, WADs, PTPs; the 65% have adopted the variety Torognon, the 15% have adopted the variety Djiguifa, the 15% have adopted the variety and the 5% Boboni adopted Djiguiya variety.

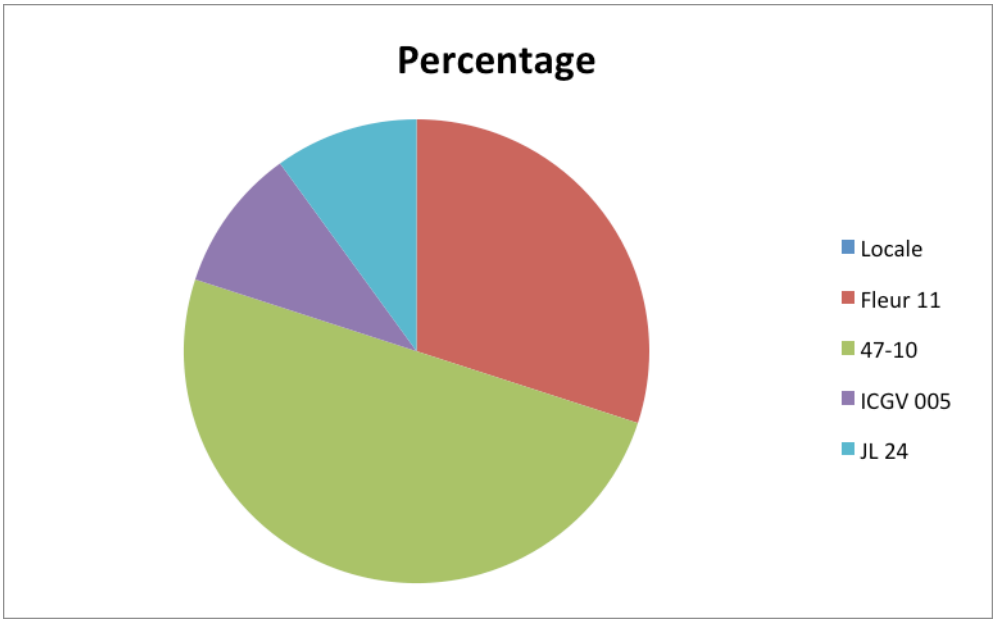
The households of control villages:



For households in control villages PTPs; 50% have adopted the variety Torognon, 10% have adopted the variety Sanioba 05, 30% have adopted the variety Boboni and 10% remained with the local variety.

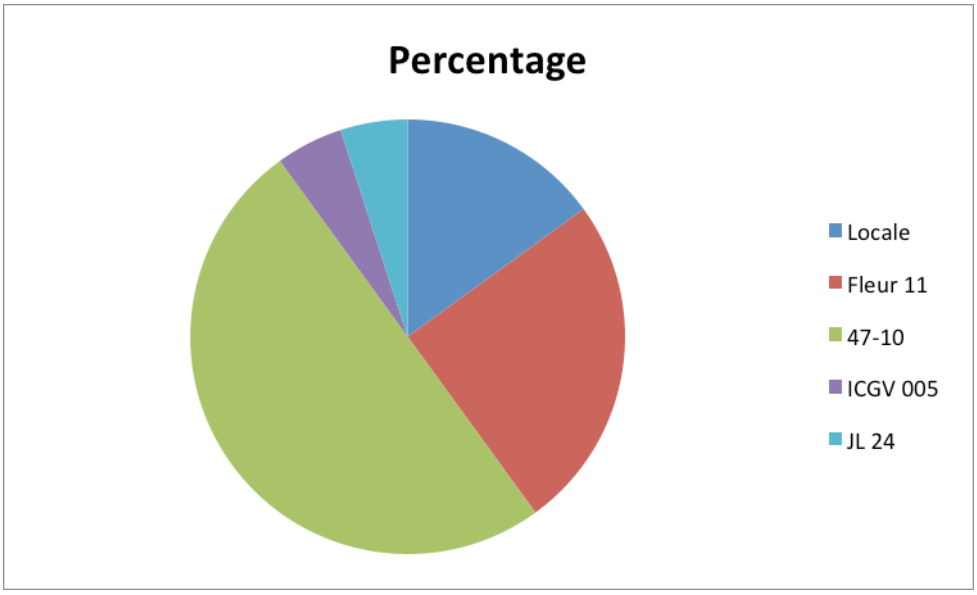
Crop of Peanut:

The members households of TOPs, WADs, PTPs:



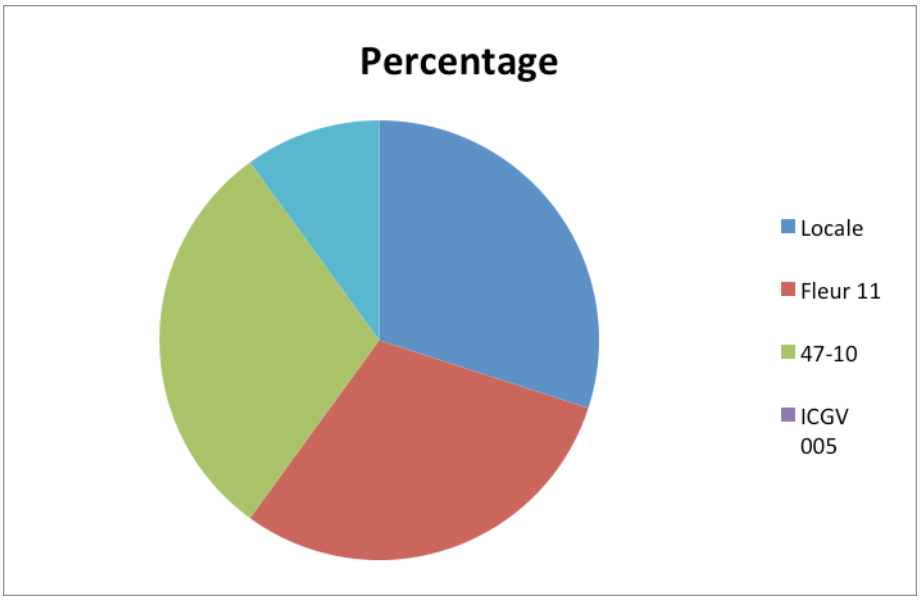
For households of control villages PTPs; 50% have adopted the variety Torognon, 10% have adopted the variety Sanioba 05, 30% have adopted the variety Boboni and 10% remained with the local variety.

The households in villages sheltering the TOPs, WADs, PTPs:



For households of villages that house the TOPs, WADs, PTPs; the 50% have adopted the variety 47-10, the 25% have adopted the variety Flower 11, 5% have adopted the variety ICGV 005, the 5% have adopted the variety JL 24 and the 15% remained with the local variety.

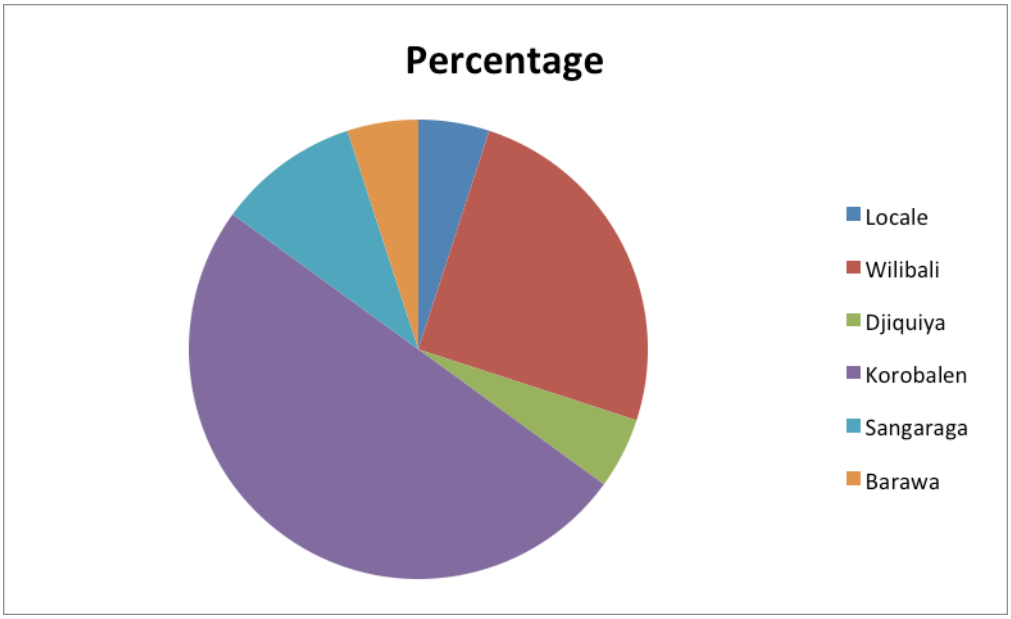
The households of control villages:



For households witnesses villages; 30% have adopted the variety 47-10, 30% have adopted the variety, 10% have adopted the variety JL 24 and 30% remained with the local variety.

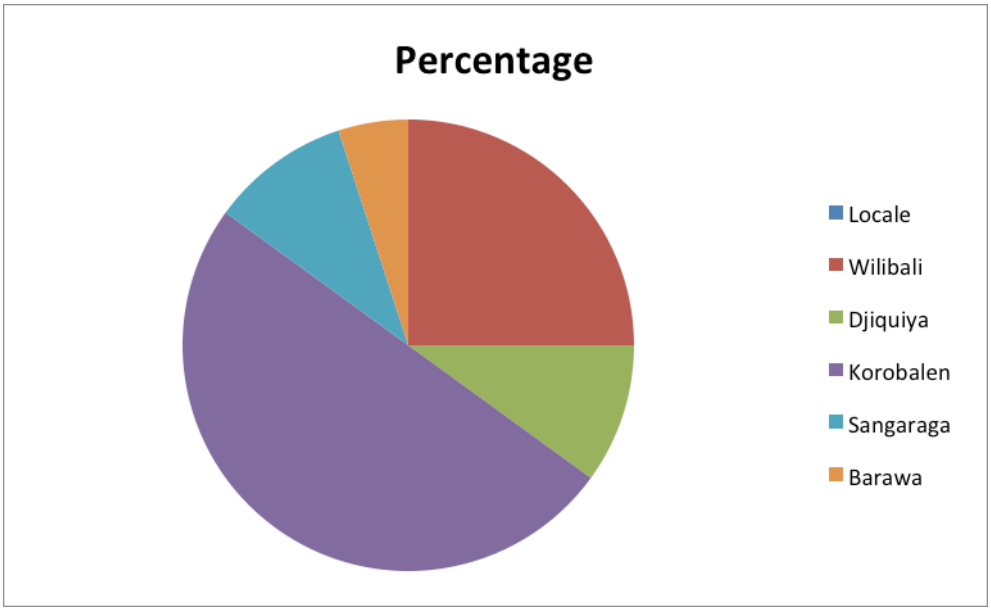
Crop of Cowpea:

The members households of TOPs, WADs, PTPs:



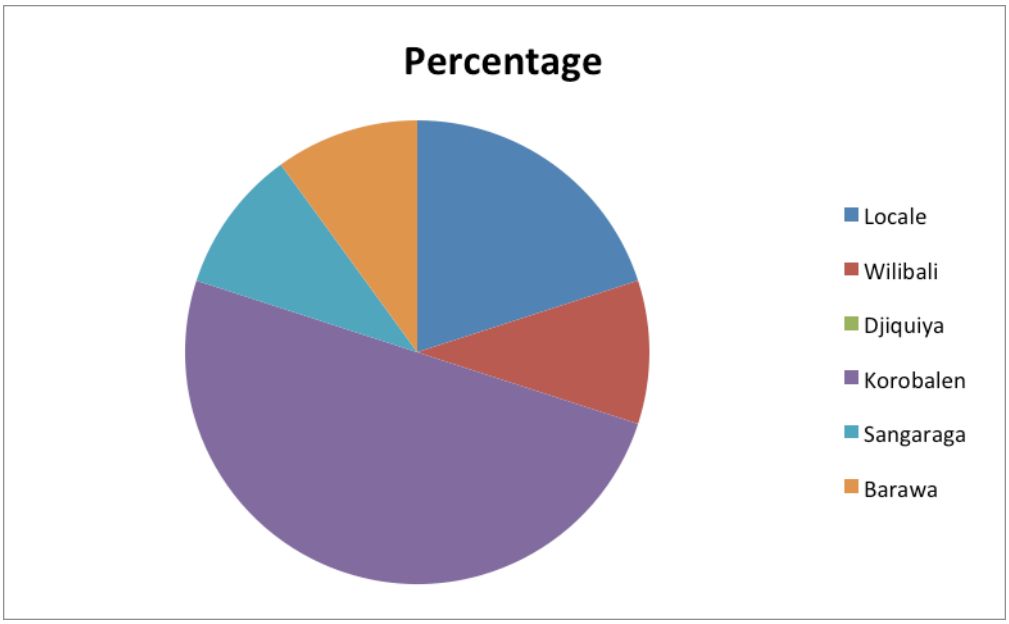
For households members of TOPs, WADS, PTPs; 50% have adopted the variety Korobalen, 25% variety Wilibali, 10% variety Sangaraga, 5% Djiquiya variety, 5% and 5% Barawa variety were remained the local variety.

The households in villages sheltering the TOPs, WADs, PTPs:



For households members of villages that house the TOPs, WADS, PTPs; 50% have adopted the variety Korobalen, 25% variety Wilibali, 10% variety Sangaraga, 10% Djiquiya the variety and 5% Barawa variety.

The households of control villages:



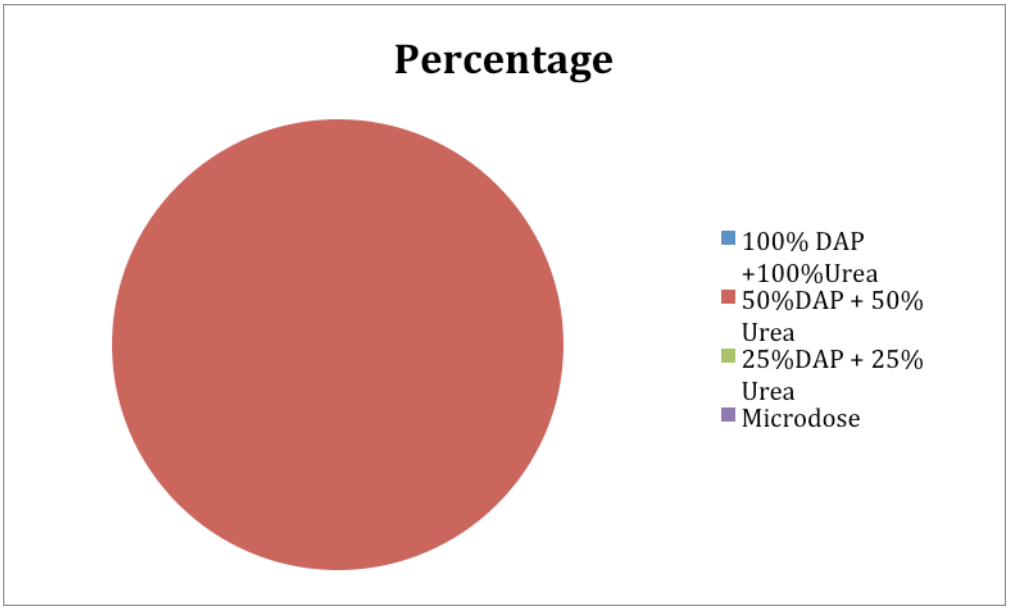
For households members of control villages; 50% have adopted the variety Korobalen, 10% have adopted the variety Wilibali, 10% variety Sangaraga, 10% variety Barawa and 20% remained the local variety.

