

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ
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DEPARTMENT OF AGRIC EXTENSION AND RURAL DEVELOPMENT

:SIMINAR

**WSDC Extension Activities Impact On Change of
Technical Practices Of Sorghum Crop**

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:Back ground

The area/1

The people/ 2

The project/ 3

Life problem :

- 1/ Low sorghum productivity and soil degradation .
- 2/ Western savannah development project .
- 3/ Existing situation .

Research problem :

Attempt to investigate to what extend (WSDC) has succeeded to attain prescribed objectives of extension activities through bringing change on farmers knowledge ,and practices towards the use of improved sorghum seeds recommended technological

Research Objectives :

The main objectives of this study :

1/To identify different components of the technological packages developed by extension activities for improving the productivity of improved sorghum seeds cultivated in traditional rain fed and wadi.

2/ To examine how the extension activities executed by the (WSDP) Changed the farmer knowledge and practices of improved sorghum seeds in the project

3/ To assess the extent of exposure of farmers to extension activities & information sources of communication channels & analyze the factors that effect farmers exposure to extension .

4/ Identifying some relative advantages of the innovations & the dependency of change knowledge & practices of recommended technological packages of improved sorghum seeds on these relative advantages .

Hypotheses



The general hypothesis :

Extension activities executed by the project in the area about (recommended technological packages) did not influence knowledge and practices of farmers .

a/ The demographic characteristics of farmers did not influence adoption of recommended technological practices of improved sorghum seeds in the project area.

:Independent variables

A/ Demographic Characteristics of :Farmers

Sex. 1

Age.2

Occupation pattern. 3

level of education.4

Household income. 5

Family size.6

Marital status.7

:dependent variables

Change in knowledge and : practices of farmer

Use of improved sorghum seeds / 1
varieties

Seed rate/ 2

Sowing date/ 3

Spacing or distance between / 4
holes

Seed dressing or pesticides/ 5

Supplementary irrigation/ 6

Thinning/ 7

Harvesting time/ 8

B/ Relative Advantages of the Innovations

.Accessibility of inputs to farmers/ 8

.Degree of complexity of innovation/ 9

The effort / 10

Research Methodology :

1/Field survey was carried as research method.

2/ Sampling procedures :

Population – Sample size – Sample selection (A multi - stage satisfied random sampling procedures will employed for selection .

2/ Data collection procedure:

Primary data : Questionnaire

Secondary data : Institutional sources and others.

3/ Data analysis : SPSS / Chi square test

District (Strata)	Rural council	Extension villages	Selected extension villages from each selected rural council
Central District	South west Nyala East Nyala North Nyala Kass	Sania Dliba- Abu El Gora- Bobaia Dresssa- Gusa . enjamat Shairia- Agilairi- Lubdo. Mershing- Gorugh- Adwa Shattaia- Buwrenga- Khrwu	Sania Dliba Agilairi Mershing Shattaia
South West District	Idd Elfursan Katilla Rehaid Albirdi Kubum	Um Janah- Nourli- Harira- .Dargala Anticana- Haraza- Khor shmam- Adeira. Towal- Ed Ilagoal- Garli- Um Labassa Hassabella- Soulang- Damba-	Um Janah Haraza Um Labassa Damba
Southern District	Buram Guereida Tullus Radom	Wad Haggam Amurgo- .Koira- El Jura Dito- Donki Abiad- El Gokhana- Sukara- Rajaj- Sargila- Ligadiba- Sungo.	Wad Haggam Dito Rajaj
Eastern District	Ed Daein Furdus Adila Abu Matariq	Angabo- Asalaia- Umdai Abu Sanuwra- El Reiad. El Musrob- Abu Karinca- Kerio- Feara El Hebil.	Asalaia El Reiad

Table 3.2 : Selected member's participants in extension villages and non participants from each selected extension villages

Selected extension villages from each selected rural council	Number of selected participants members from each stratum	Number of selected non participants members from each stratum
Sania Dliba	12	12
Agilairi	10	10
Mershing	10	10
Shattaia	10	10
Um Janah	10	10
Haraza	10	10
Damba	10	10
Um Labassa	10	10
Wad Haggam	10	10
Dito	10	10
Rajaj	10	10
Asalaia	10	10
El Reiad	10	10
Total	132	132

Table 4.4: Frequency distribution and percentages of participants & non participants by occupation

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Farmer	98	74.2	90	68.2
Farmer + Employee	20	15.2	26	19.7
+Farmer Business person	4	3.0	14	10.6
+Farmer Rural artisan	10	7.6	2	1.5
Total	132	100.0	132	100.0