5.2 Result 3: The choice of level of mineral fertilization of crops

6.3.1 Region of Sikasso:

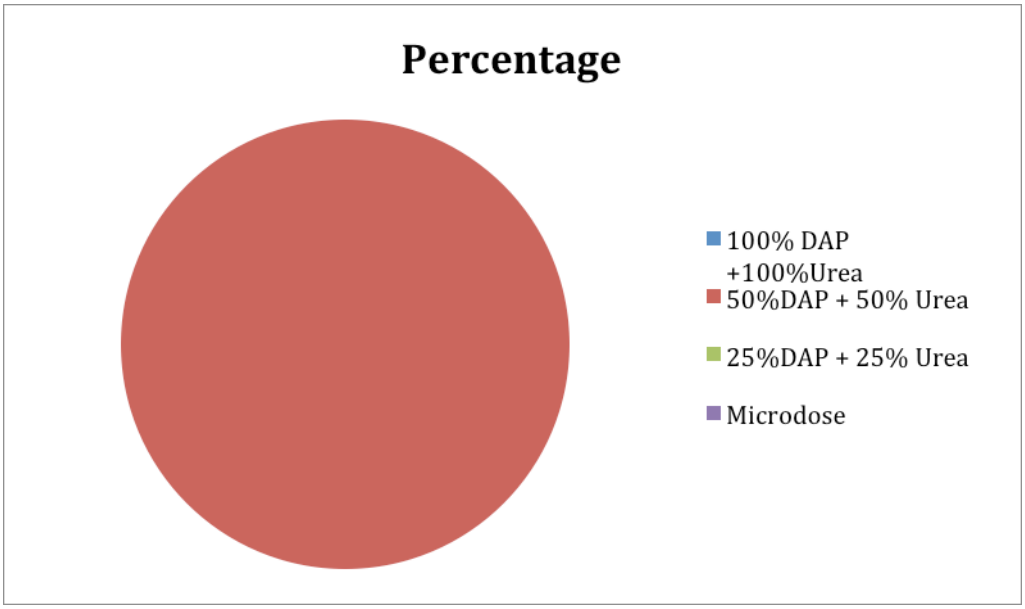
Crop of Maize:

The members households of TOPs, WADs, PTPs:



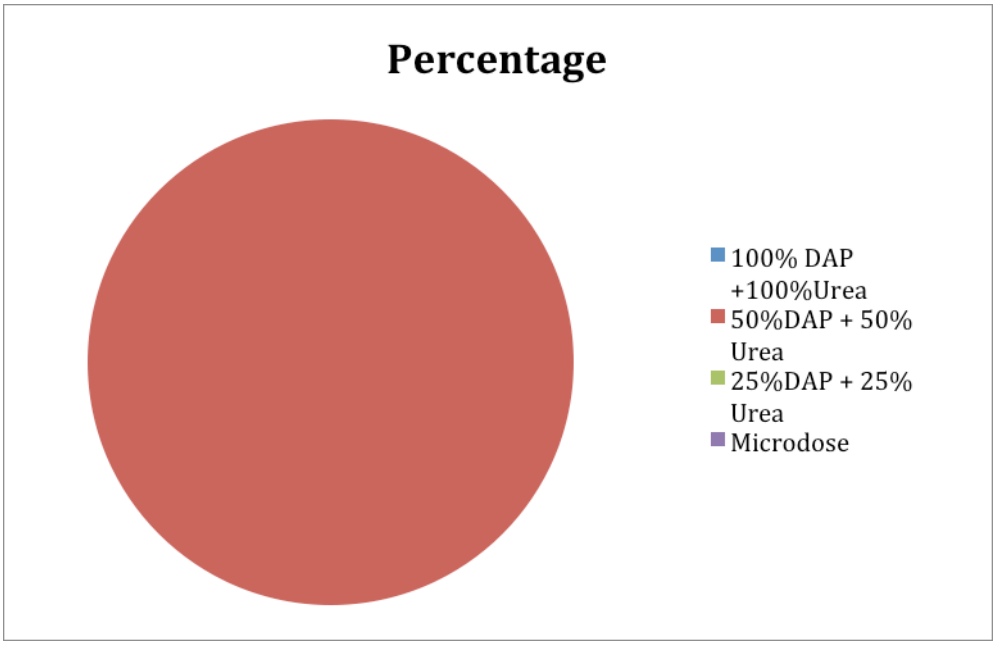
For the level of mineral fertilization, the 100% of the members households of TOPs, WADs PTPs have adopted the 50% DAP + 50% Urea.This contribution will be localized manner and contain immediatly after by the multiculteur.

The households in villages sheltering the TOPs, WADs, PTPs:



The 100% of members households of control villages have adopted the 50% DAP + 50% Urea. This contribution will be made in the manner localized and contain immediatly after by the multi-culture.

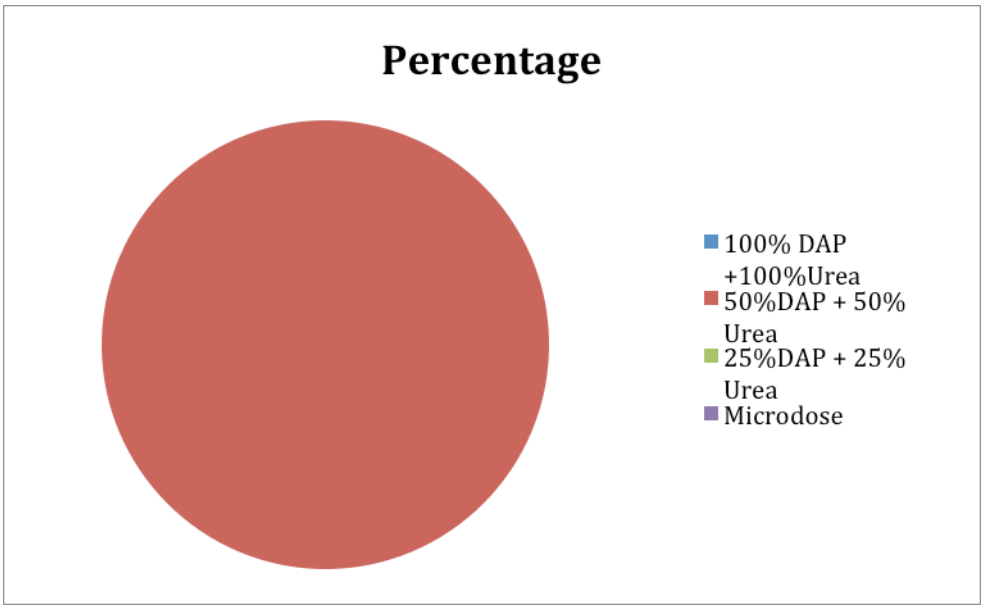
The households of control villages:



For the level of mineral fertilization, the 100% of the members households of TOPs, WADs PTPs have adopted the 50% DAP + 50% Urea. This contribution will be made in the manner localized and contain immediatly after by the multi-culture.

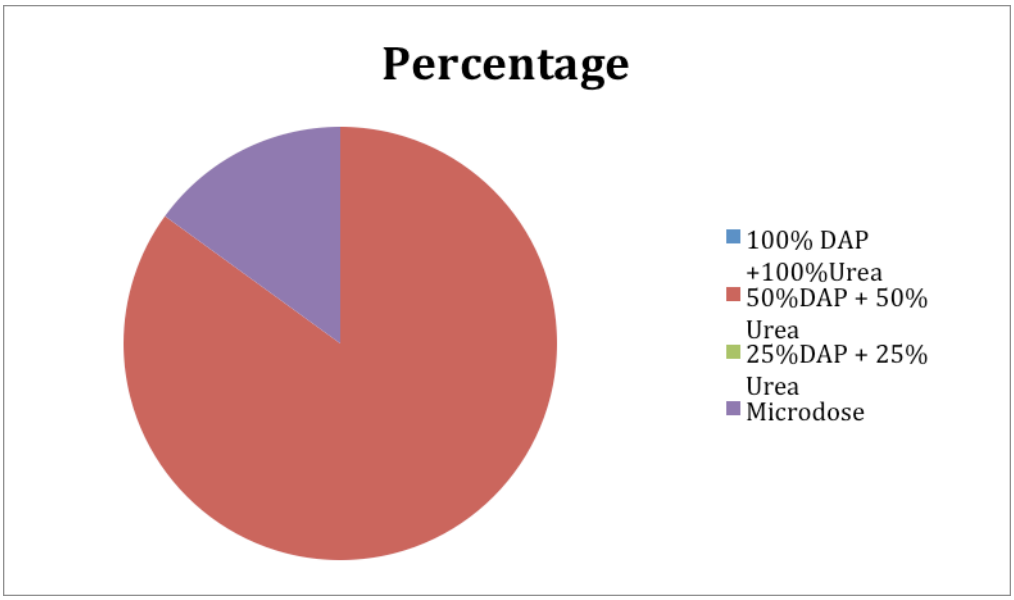
Crop of Sorghum:

The members households of TOPs, WADs, PTPs:



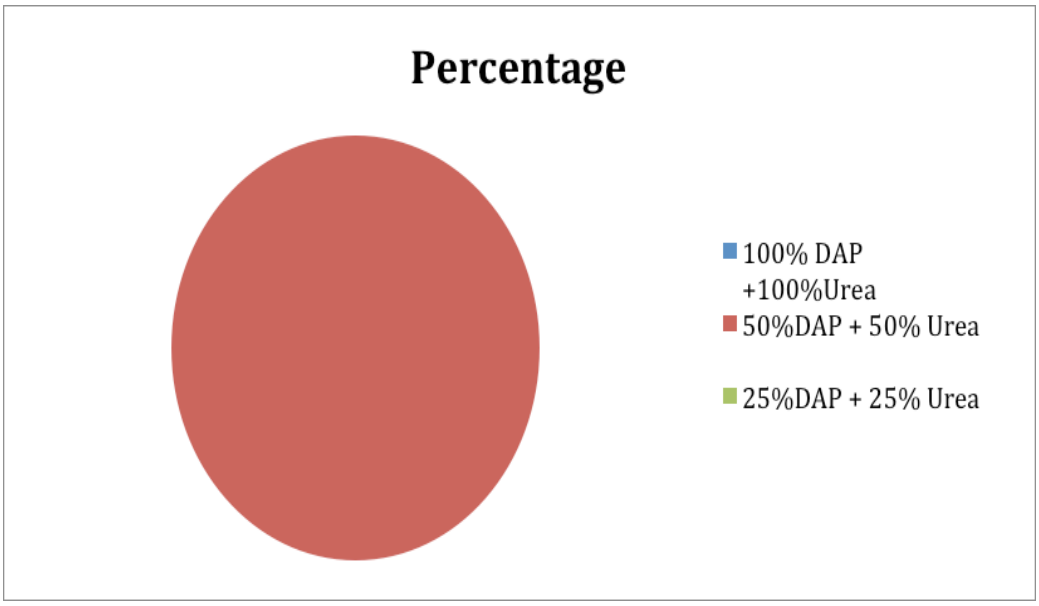
For the level of mineral fertilization, the 100% of members households of TOPs, WADs PTPs have adopted the 50% DAP + 50% Urea .This contribution will be made in the manner localized and contain immediatly after by the multi-culture.

The households in villages sheltering the TOPs, WADs, PTPs:



For the households of members villages of TOP , WADs, PTPs; 90% have adopted the 50% DAP + 50% Urea and 10% have adopted the microdose.

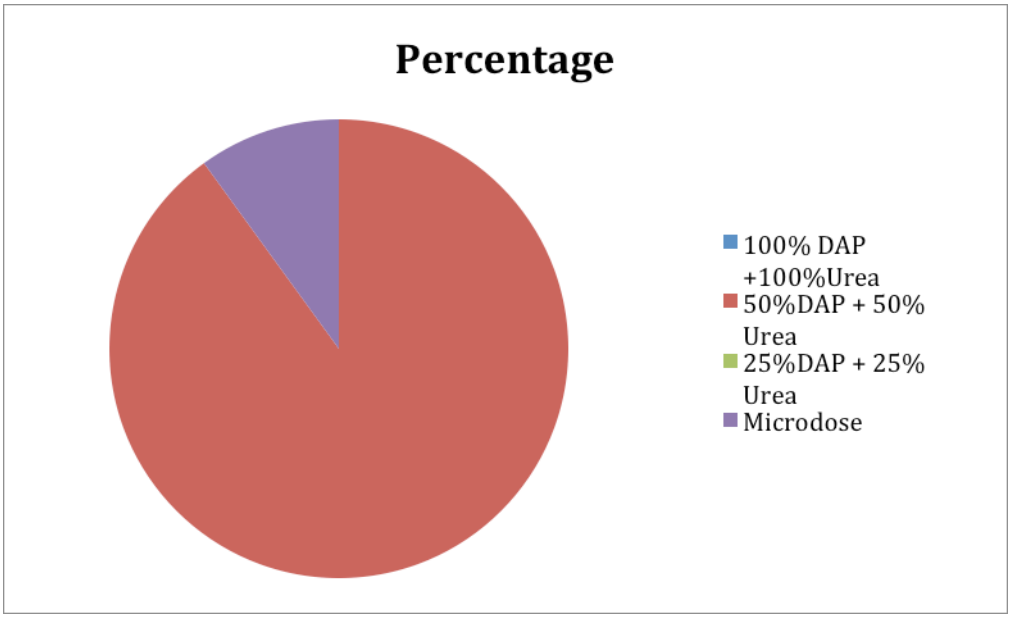
The households of control villages:



For households of control villages, 100% have adopted the rate of 50% DAP + 50% Urea.

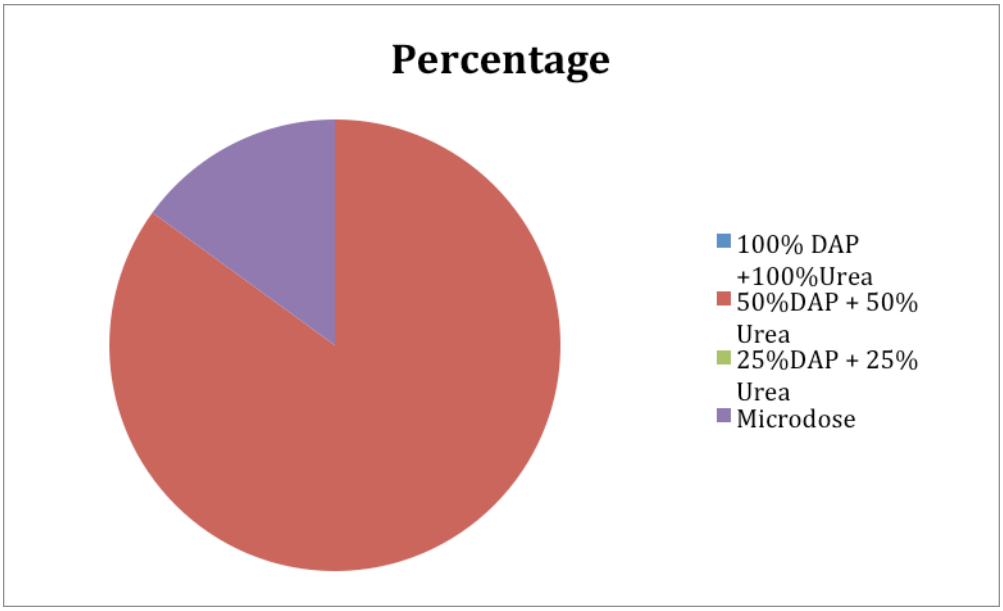
Crop of Millet:

The members households of TOPs, WADs, PTPs:



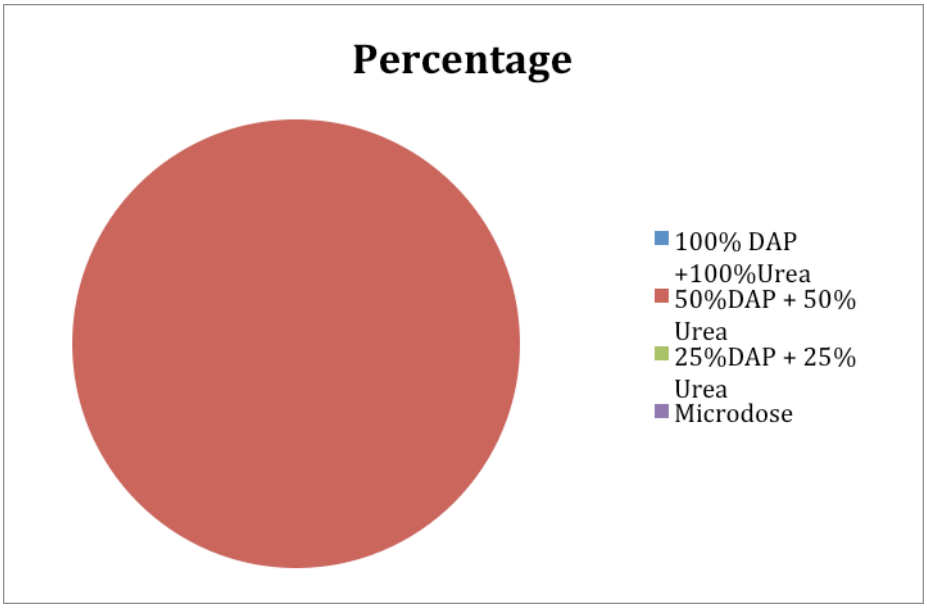
For households members of TOPs, WADs, PTPs; 95% have adopted the 50% dose DAP + Urea 50% and 5% have adopted the microdose.

The households in villages sheltering the TOPs, WADs, PTPs:



For households of villages sheltering the TOPs, WADs, PTPs; 90% have adopted the rate of 50% DAP + 50% Urea and 10% have adopted the micro-dose.

The households of control villages:



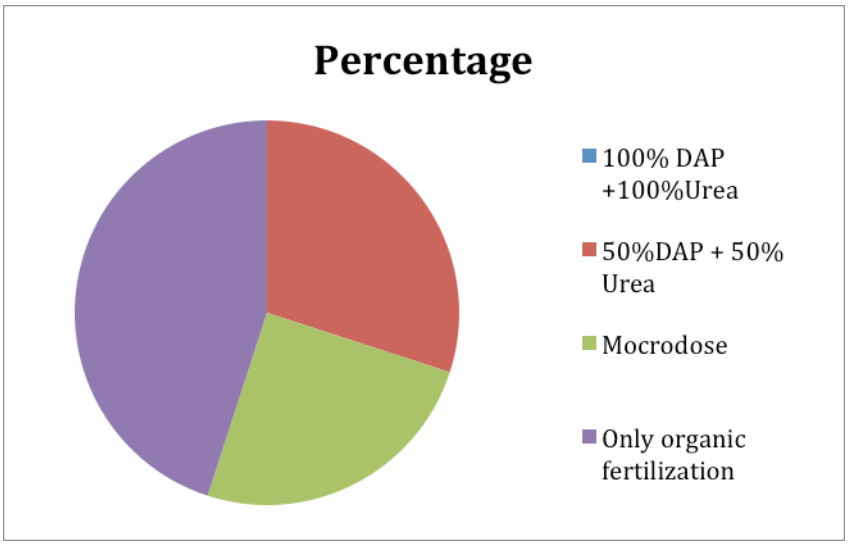
For households of control villages, the 100% have adopted the rate of 50% DAP + 50% Urea.

Crop of Peanut:

The members households of TOPs, WADs, PTPs:

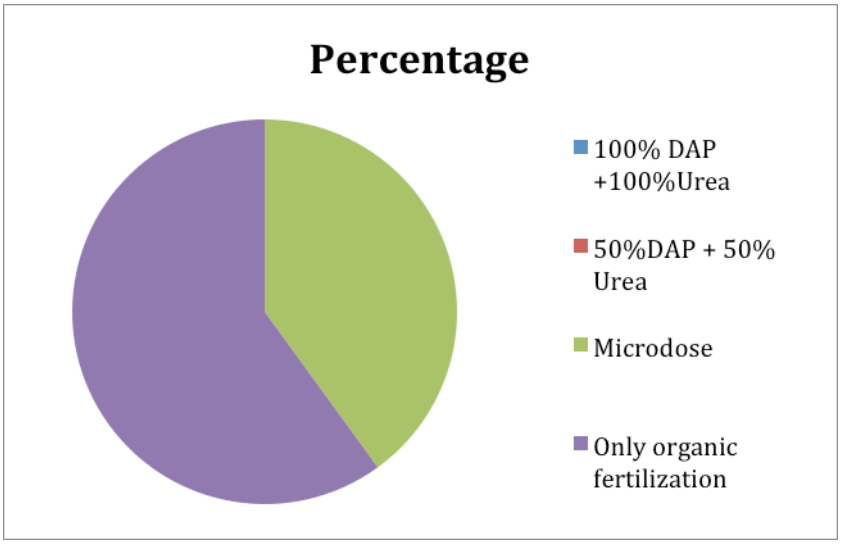
For the households members of TOPs WADs, PTPs; 40% have adopted the rate of 50% DAP + Urea 50%, 15% have adopted the microdose and 45% use only organic manure.

The households in villages sheltering the TOPs, WADs, PTPs:



For households in villages that house the TOPs, WADs, PTPs; the 60% of households have adopted the rate of 50% DAP + Urea 50%, the 10% have adopted the microdose and 30% use only organic manure.

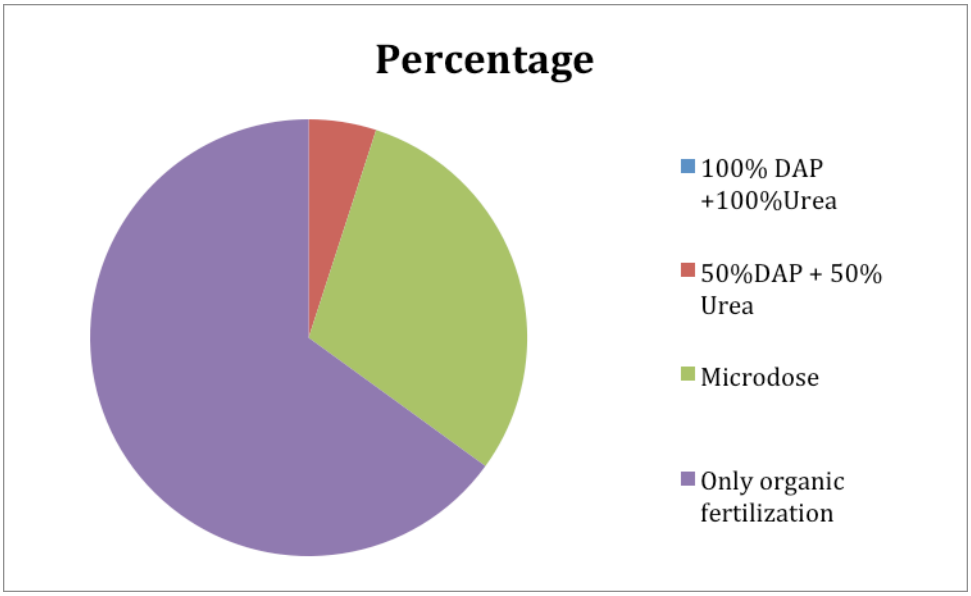
The households of control villages:



For households of control villages, 30% have adopted the micro-dose and 70% use only organic fulure.

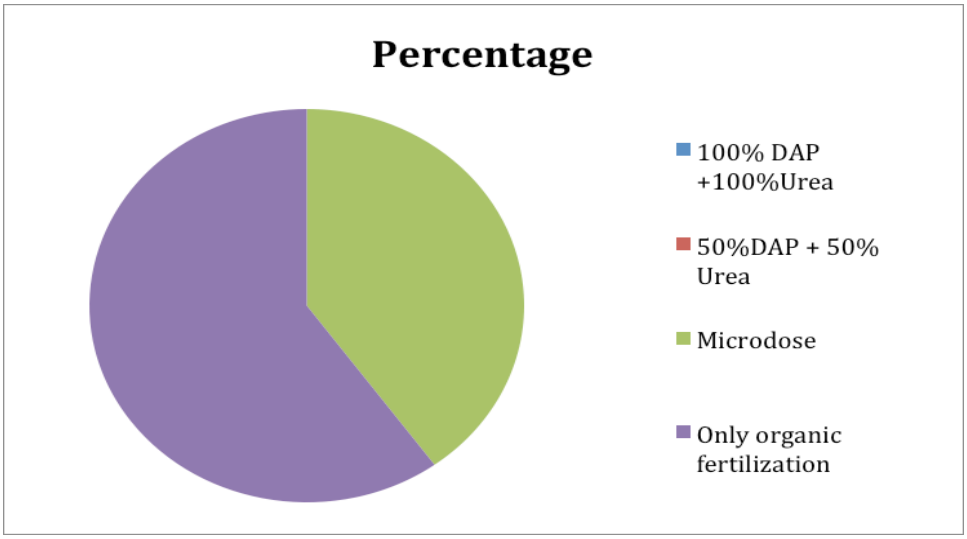
Crop of Cowpea :

The members households of TOPs, WADs, PTPs:



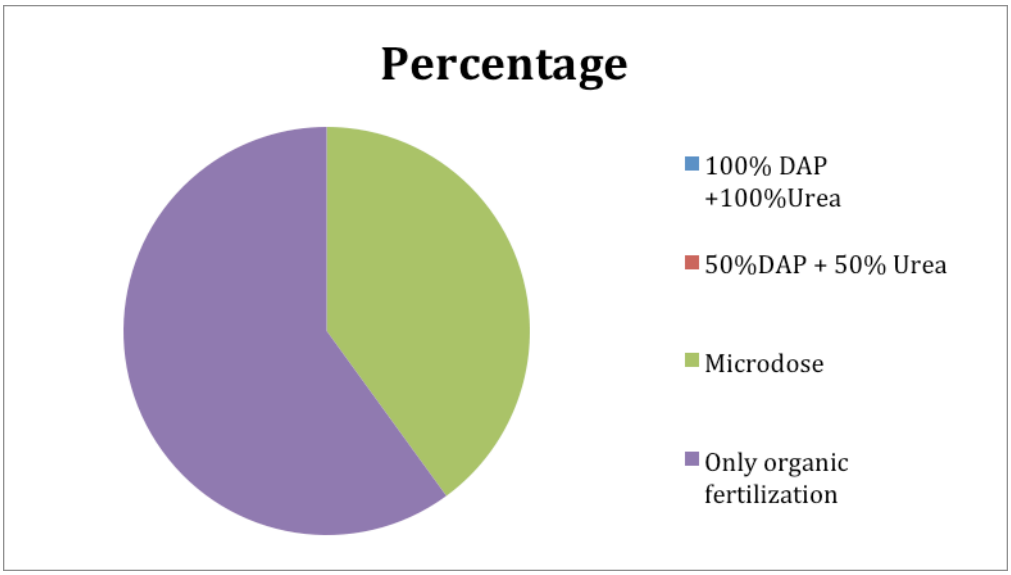
The members households of TOPs, WADs, PTPs adopted 5% the dose of 50% DAP + Urea 50%, 20% have adopted the micro-dose and 75% occur only from organic manure.

The households in villages sheltering the TOPs, WADs, PTPs:



For the households of villages are home to the TOPs, WADs, PTPs; 20% have adopted the microdose, 80% cultuvent only from the organic manure.

The households of control villages:

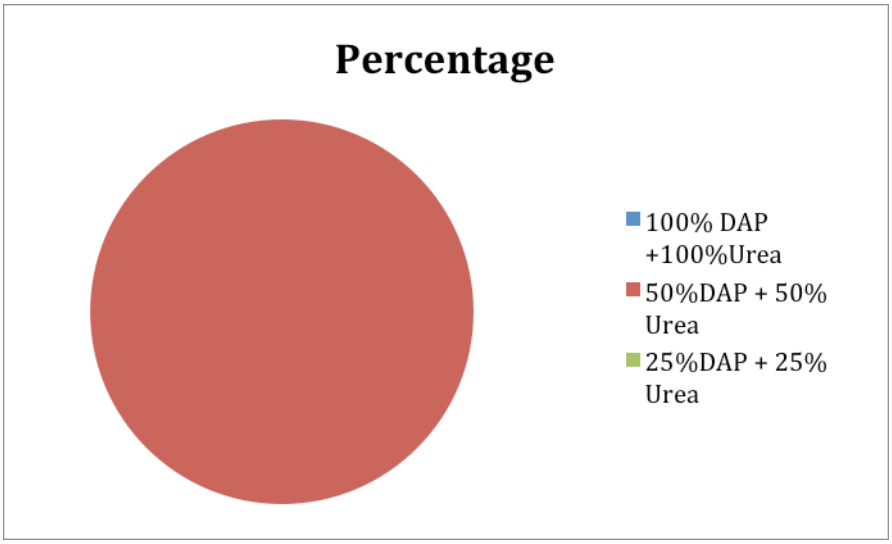


For households of control villages; 20% have adopted the microdose, 80% cultuvent only from organic manure.

6.3.1 Region of Segou :

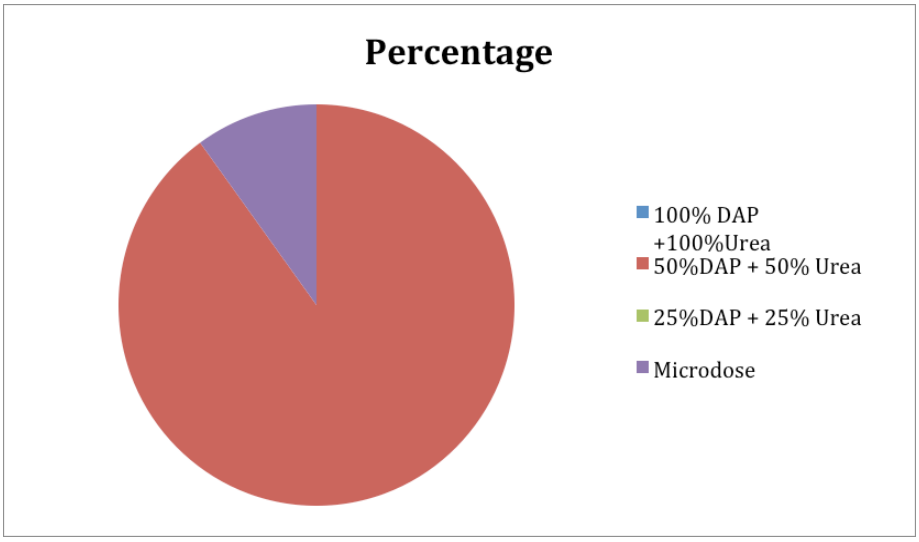
Crop of Maize :

The members households of TOPs, WADs, PTPs:



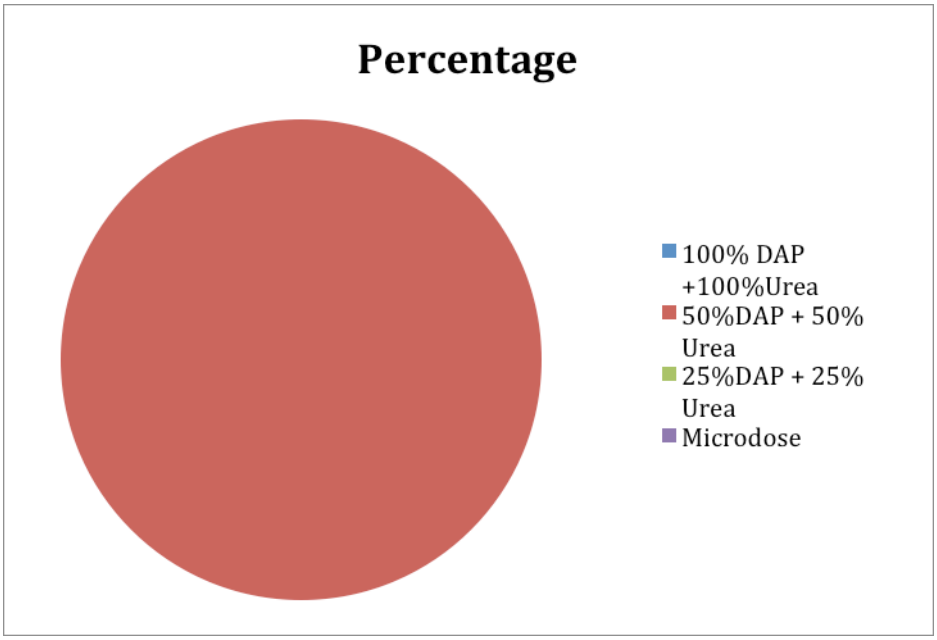
For the level of mineral fertilization, the 100% of the members of households TOPs, WADs PTPs have adopted the 50% DAP + 50% Urea. This contribution will be made in the manner localized and contain immediatly after by the multi-culture.