Source: Data analysis 2006

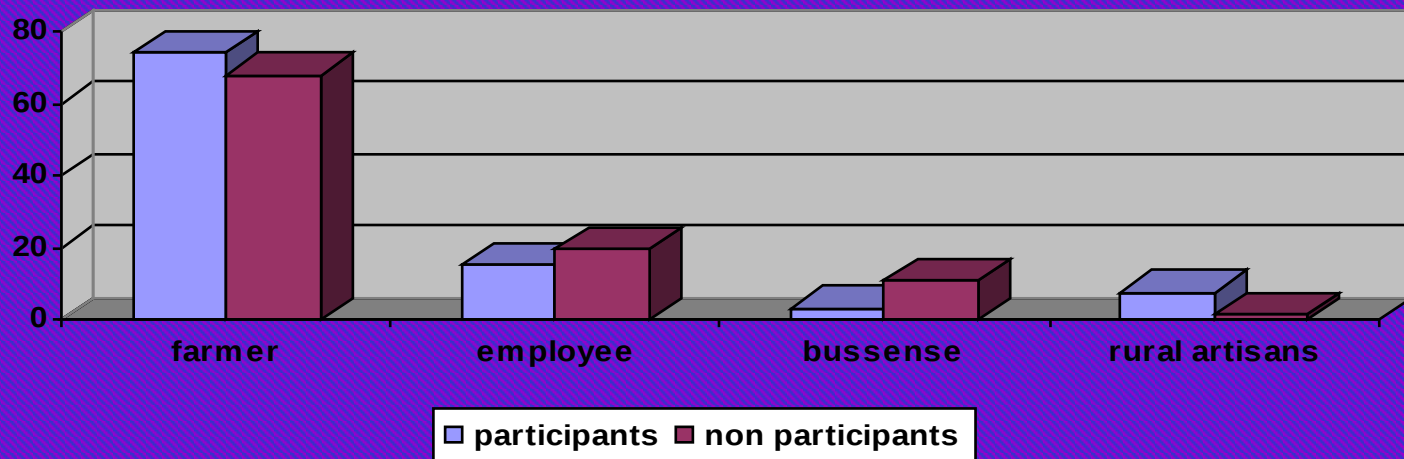


Table 4.5: Frequency distribution and percentages of participants & non participants by level of education

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Illiterate	25	19.0	30	22.7
Khalwa level	55	41.7	48	36.4
Formal general education	39	29.5	40	30.3
University and above	13	9.8	14	10.6
Total	132	100.0	132	100.0

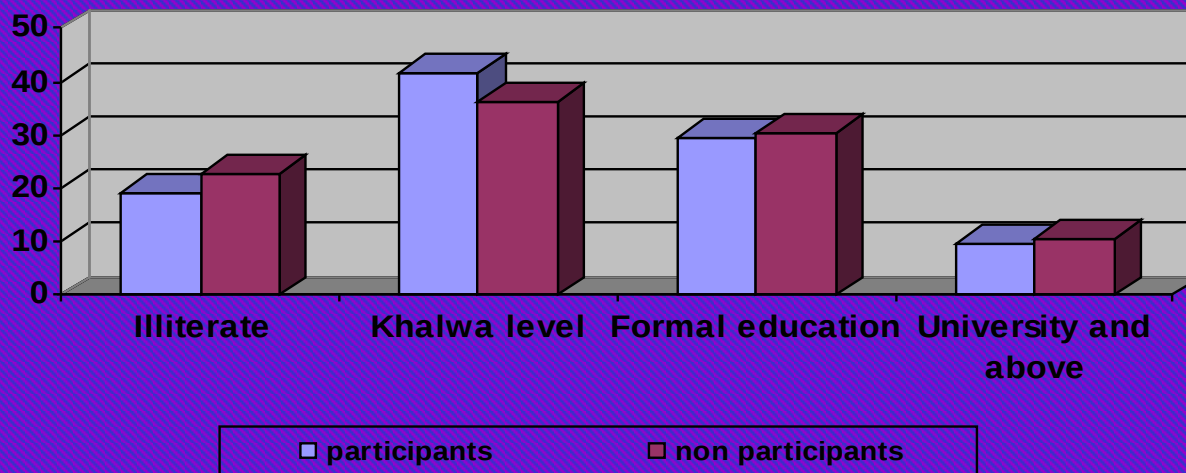


Table 4.23: Frequency distribution and percentages of participants & non participants by adoption of recommended improved sorghum seeds

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	97	73.5	86	65.2
Did not adopt	35	26.5	46	34.8
Total	132	100.0	132	100.0

Source: Data analysis 2006

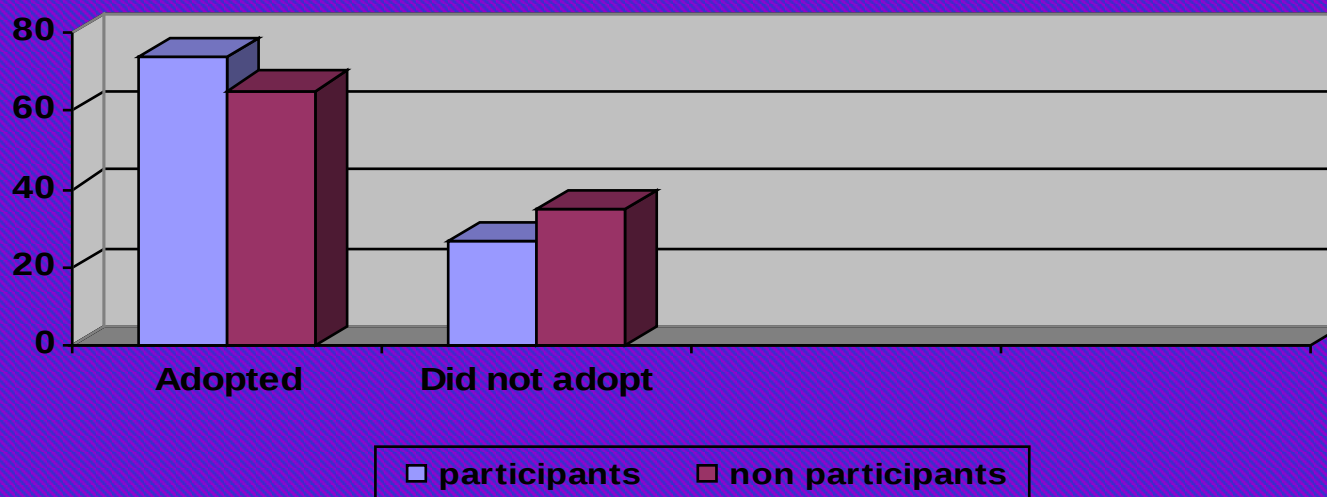


Table 4.24: Frequency distribution and percentages of participants & non participants by adoption of recommended improved sorghum seeds sowing date

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	77	58.3	75	56.8
Did not adopt	55	41.7	57	43.2
Total	132	100.0	132	100.0

Source: Data analysis 2006

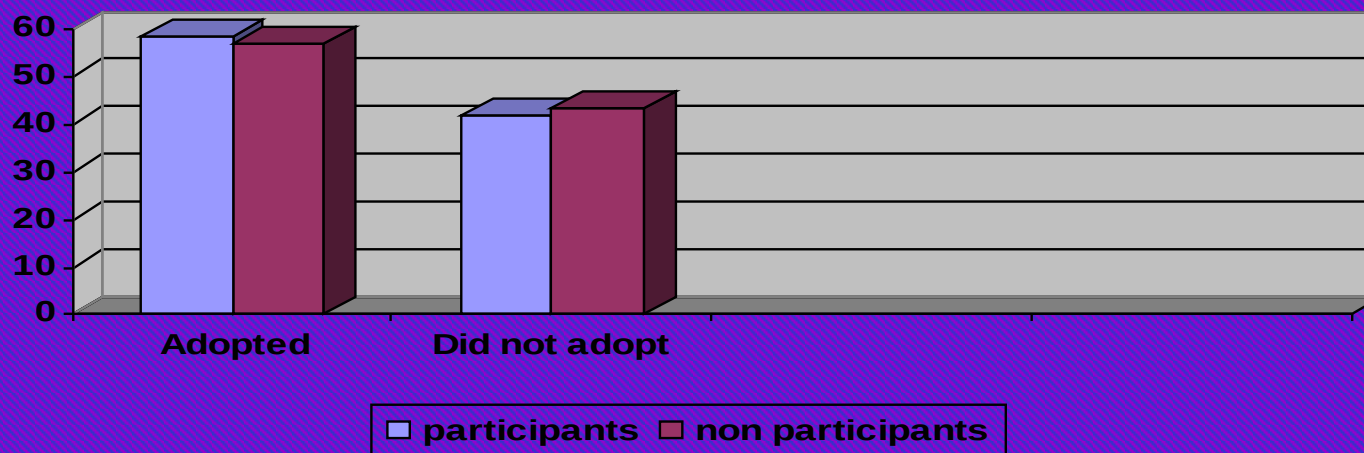


Table 4.25: Frequency distribution and percentages of participants & non participants by adoption of recommended improved sorghum seeds spacing or distance between holes