The households in villages sheltering the TOPs, WADs, PTPs:



For households of villages members of TOPs, WADs, PTPs; 90% have adopted the 50% DAP + Urea 50% and 10% have adopted the microdose.

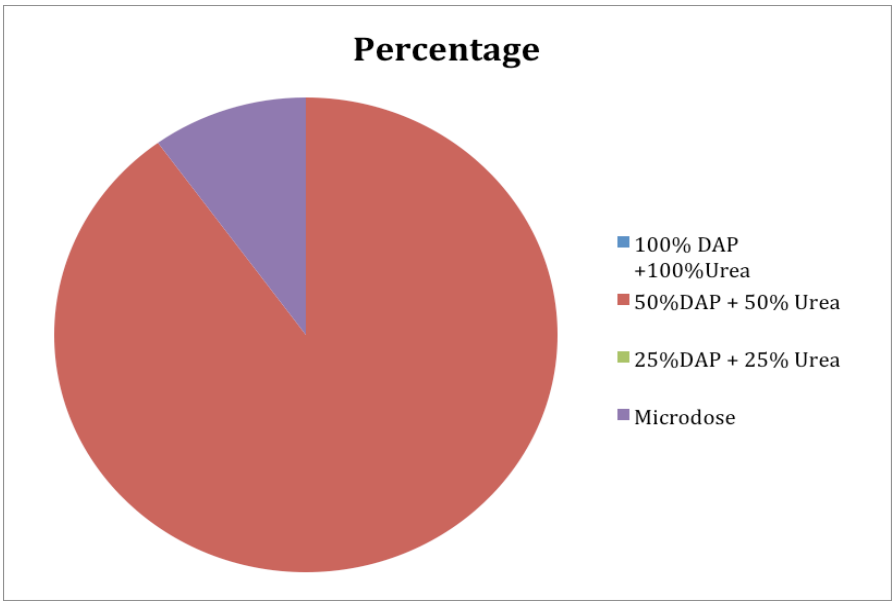
The households of control villages:



For households of control villages the 100% have adopted the 50% DAP + 50% Urea.

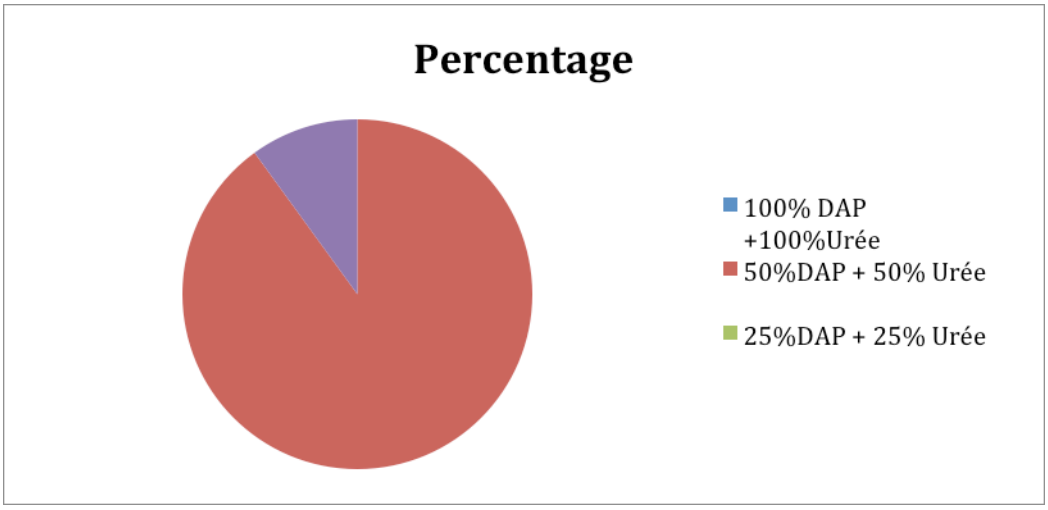
Crop of Sorghum:

The members households of TOPs, WADs, PTPs:



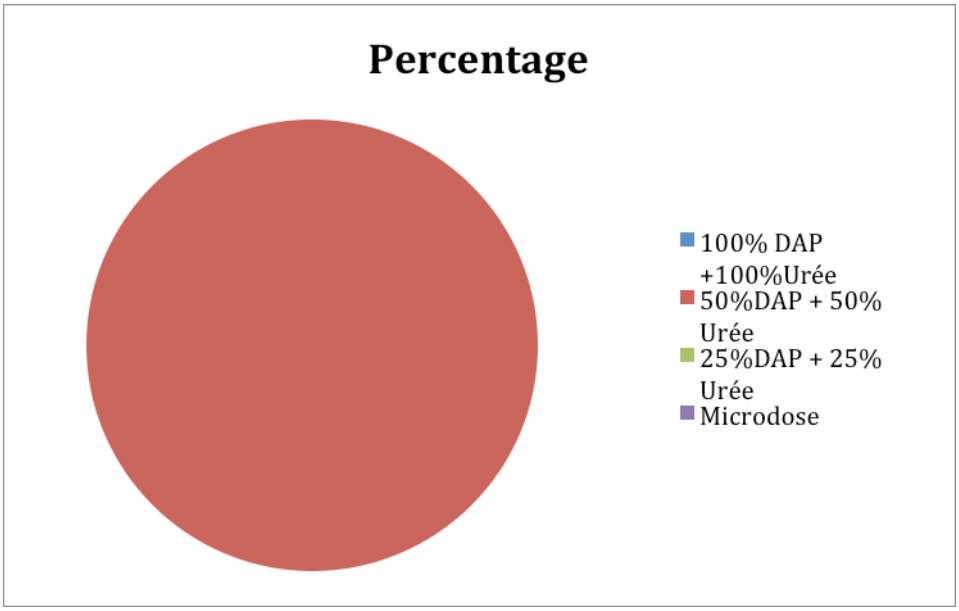
The households members of TOPs, WADs, PTPs; 90% have adopted the 50% DAP + Urea 50% and 10% have adopted the microdose.

The households in villages sheltering the TOPs, WADs, PTPs:



For households of the villages members of TOPs,WADs, PTPs; 85% have adopted the 50% DAP + Urea 50% and 15% have adopted the microdose.

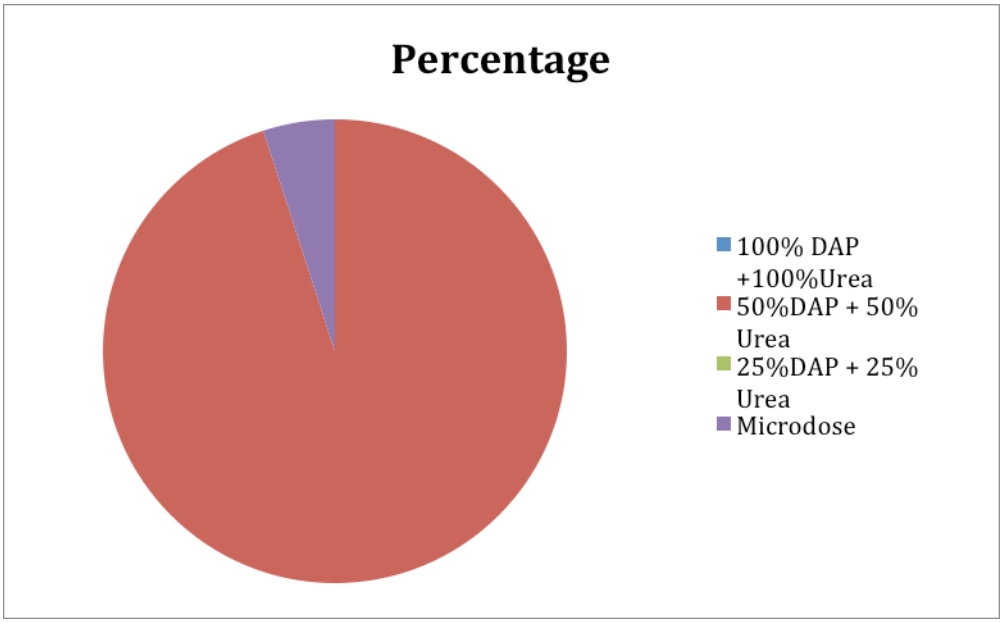
The households of control villages:



For households of control villages, the 100% have adopted the 50% DAP + 50% Urea.

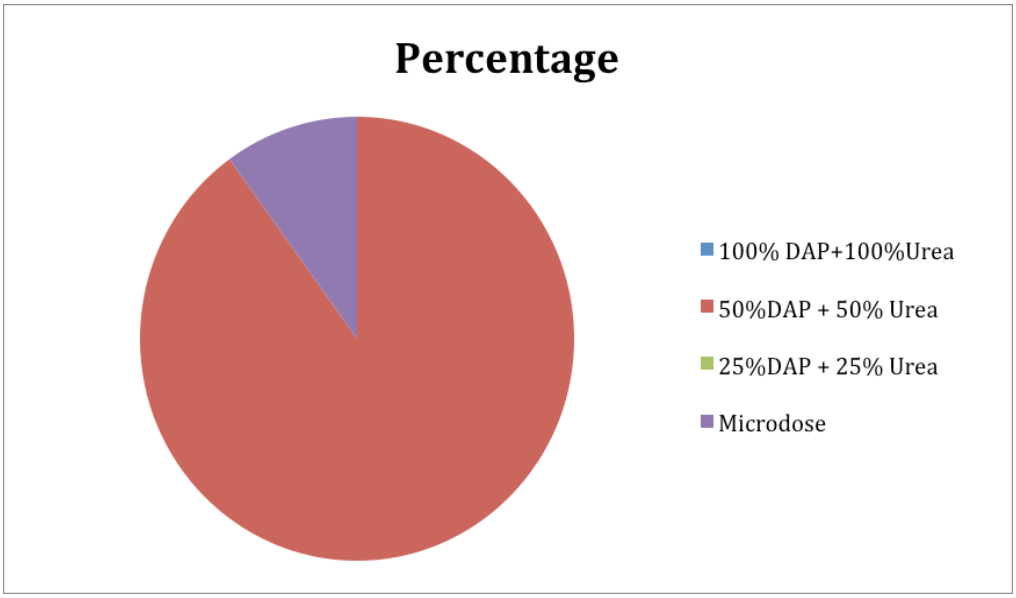
Crop of Millet:

The members households of TOPs, WADs, PTPs:



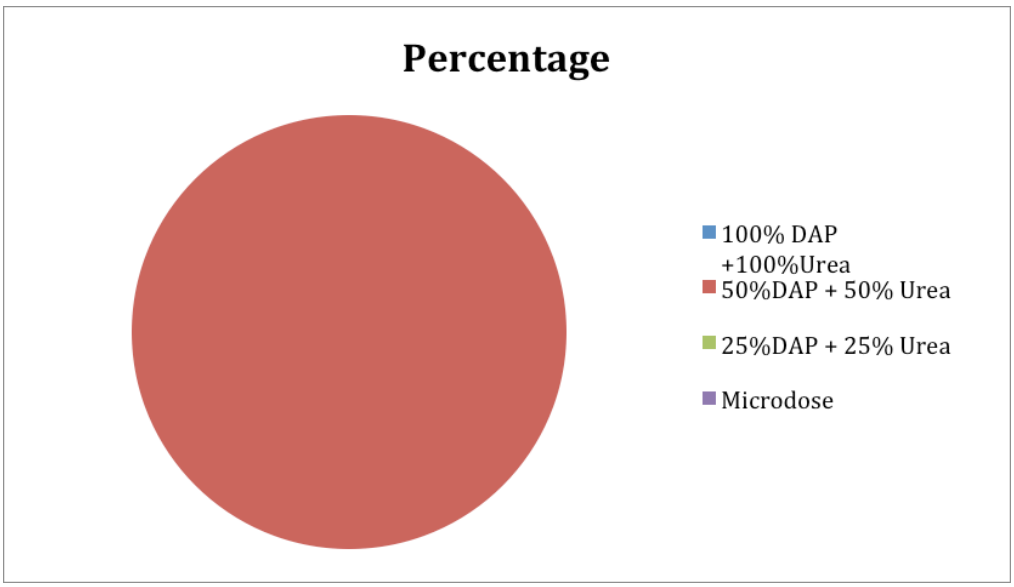
The members households of TOPs, WADs, PTPs; 90% have adopted the 50% DAP + 50% Urea and 10% have adopted the microdose.

The households in villages sheltering the TOPs, WADs, PTPs:



For households of villages that house the TOPs, WADs, PTPs; 85% have adopted the 50% DAP + 50% Urea and 15% have adopted the micro-dose.

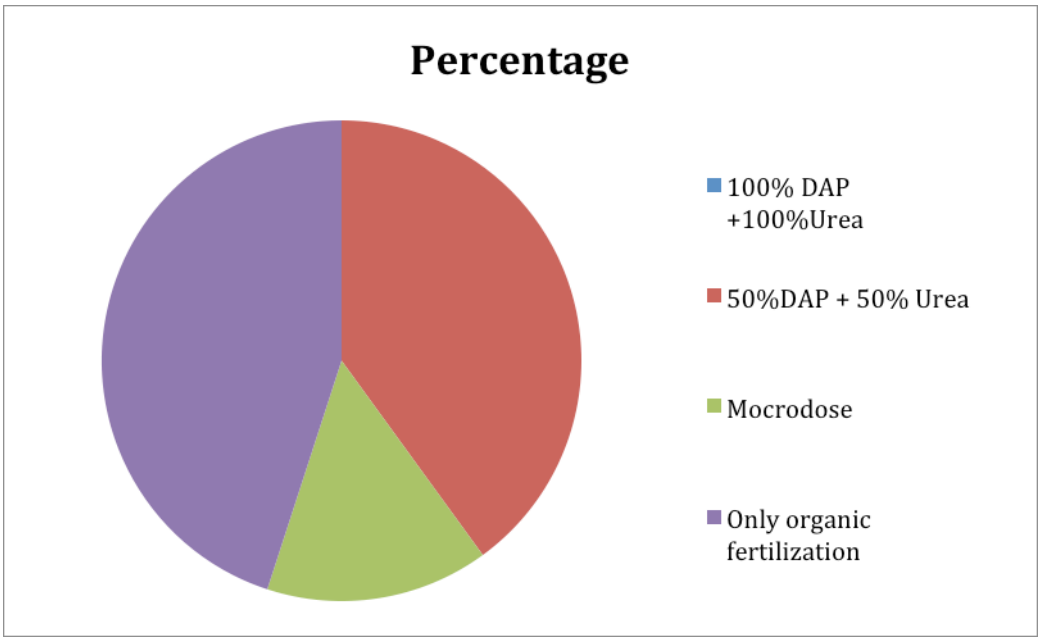
The households of control villages:



For households of control villages the 100% have adopted the 50% DAP + 50% Urea.

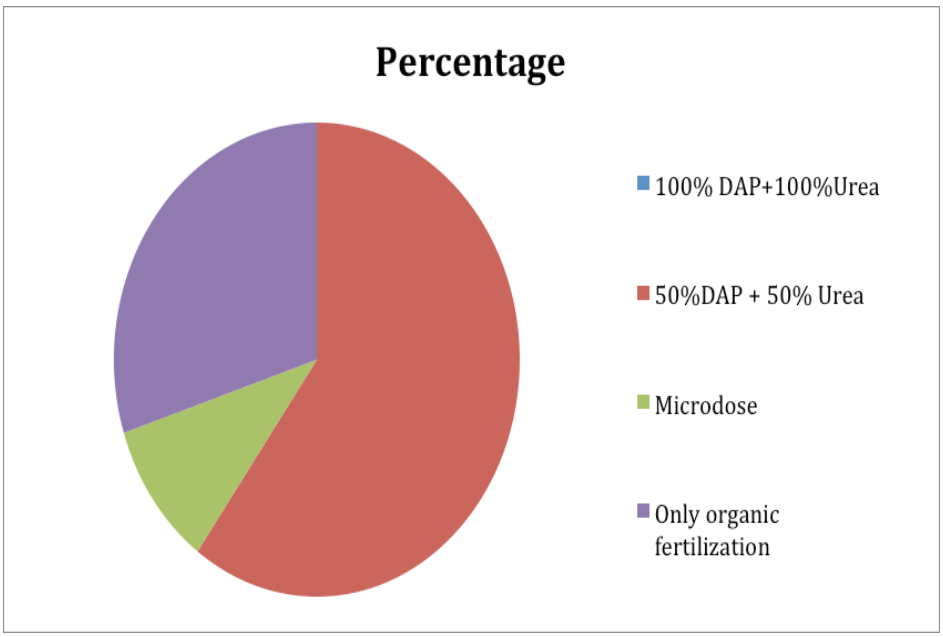
Crop of Peanut:

The members households of TOPs, WADs, PTPs:



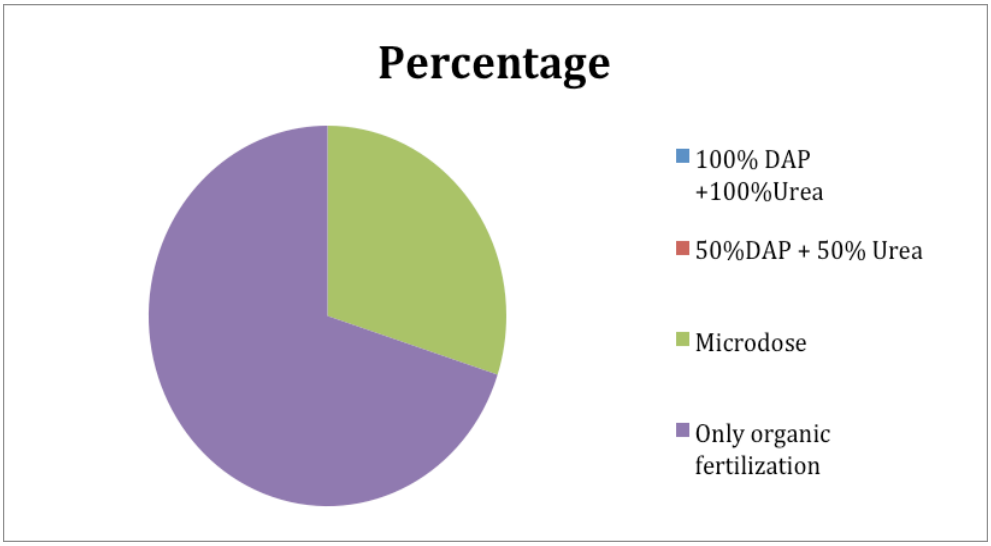
For households member of TOPs, WADs, PTPs; 30% have adopted the rate of 50% DAP + 50% Urea, 25% have adopted the microdose and 45% are making only organic fertilization.

The households in villages sheltering the TOPs, WADs, PTPs:



For households members of the villages that house the TOPs, WADs, PTPs; 65% have taken a dose of 15% DAP + 50% Urea, 25% have adopted the microdose and 20% are making only organic fertilization.

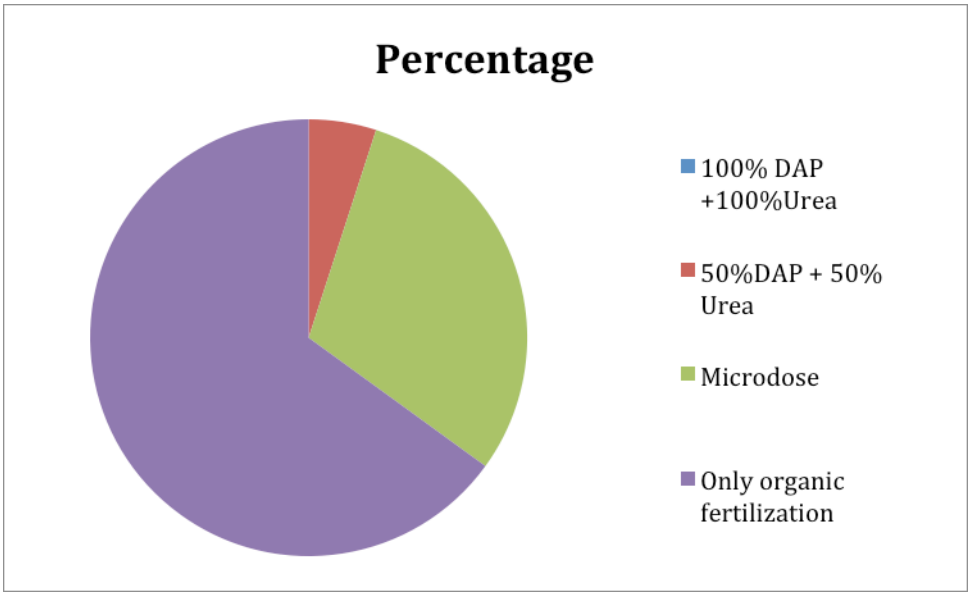
The households of control villages:



For households of control villages; 40% have adopted the microdose and 60% are making only organic fertilization.

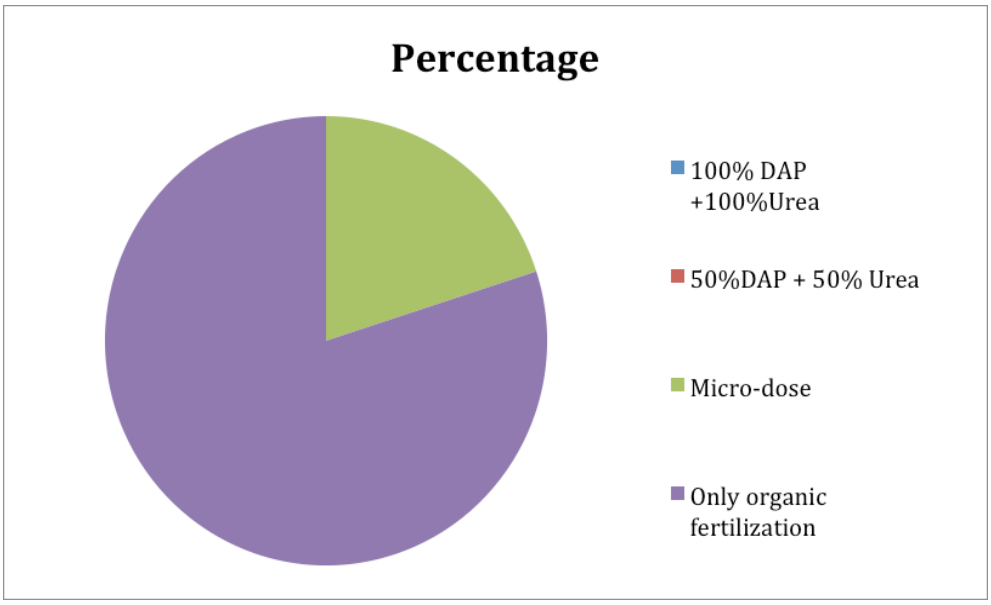
Crop of Cowpea:

The members households of TOPs, WADs, PTPs:



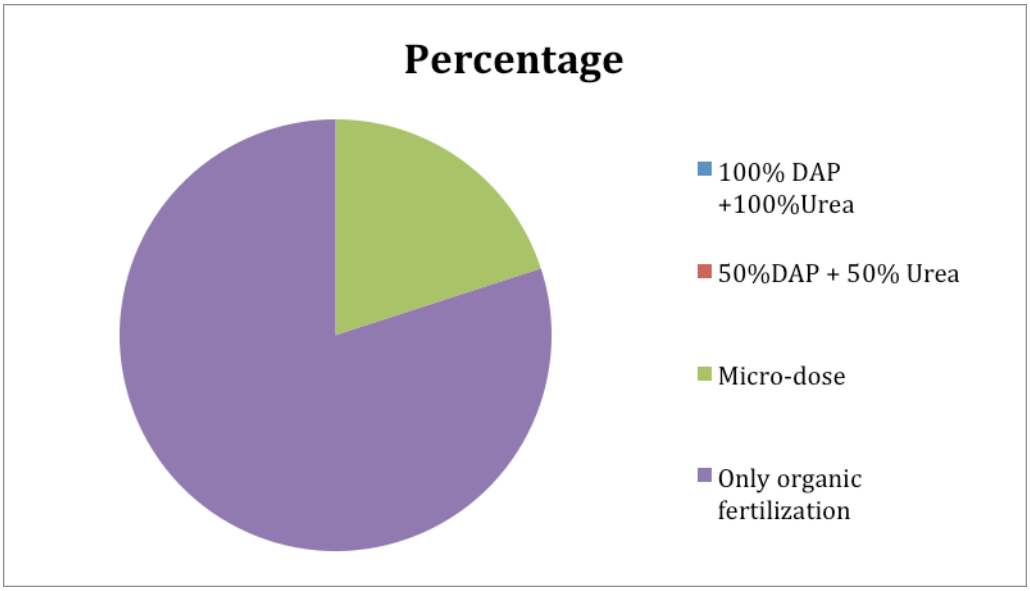
For households members of TOPs, WADs PTPs; 5% have adopted the 50% DAP + 50% Urea, 30% of the microdose and 65% are making only organic fertilization.

The households in villages sheltering the TOPs, WADs, PTPs:



For the households of villages that house the TOPs; WADS, PTPs; 40% have adopted the microdose and 60% are only organic fertilization.

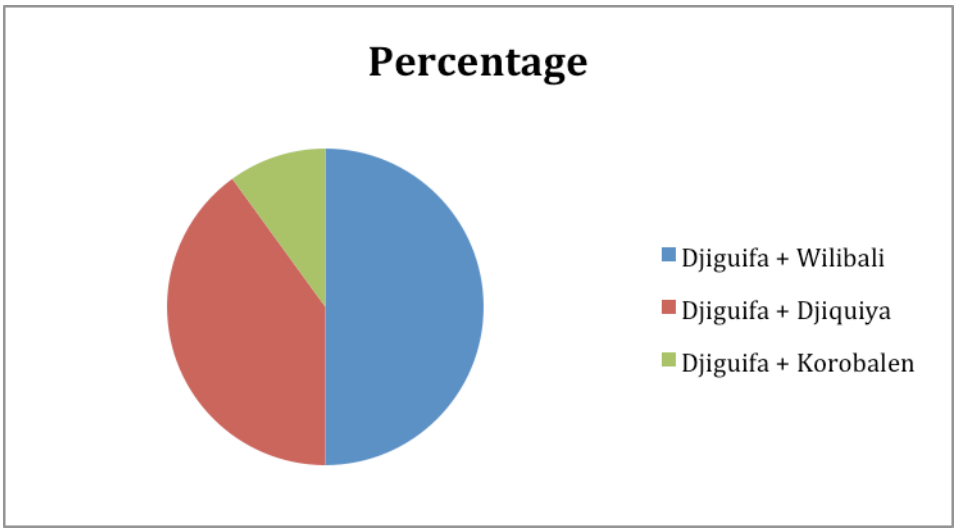
The households of control villages:



For households of control villages; 40% have adopted the microdose and 60% are making only organic fertilization.

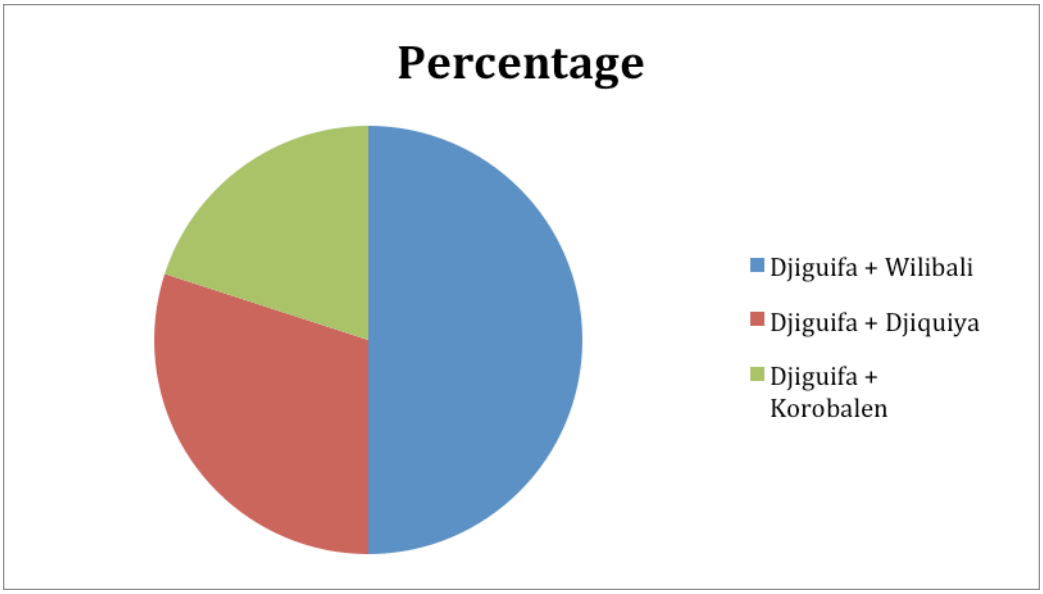
5.3 Result 4: Association of Crops: (Millet pre germinated + Cowpea inter package)

5.3.1 Region of Sikasso:



This technology is very little develop in the area. It results that in some households that the practice, 50% are making the association Djiguifa + Wilibali, 40% Djiguifa + Djiquiya and 10% Djiguifa + Korobalen.

5.3.2 Region of Segou :

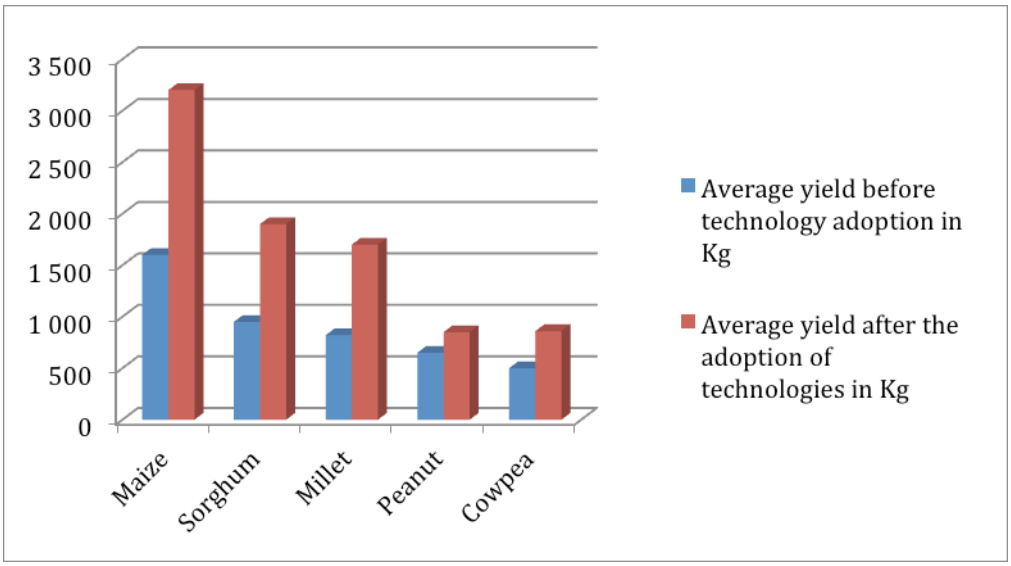


Also in Segou, the technology is very little develop. It results that in some households that practice, 50% are making Association Djiguifa + Wilibali, 30% Djiguifa + Djiquiya and 20% Djiguifa + Korobalen.

5.4 Result 5: the impact of trainings provided by EAs/CBFS on the technology diffusion

5.4.1 Region of Sikasso:

The impact of trainings on the yields:



The trainings provided by the facilitators and agents of extension to farmers for the dissemination of technologes has allowed to beneficiaries to increase considerably their yields.

For the maize before the technologies, the average yield of respondents was 1 ton 600 kg/ha after trainings, the average yield of respondents has reached 3 tons 200 Kg/ha.

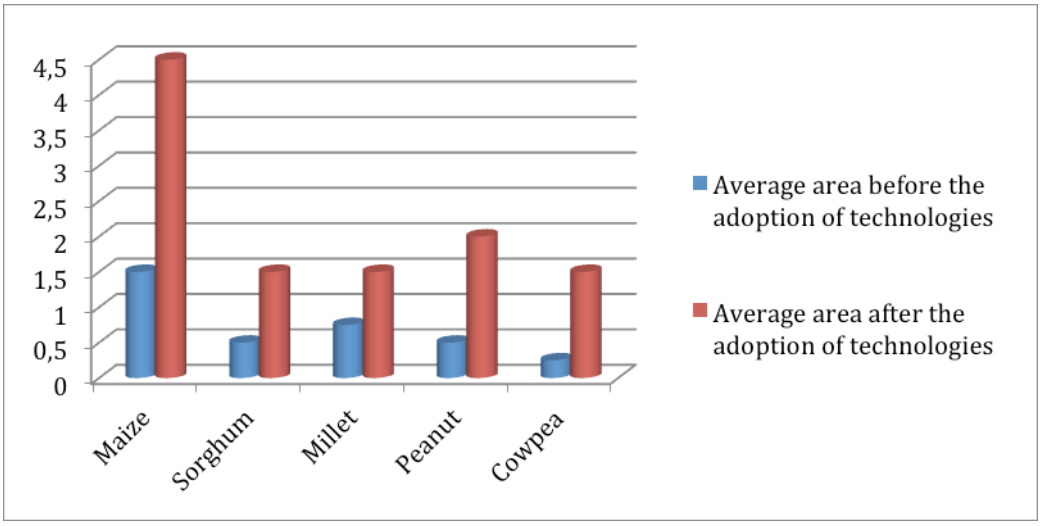
For sorghum, before the technologies, the average yield of respondents was 950 kg/ha after training the average yield has reached 1 ton 900 kg/ha.

For millet, before technologies the average yield of respondents was 820 kg/ha after training, the average yield has reached 1 ton 700 kg/ha.

For peanut, before technologies the average yield of respondents was 650 kg/ha after training the average yield has reached 850 Kg/ha.

For cowpea, before technologies the average yield of respondents was 500 kg/ha after training the average yield has reached 860 Kg/ha.

Impact of trainings on the area:



The dissemination of trainings has generated a keen interest from the beneficiaries; this has favored the increase in the areas in most of the beneficiaries.

For the maize, before technologies the average areas were 1.5 ha after technologies the average area of the surveyed has achieved 4.5 ha a progression rate of 300%.

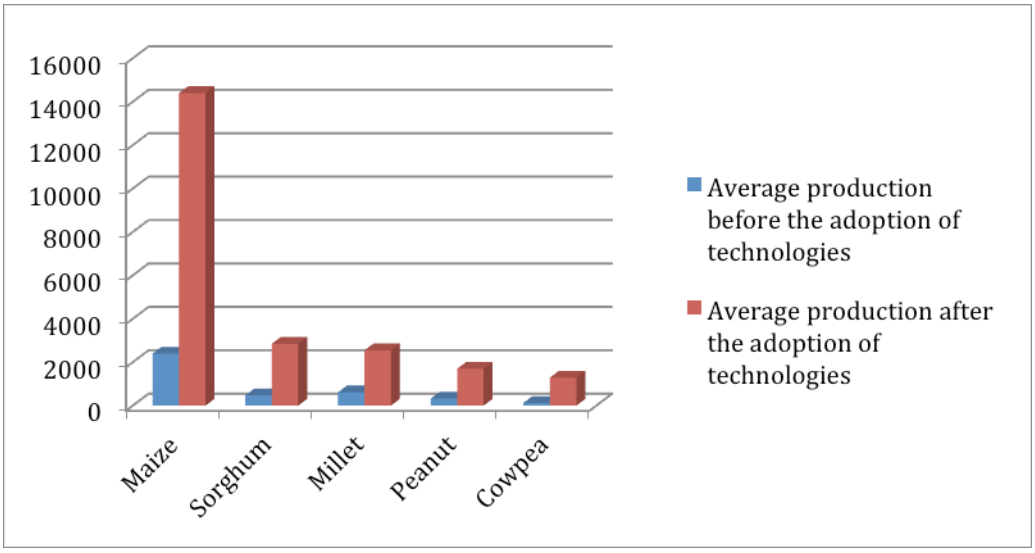
For sorghum, before technologies the average areas of the surveyed were 0.5 ha after technologies the average area of the surveyed 1.5 ha has achieved a rate of increase of 300%.

For millet, before technologies the average area of the surveyed was 0.75 ha after technologies the average area of 1.5 ha surveyed have achieved a progression rate of 200%.

For Peanut, before technologies the average area of the surveyed was 0.5 ha after technologies the average area of 2 ha of surveyed has achieved a rate of increase of 400%.

For cowpea before technologies the average area of the surveyed was 0.25 ha after technologies the average area of surveyed has achieved 1.5 ha a rate of increase of 600%.

The impact of trainings on productions:



The dissemination of trainings has had a significant impact on production.

For maize, the average production of the surveyed that were 2 tons 400 kg went up from to 14 tonnes 400 kg.

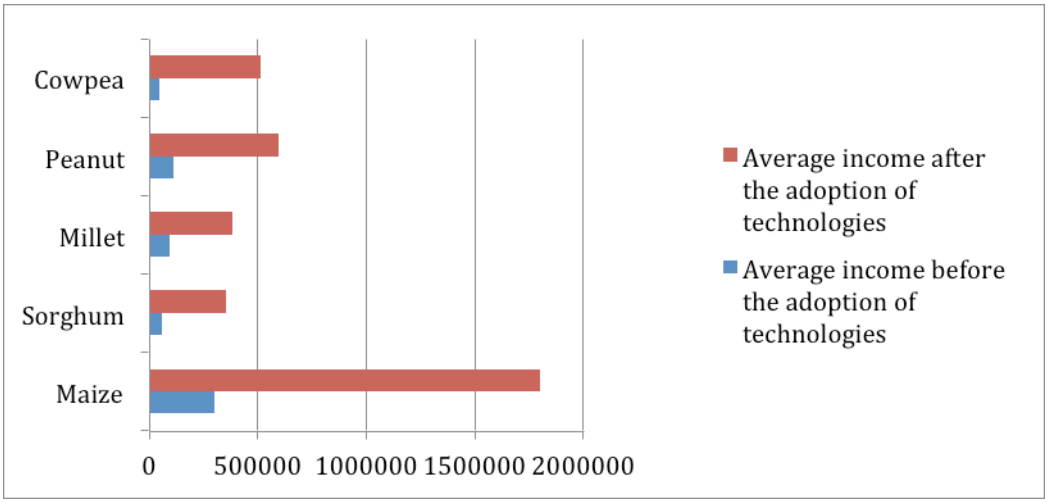
For sorghum, the average production of the respondents was 474 Kg increased to 2 tons 850 kg.

For millet, the average production of the respondents of which 615 kg was increased to 2 tons 550 kg.

For peanuts, the average production of the respondents of which 325 kg was went up from to 1 ton 700 kg.

For the cowpea, the average production of the respondents who were 125 Kg went up from to 1 ton 290 kg.

The impact of trainings on incomes:



The spread of technologies has had a significant impact on incomes of the beneficiaries.

For maize, the recipients had an average income of 300,000 CFA per year, the impact of trainings has make they have today to an average income of 1.8 million CFA francs.

For sorghum, the recipients had an average income of 59,375 CFA francs per year, the impact of trainings has make today to an average income of 356,250 CFA francs.

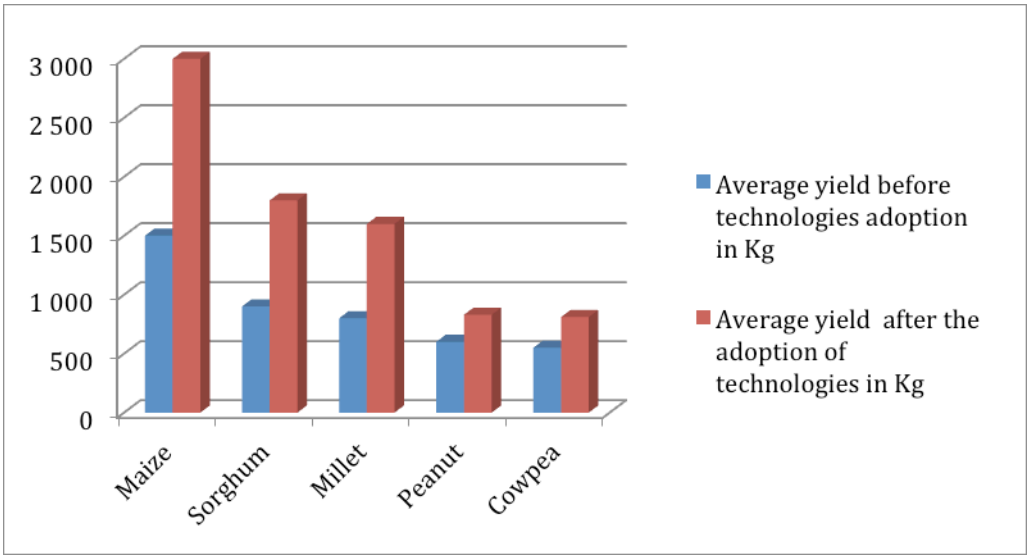
For millet, recipients had an average income of 92,250 CFA francs per year, the impact of trainings have make they have today to an average income of 382,500 CFA francs.

For peanuts, recipients had an average income of 113,750 CFA per year, the impact of trainings have make they have today to an average income of 595 000 CFA francs.

For the cowpea, the recipients had an average income of 50,000 CFA francs per year, the impact of trainings have make they have today to an average income of 516,000 CFA francs.

6. 5. 2 Region of Segou:

The impact of trainings on yields:



The training provided by the facilitators and agents of extension to farmers for the dissemination of technologies has allowed beneficiaries to increase considerably their yields.

For maize, before technologies the average yield of respondents was 1 ton 500 kg/ha after trainings the average yield of the investigated has reached 3 tons .

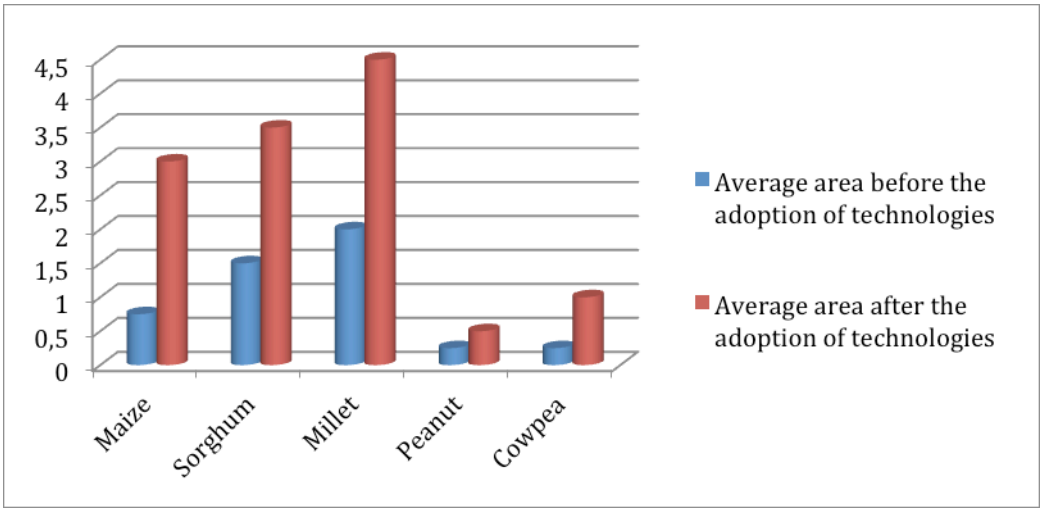
For sorghum, before technologies the average yield of respondents was 900 kg/ha after trainings the average yield has reached 1 ton 800 kg/ha.

For millet, before technologies the average yield of respondents was 800 kg/ha after training the average yield has reached 1 ton 600 kg/ha.

For peanut, before technologies the average yield of respondents was 600 kg/ha after training the average yield has reached 830 Kg/ha.

For cowpea before the technology the average yield of respondents was 550 kg/ha after training the average yield has reached 810 Kg/ha.

The impact of training on the areas:



The dissemination of training has generated a keen interest from the beneficiaries; this has favored the increase in the areas in most of the beneficiaries.

For maize, technologies before the average area of 0.75 ha after technologies the average area of surveyed have reached 3 ha a rate of increase of 400%.

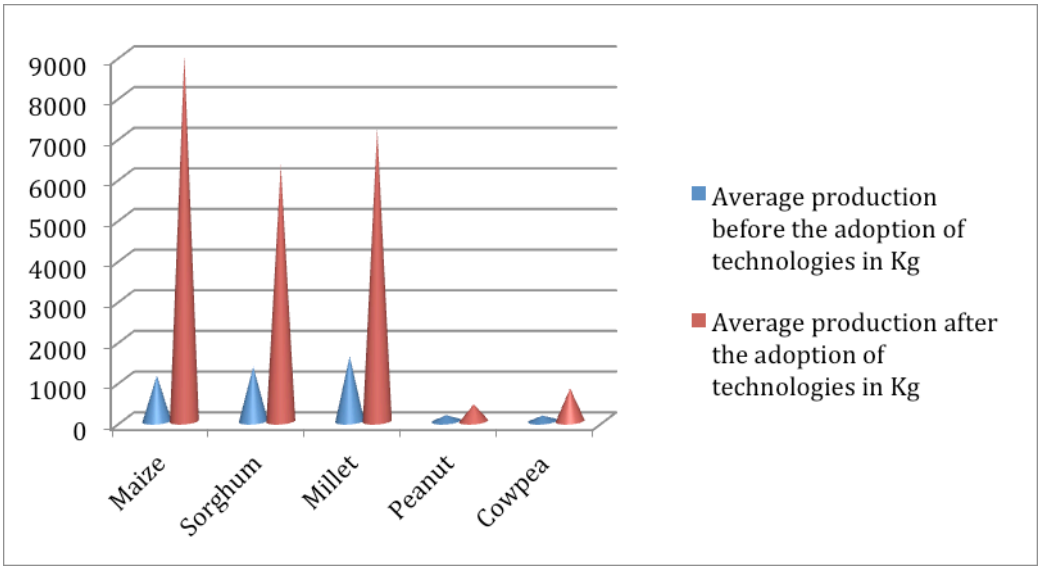
For sorghum, before technologies the average area of 1.5 ha was surveyed after the technologies the average area of 3.5 ha of surveyed has achieved a rate of increase of 233%.

For millet before technologies the average area of the surveyed was 2 ha after technologies the average area of surveyed has achieved 4.5 ha a rate of increase of 225%.

For peanut, before technologies the average area of the surveyed was 0.25 ha after technologies the average area of surveyed has achieved 0.5 ha a rate of increase of 200%.

For cowpea, before technologies the average area of the surveyed was 0.25 ha after technologies the average size of respondents was 1 ha or a progression rate of 400%.

The impact of trainings on productions:



The dissemination of trainings has had a significant impact on productions.

For maize, the average production of the respondents that was 1 ton 125 kg increased to 9 tons.

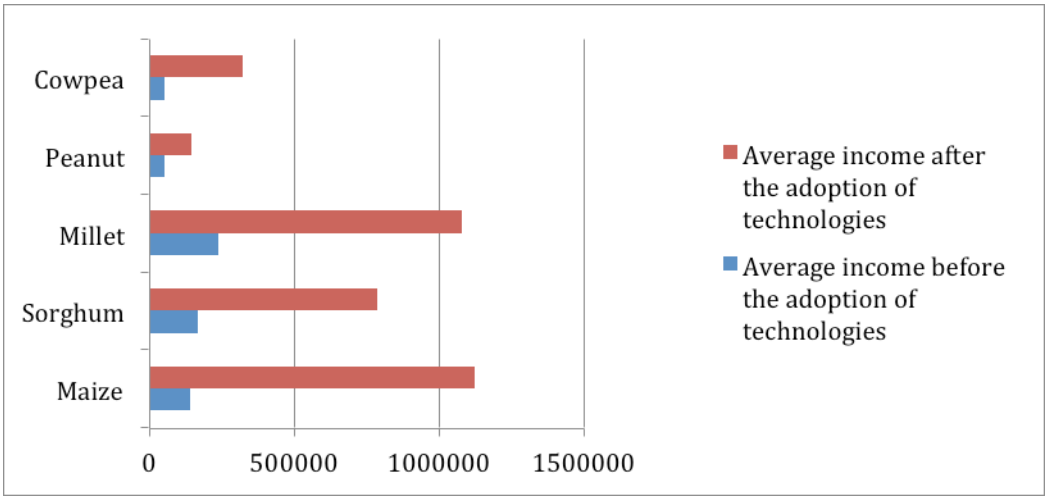
For sorghum, the average production of the respondents that was 1 ton 350 kg increased to 6 tons 300 kg.

For millet, the average production of the respondents that was 1 ton 600 kg increased to 7 tons 200 kg.

For peanuts, the average production of the respondents was of 150 kg rose to 415 Kg.

For the cowpea, the average production of the respondents was 137 kg increased to 810 Kg.

The impact of trainings on incomes



The dissemination of technologies has had a significant impact on incomes of the beneficiaries.

For maize, the beneficiaries had an average income of 140 625 CFA per year, the impact of trainings has make they have today to an average income of 1125000 CFA francs.

For sorghum, the beneficiaries had an average income of 168,750 CFA per year, the impact of trainings has make they have today to an average income of 787500 CFA francs.

For millet, the beneficiaries had an average income of 240 000 CFA per year, the impact of training has make they have today to an average income of 1 080 000 CFA francs.

VII. Conclusion

In general, we can say that the multiplier effects of TOPs, WADs and PTPs are very visible on the ground. At to day's date, it is very difficult to see in these areas a producer does not use at least one technology, which was broadcast by the TOPs, WADs and PTPS.

Information on the technologies TOPs, WADs and PTPs circulated through trainings of facilitators and technical officers of the state, it is also noted that many producers have learned by word of mouth information's.

In some localities the constitution of members of TOPs and WADs (village chief, advisors at village, the youth leader, the pilot farmers,) was a big success factor.

Multiplier effects could were much faster and with a very large scattering spectrum if all faith SG 2000 was setting up a large communication network through the media (television, urban and rural radios, mobile phone etc.).

The trainings modules meet the expectations of producers, but information system even economic does not allow giving as much information to producers.

VI. Suggestions:

1) Increase production of area test of production to give more visibility to producers;
2) Increase the operating duration of the first theme (T1) in the intervention areas;
3) Develop a wide network of information through the media for more multiplier effects on the local scale, regional and national;
4) It will be better to standardize the constitution of members of TOPs, WADs;
5) It will be better to train apart animators and training of technical state a part Agent, these two targets do not have the same level of understanding;
6) We suggest to SG 2000 to support the set up of a monitoring framework for the restitution of formations at the base;

7) We suggest SG 2000 to expand the trainings to all staff of the facilitation sectors of agricultures for having more multiplier effects in the future.

Annex

Tor for the assessment of multiplier effects of t1technologies and impact of trainings provided by extension agents and community based facilitators on technology diffusion in sissakao&segou regions

Introduction and background information

The Malian economy is based primarily on Agriculture.Around 80% of Malians live in rural areas and the agriculture sector contributes for 46% of GDP. One of the major goals of the Malian agriculture is to exploit the potential of existing production with the mobilization and efficient use of available resources. This can only be done with training tailored to the needs of producers and capacity building of trainers and other extension agents.

The role of agriculture in the national economy has been highlighted in all of Mali development strategies. However the weakness of training received by small producers severely handicap expectations for productivity, improving incomes and even food security. These handicaps are reflected in:

- A bad choice of agricultural seeds;
- Improper application of agricultural technics;
- Failure of continuous monitoring;
- Inappropriate use of agricultural inputs (mainly chemicals);
- The weak organization of producers.

It is within this context of uncertainty that SAA has introduced training for extension agents recruited and those of the National Directorate of Agriculture through its CPE theme. Also, Malian farmers' got from SAA best agricultural technics like: TOPs, WADs, CVPs and so on to help them getting more yields. Theme 1 overall objective is to improve productivity and production.

It is in this perspective that justifies the present TOR which intendsto assess the multiplier effects of TOPs, WADs, PTPs and the impact of trainings provided by EAs/CBFs on technology diffusion in Sikasso and Segou Regions.

SG 2000 Mali trough T1 has trained 302 EAs (CBEAs + CBFs), 20,839 farmers and reach 28,186 field-days participants.

During the past 6 years, SG 2000 has promoted technology demonstration and promotion plots, i.e., TOPs, WADs and PTPs. TOPs demonstrate different options of technologies based on different cost levels on 500 m^2 plots. WADs are plots essentially managed by women farmers on 1000 m^2 of land and SG 2000 provides free inputs and extension advice. CVPs demonstrate several options of technologies on 50 m^2 of land. PTPs are unlimited in size, farmers use own inputs, apply lessons from TOPs and WADs and are supervised by extension agents. The aim is to offer smallholder farmers with a range of technology options and training so that farmers are convinced to take up and scale technologies which fit their economic conditions but proffers economic benefits.

Since 2009, significant progress has been made in reaching smallholder farmers through TOPs, WADs, CVPs and PTPs in Mali using core and extra-core funds.

In Mali, SG 2000 has managed 440 TOPs, 1,320 WADs, and 143 CVPs where SG 2000 works.

rationale for the study

It is obvious that significant investment has been made towards promotion and establishment of the training sessions, PTPs, TOPs WADs and CVPs. Table below shows substantial progress in the establishment of FLPs and Capacity building. Whether Capacity building, PTPs, TOPs, WADs and CVPs have reached and made significant changes to farmers' livelihoods remains a question and thus the need to know the adoption rate of the promoted technologies.

Table: summary of achievements of strategic plan 2012 to 2015

Items	Targeted	Achieved	Percentage of achievements (%)
	FLPs		
# of TOPs	570	440	77
# of WADs	1,710	1,320	77
# of CVPs	200	143	72
# of PTPs (farmers)	40,000	32,415	81
	Capacity building		
# of training EAs (CBEAs + CBFs)	330	302	92
# of trained farmers	30,000	20,839	70
# of field days participants	30,000	28,186	94
# of cumulative farmers	100,000	81,440	81

Source: CPE theme

Study objective

To assess the multiplier effects of TOPs, WADs, PTPs and the impact of trainings provided by EAs/CBFs on technology diffusion in Sikasso and Segou Regions.Specifically, this in-depth study aims to assess the adoption rate, implementation, progress and performance of CPE Technologies and their impacts on men and women smallholder farmers in Mali. Additionally, the study will attempt to assess adoption of the technologies in terms of reach, effectiveness and efficiency. The study will also attempt to determine the impact of the trainings provided by T1 to EAs and CBFs on technology diffusion in the identified regions (Sikasso and Segou).

However, there are important inferences and lessons that can be drawn to inform SG Programs especially management of plots, quality, reach, replication and empowerment. It is also important to find out if there has been any change in terms of input (improved technology) use, improvement in cultivated land, ownership of farm produce, improved incomes for women farmers.

Study methodology

This final evaluation will use the methods and techniques corresponding to the specific needs for information, the matters identified in the TORs, the availability of resources.

In any case, all relevant sources of information will be analyzed, such as periodic reporting implementation, monitoring activity reports, minutes of meetings, and any other documents that may provide information to allow to make judgments based on evidence.

Prospective consultants are expected to fully elaborate the methodologies they propose to use in the exercise to help them get the required information for their analysis and reporting. This will be further assessed by SG2000 Mali management and the MELS team during the review of their technical and financial proposals.

The methods and techniques to be used in the evaluation will be described in the final report of the evaluation. At a minimum, they will present information on the instruments used for the data collection and analysis, i.e.the documents, interviews, field visits, questionnaires or participatory technics.
This evaluation will be conducted by the consultant with close support of T5 theme.

Deliverables

The consultant will draw-up draft report based on following points:

- Chronogram of the mission and daily calendar of tasks accomplished;
- Full description of achieved activities;
- Presentation of findings/outputs and possibly the critical analysis;
- Recommendations for the attention of SG 2000 Mali;
- A.O.B (appendices).

The final report (soft copy) will be written in English and submitted for final review and approval by T5 –TD and SG 2000 Mali team. Upon final approval, three hard copies of the report will be printed in addition to the soft copy and shared latest five (5) days before the end of mission.

- ✓ All documents related to the study will become the property of SG2000 Mali and must be submitted by the prospective consultant to SG2000 management or MELS team for safe keeping.

Qualification

- ✓ The lead consultant should possess minimum a Master's degree in Agriculture, Agricultural Economics or any other related field;
- ✓ Diverse understanding and clear knowledge of agricultural production and the whole value chain, and related challenges in the Malian context;
- ✓ Extensive experience in carrying out complex agricultural field based studies;
- ✓ Experience in qualitative and quantitative data collection analysis using statistical software;
- ✓ Capacity to use GPS;

- ✓ High degree of independence, flexibility and ability to meet strict deadlines;
- ✓ Excellent communication and writing skills.

Application criteria

Interested consultancy firms should submit detailed technical and financial proposals covering:

- Capacity statement;
- Demonstrated understanding of the terms of reference;
- Proposed methodology/methodologies to be applied;
- A detailed work plan;
- A detailed financial proposal;
- CVs of principal consultants;
- Electronic copies of two recently concluded similar assignments;
- Two reference letters from recent clients with contact details of the referees.

Time frame

The survey is scheduled to begin before end of **July.** Applications from prospective consultants should be received not later than July 25th, **2016.** The definitive timeframe and procedures will be agreed within the assignment.

Budget

The prospective consultant is expected to provide a financial proposal which will be reviewed by SG2000 Management and the MELS team

TECHNICAL PROPOSAL

SUMMARY

I. Submission letter of the technical proposal

Bamako, September 7th, 2016

Mr. Director of SG 2000 Mali,

We, the undersigned, Societé d'Etude et Assistance pour le Development Durable (SEADD), have a pleasure to submit our technical proposal related to the evaluation of multiplier effects of TOPs, WADs, PTPs and the impact of training provided by EAs/CBFS as consultant firm on the diffusion of technology in the regions of Sikasso and Segou. If negotiations are held during the validity period of the service, we are committed to negotiate on the basis of the

proposed staff. Our proposal is binding upon us subject to the modifications resulting from contract negotiations.

We know that you are required to accept any of the proposals received.

Please accept, Sir, the expression of our highest consideration.

Antoine TRAORE
General Director of SEADD
Phone: 76 17 64 58/69 77 03 91
Email: seadd_mali@yahoo.fr

II. PRESENTATION OF OFFICE

- Headquarters: Bougouni - Torakabougou, Adjacent to the Mosque of the city of Teachers,
- Antenna: Sikasso - Mamassoni - Street: 609 - Door: 149
- Bamako Bamako - Sogonafing - Near the Fundamental School
- Antenna: Timbuktu - Sankore - Near the center Ahmed Baba
- Antenna: Segou - Catholic Mission - Rue 98 - Gate 36
- Antenna: Koutiala - Djonnasso - Near ONT
- **Contact:** 00223 76 17 64 58 / 00223 69 77 03 91 Email: seadd_mali@yahoo.fr
- **Commercial Register:** MA-Bgni 2016/B/06/45

- **NIF:** 032001642L
- **Bank Account:** 25326004401-49 BIM s.a
- **Director :** Antoine TRAORE, Master Agronomist
- **Location**: Mali
- **SEADD** led by the frames more than ten (10) years of experience in the development sector in rural and urban areas of Mali and the sub-region within the technical cooperation programs for development.

  We work with national and foreign consultants of the highest level with the expert status of partners or temporary consultants.

A structure led by highly experienced professionals.

Goals:

- ✓ Sustain and support the organizations and professionals agricultural in the search for comprehensive and sustainable solutions to their problems for sustainable development;
- ✓ Working towards strengthening their capacities to enable them to better define and follow the direction of their development activities;
- ✓ Promote the establishment and strengthening of Agricultural Organizations for sustainable economic growth and good governance;
- ✓ Support the preservation of the environment and the decentralization process;
- ✓ Sustain health system development process;
- ✓ Accompany the national education policy.

SEADD shares the vision of agriculture professionalized, through the capacity building of organizations and agricultural professionals.

SEADD was assigned like mission to support and assist organizations and professionals in their agricultural development actions to improve their welfare socioeconomic and sustainable cultural development.

SEADD has a mission to support and encourage the health system in Mali.

SEADD confided a mission to support the national education policy.

Areas of intervention

- **Agriculture**
  - Agricultural Council - extension - technology transfer,
  - Training of producers,
  - Gardening

- Support for farmers' organizations to obtain the Biological certificates and fair
- Food Safety,
- Study and hydro-agricultural development / down funds & market garden perimeters.

♦ **Training / Development of capacity**

- Professional training,
- Strengthening of socio-professional organizations capacity.

♦ **Natural Resources Management / Environment**

- Adaptation to climate change,
- Renewable energy,
- Sustainable forest management - local conventions**.**

♦ **Rural Economy**

- Support to the value chains of agro forestry-pastoral dies,
- Management of merchant equipment,
- Micro – Finances,
- Assistance Services to agricultural firms: training, management tools (Business plan, operating account...),
- Study of Market; Marketing.

♦ **Health**

- Strengthening of health personnel capacity,
- Support to the organization and to development of the health system,
- Assistance to Communities on prenatal and child health.

♦ **Education**

- Support and assistance for education policies,
- Functional literacy.

♦ **Monitoring and evaluation**

- Baseline Study,
- Evaluation of projects / programs,
- Capitalization.

Coverage area

SEADD can cover the entire extended the Malian territory.

Some experiences:

SEADD has received much funding, some funding is being executed. It is:

Areas	Activities conducted	Financial partners	Date
Agriculture	Support consulting and technical training of rice production low fund of producing members of the Women's Association of Nossombougou circle Kolokani (Region of Koulikoro).	Ministry of Women Affairs	2008 - 2009
Agriculture	Support consulting and technical training of rice Nerica production of producers' members of the Women's Association of Tioribougou circle Kolokani (Region of Koulikoro).	Ministry of Women Affairs	2008 - 2009
Agriculture	Support consulting and technical training of production Nerica rice of producers' members of the Women's Association of Kanbila Kati (Region of Koulikoro).	Ministry of Women Affairs	2008 - 2009
Agriculture	Training of producers the Djiguitougou Cooperative Doumba circle Koulikoro (Region of Koulikoro), on the modern techniques of gardening and land perimeter gardening the locality.	Ministry of Women Affairs	2009 - 2010
Agriculture	Training of producers of the Cooperative Balimaya Koula, circle of Koulikoro (region of Koulikoro), on the modern technical of gardening and the perimeter layout of gardening of locality.	Ministry of Women Affairs	2010 - 2011
Agriculture	Training of producers of the Cooperative Djoulafodo, circle of Kangaba (region of Koulikoro), on the modern technical of gardening and the perimeter settlement of gardening of locality.	Ministry of Women Affairs	2012 - 2013
Agriculture	Training of producers of the Cooperative Samako, circle of Kangaba (region of Koulikoro), on the modern technical of gardening and the perimeter settlement of	Ministry of Women Affairs	2013 et 2014

	gardening of locality.		
Agriculture	Training of producers of the Cooperative Kénioroba Kangaba, circle of Kangaba (region of Koulikoro), on the modern technical of gardening and the perimeter settlement of gardening of locality.	Ministry of Women Affairs	2014 - 2015
Agriculture	The layout of 5 perimeters gardening of the region of Kayes, in the frame of irrigation project near to PAPAM.	PAPAM	2015
Agriculture	The shallows: Monitoring and control of work achievement of hydro-agricultural material in the shallows of Tienko, circle of Kolokani.	PAPAM	2015
Etude	Evaluation of the impact of extended technologies by the strategic program cotton OXFAM Great Britain.	OXFAM- Great Britain	2015
Etude	Study of the impact of program PASA-MALI 5 on the layers poor and very poor in 5 towns of Kolondieba.	OXFAM- Great Britain	2016
Agriculture	Monitoring and control of the layout work of 10 irrigated perimeter villagers for a total area of 341.54 ha in the region of Mopti in the frame of irrigation project near PAPAM.	PAPAM	2016
Natural Resources Management/ Environment	Development of the local agreement on the exploitation of natural reserves of Narena, circle of Kangaba (region of Koulikoro).	GIZ	2016
Agriculture	Agriculture Training of producers of the Cooperative Selefougou, circle of Kangaba (region of Koulikoro), on the modern technical of gardening and the perimeter layout of gardening of locality.	Ministry of Women Affairs	2016

Number of employees or members if Association (Number 08 men and women Number 05).

Nowadays, SEADD has 13 employees including 5 women. These employees are:

- An Agronomist
- An engineer Zoo technician
- A rural engineer
- Masters in Education
- An obstetrician
- A midwife
- An economist
- A Sociologist
- An administrative assistant
- 4 field facilitators including 3 agriculture technicians and 1 technician of water and forests

• II. EXPERIENCE ON PROFESSIONNAL TRAINING

SEADD is a consulting office, which achieved many vocational training activities especially in the field of agriculture. Among the many training conducted, we can remember:

Type of training	**Duration**	**Locality**	**Years**	**Number of participants**
Training in technical of rice production of low fund	9 months	Nonssombougou circle of Kolokani (Region of Koulikoro)	2008-2009	60 women
Training in technique of rice Nerica production	10 months	Tioribougou circle of Kolokani (Region of Koulikoro)	2008-2009	60 women
Training in technical of rice Nerica production	10 months	Kanbila circle of Kati (Region of Koulikoro)	2008-2009	60 women
Training on modern technical of gardening and the perimeter layout of gardening of locality.	12 months	Doumba circle of Koulikoro (Region of Koulikoro)	2009-2010	70 women
Training on modern	12 months	Koula circle of	2010-2011	70 women

technical of gardening and perimeter settlement of gardening of locality.		Koulikoro (Region of Koulikoro)		
Training on modern technical of gardening and perimeter settlement of gardening of locality.	12 months	Djoulafodo circle of Kangaba (Region of Koulikoro)	2012-2013	70 women
Training on modern technical of gardening and perimeter settlement of gardening of locality.	12 months	Samako circle of Kangaba (Region of Koulikoro)	2013-2014	70 women
Training of producer of the Cooperative on the modern technical gardening and perimeter settlement of gardening of locality.	12 months	Kénioroba circle of Kangaba (Region of Koulikoro)	2014-2015	70 women
Training of producer of the Cooperative on the modern technical gardening and perimeter settlement of gardening of locality.	12 months	Séléfougou circle of Kangaba (Region of Koulikoro)	2014-2015	70 women
Study	Evaluation of the technologies impact extended by the strategic program cotton OXFAM Great Britain.	OXFAM-Great Britain	2015	

Study	Study of the impact of PASA MALI-5 program on the layers poor and very poor in 5 towns of Kolondieba.	OXFAM-Great Britain	2016	

III. TEAM COMPOSITION AND CV MEMBERS ASSESSMENT TEAM

The study team will consist of one agronomist who works closely with investigators throughout the duration of the mission:

- **An agronomist:**

He has extensive experience in support of the value chains in the agricultural sector. He has a good knowledge of the agricultural sector in Mali. He has good experience on evaluating the effects of innovations in rural areas. He will be responsible for analyzing the results of the multiplier effects of TOPs, WADs, PTPs and impacts of training provided by EAs / CBFS on technology diffusion.

- **A team of enumerators:** This team will consist of 10 people or five per region. These people will ensure the administration of individual survey questionnaires in a sample of producers. They will be the most experienced junior consultants of the office and have experience in this activity sector.

CV Agronomist

CURRICULUM VITAE

Marital Status:

Name: TRAORE

First Name: Antoine

Nationality: Malian

Date and place of birth: March 24, 1975 in Segou

Family situation: Married father of two children

Permanent address: SEAAD-BAMAKO Mali Sokonafing

BP: 109

Phone: (00223) 76 17 64 58/(00223) 69 77 03 91

Email: seadd_mali@yahoo. FR ou traore.Antoine @yahoo. Fr

Specific Attribution:

Mr. Antoine Traore has a Masters degree in Agronomy. It has strengthened its expertise by several trainings focused on supporting the private sector and local economic development.

He began his professional activities in the NGO Helvetas Mali. Within this NGO where he was the councilor on the Biological Cotton and fair program, it has developed expertise on supporting the private sector and local economic development in the context of decentralization in Mali.

Mr. Antoine TRAORE has served as Advisor in the Society for Assistance and Development (SETADE). In this position he served on supporting the private sector and local economic development in the context of rural development through fair trade resources FRAIR-TRADE.

He was the team leader of the study Society and development assistance (SETADE) in the Bougouni area on supporting the private sector and local economic development through social investment in the agricultural field.

It was the supervisor of Mobiom in the area of the office of the Upper Niger Valley in the framework of support to Agricultural cooperatives involved in the fair trade for the development of the local economy.

He was also responsible for Monitoring and Evaluation in the MOBIOM in the context of supporting the private sector and local economic development.

He worked with NGOs on training producers of the Office du Niger on modern technical of market gardening. He often worked with the office Agro-services as a consultant.

He is the General Director of the SEADD (Society for the Study and Assistance for Sustainable Development).

Main qualifications:

- Designing and installing monitoring and evaluation of development projects;
- Adult training;
- Training on gardening techniques;
- Training on the agricultural private sector;
- Training on the development of the local economy;
- Training Language in Bambara.

Projects or Internship:

- Monitoring Support Council (SAC)
- Management Board to the Agricultural Operations (CDG)
- Technical communication and facilitators
- Agricultural Processing Technique
- Nutrition
- Management and cooperative life
- Training on Gender.

Professional Activities:

- January 2015: Director of the Society for the Study and Assistance for Sustainable Development (SEADD);
- May 2010: In charge of Monitoring and Evaluation at the Malian Organic Movement (MOBIOM);
- February 2008: Supervisor of the Malian Organic Movement (MOBIOM) in the area of the office of the high valley of Niger;
- February 2006: Team leader of the Bougouni area Account Company of the study and assistance for development (SETADE);
- April 2005: Adviser to the Company study and assistance for development (SETADE);
- February 2005: Advisor at Helvetas-Mali on organic and fair trade cotton program;
- January 2005: Agronomist operating on the organic market gardening in the laboratory of Biology arthropods and IPM IPR / IFRA Katibougou.

Services provided and other activities

2016 External final evaluation of the project "Global Support to local agricultural production of rice cooperatives in the urban commune V of Niamey (Niger)/"Tragsa" Niamey - 2016 - Funding for Spanish Cooperation – AECID.

2015 Studies and exchanges of experiences in the frame on adaptation of agriculture to climate change in Benin, Burkina Faso and Mali - Project Adaptation

Agriculture to Climate Change Project / PACC - GIZ / Benin - July 2015.

2015 Seed supply and supervision of market garden producers Geniebe cooperatives Kendje, Dialloubé, Bambagoumba, region of Koulikoro in Mali - Permanent Assembly of Chambers of Agriculture of Mali - APCAM / PAPAM.

2014 External Evaluation of Project CTARS (Marketing and Anacarde Processing in the region of Sikasso) - Financing TRAGSA/Spanish Cooperation AECID – 2014.

2014 "Evaluation of production, food consumption and nutritional status of family farms in Irrigation and prospects for improvement at the sites developed by the program Support to Sub-Sector of Irrigation Proximity - PASSIP / GIZ ".

2013 Evaluation of the 2012 Action Plan and Conduct of developing process the 'Strategic Plan 2013-2017' of the Network of West African Agricultural Chambers' RECAO "(grouping the Chambers of Agriculture of Benin, Burkina Faso, Ivory Coast, Guinea, Mali, Niger and Togo).

2011 Evaluation of "Income Improvement Project of farms by the valuation of the potato sector in the region of Sikasso".

2009 Evaluation of the farmers' organizations capacity building program for sustainable economic development of the Boucle du Mouhoun region of Burkina Faso.

2008 Training of actors Project "Biodiversity Conservation and Elephants Gourma" on the inter community project management (project carried out in a partnership framework between Burkina Faso and Mali in the geographical area of Gourma).

2007 Participation in the process of capitalization of experiences of HELVETAS Swiss Intercoopération for tracking - evaluation of basic productive infrastructure projects in Cameroon (Bamenda, north-west Cameroon).

Written and spoken languages:

Languages	Bambara	French	English
Spoken	Fluent	Fluent	Proficient
Written	Fluent	Fluent	Proficient

IV. METHODOLOGY

A. UNDERSTANDING OF THE CONTEXT AND THE PURPOSE OF THE STUDY

SAA is an organization that has been active for over 30 years in ten countries in sub-Saharan Africa. In 2007 she embarked on a strategic plan development process and now it implements this plan 2012 - 2016 in four countries: Ethiopia, Mali, Nigeria and Uganda. The Strategic Plan is redefine the vision, mission and objectives of SAA, and details what the organization intends to achieve in five years, and how it expects to achieve its objectives.

The strategic goals of SAA are now heavily focused on food security through:

- The establishment of efficient learning platforms to improve the productivity of the food system of small farmers, especially for poor women producers
- Support to small farmers Agricultural obtaining a greater proportion of the economic benefits inherent in agricultural value chains.

- Promotions of Public-Private Partnerships that financially support the delivery of extension services and enhance access to profitable markets.
- Consolidation of agricultural extension systems through capacity building of extension agents and Agricultural farms to accelerate agricultural productivity and create more competitive value chain.
- The establishment of an information management system and knowledge to change and change of technologies and approaches, improve efficiency and impact and disseminate lessons learned and best practices for possible evidence taken decisions.

With the restructuring, SAA is currently working on five major themes in the four countries mentioned above, through the SG 2000 programs planned for the period 2012 -2016:

1) Theme 1: Strengthening productivity of crops (RPC)
2) Theme 2: Management Post Harvest and Processing Food (GRRTA)
3) Theme 4: Public-Private Partnerships & Market Access (PPP & AM)
4) Theme 4: Human Resource Management (HRM), and
5) Theme 4: Monitoring, Evaluation, Learning and Sharing (SEAP).

The implementation of the SG 2000 program have been completed, nearly 80% of the scheduled period, it is then necessary to measure the multiplier effect of TOPs, WADs, PTPs and impact of training provided by EAs / CBFS on disseminating technology.

Based on the information that will be collected from direct and indirect actors, exchanges and direct observations, analyzes will be used to achieve the expected results of the study.

In remark, we believe that TOR is very clear and gives enough precise information about the working methodology to develop

B. METHODOLOGICAL APPROACH:

The study will be organized around four main functions:

- The structure of the study (focused on work organization and formulation of a methodology and research questions that will be approved by the sponsor);
- The collection of quantitative and qualitative data;
- Analysis of the information collected;
- The judgment leading to the formulation of findings, conclusions.

The evaluation team provides a participatory approach, consistent and iterative which will involve all stakeholders as outlined in the terms of reference.

During the process of the study, a very close link will be maintained with the SEAP team and Country Direction and staff of thematic1.

Process steps:

The different phases of the study will be harmonized with the SEAP team. We give details in relation to each stage. These proposals are flexible and can be slight changes in consultation with the sponsor.

Preliminary phase:

It will clarify with the logistical and organizational issues.

Documentary phase

It will collect all the information that can help the team to drive the process towards the achievement of expected results. A thorough knowledge of the thematic 1, its implementation context and its partners is needed at the beginning of the study. The aim of this documentary phase is:

- Refine the working methodology
- Prepare the information collection tools
- Agreement on a detailed planning with the SEAP and the team of the first theme
- Identify the actors to meet.

The main activities:

- The literature review
- Holding the scoping meeting with the SEAP
- The completion of data collection tools
- Sampling and selection of targets to investigate

Field phase

Before to proceed the administration of tools of large scale collection, the team will conduct:

- The training of enumerator gathering tools
- The tools test for collecting on the field
- The evaluation of the test and finalization of tools

The collection of actual data will be conducted on the field and at many levels. It involves the collection of information, material to fill in the fields of study and conduct the analysis according to the criteria of study as identified in the ToR.

Tools will be applied at the individual scale and / or focus group.

Main activities of field phase

- Individual interviews and focus groups in the intervention areas of the project
- Case studies, conducted in order to document situations to illustrate important facts. Cross cutting issues will be special attention.

The synthesis phase

Analysis of field survey results will occur at the end of the field stage. The analysis of each data gathered will follow the data processing stages, exploration, explanation, confirmation, before being converted to findings after cross checking of sources. The findings will be subject to judgment (door on the merits of the intervention) to be converted into conclusions. Each issue of the study will be answered.

So on this methodological basis, the evaluation team will provide the findings to the SEAP team. His report will consider the proposed framework and discussed beforehand with the sponsor. Each of the team members according to their specialty and experience will contribute to the analysis and interpretation of results.

A first version of "Draft" report will be submitted to the consultant, to enable him to give his observations, comments and proposed amendments before. These feedbacks will be treated to ensure their inclusion in the final report.

Main activities of synthesis phase:

- Counting, analysis, data interpretation
- Writing of Interim Report
- Presentation of Interim Report
- Reviewing of the report by the SEAP team
- Fixed and finalization after checking the SEAP team

C. STUDY ACTIVITIES TIMEFRAME AND WORK PLAN

STUDY ACTIVITIES TIMEFRAME

Activities	Number of days
A. Meetings (Within SEADD 1 day and with SG 2000 staff 1 day)	02
B. Literature review	03
C. Development of data collection tools and test	05
D. Enumerators training	02
E. Data collection process (we choose 10 days because during raining season, some villages are not well accessible as well as	08

certain producers)	
F. Data Entry, Analysis and Interpretation	10
G. Draft report and validation	05
H. Final report	03
Total	38