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	68	51.5	55	41.7
Did not adopt	64	48.5	77	58.3
Total	132	100.0	132	100.0

Source: Data analysis 2006

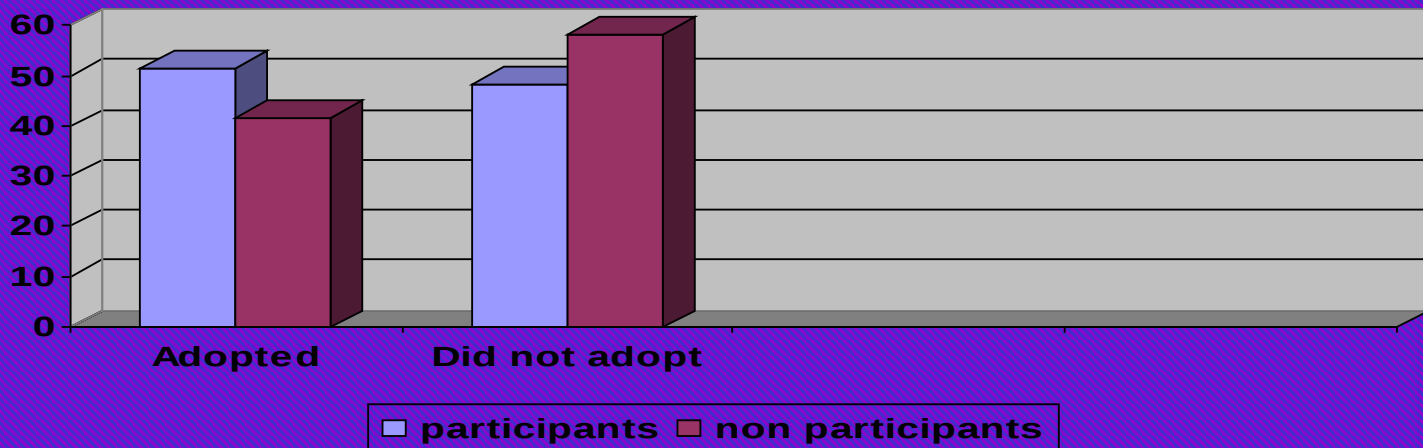


Table 4.26: Frequency distribution and percentages of participants & non participants by adoption of recommended improved seeds rate

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	72	54.6	50	37.9
Did not adopt	60	45.4	82	62.1
Total	132	100.0	132	100.0

Source: Data analysis 2006

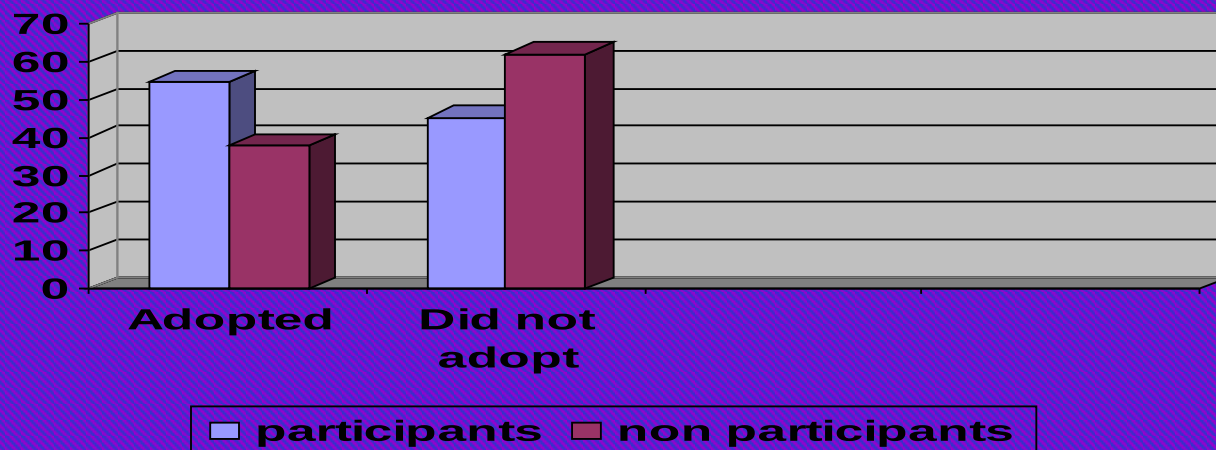


Table 4.28: Frequency distribution and percentages of participants & non participants by adoption .seeds dressing or pesticides

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	96	72.7	94	71.2
Did not adopt	36	27.3	38	28.8
Total	132	100.0	132	100.0

Source: Data analysis 2006

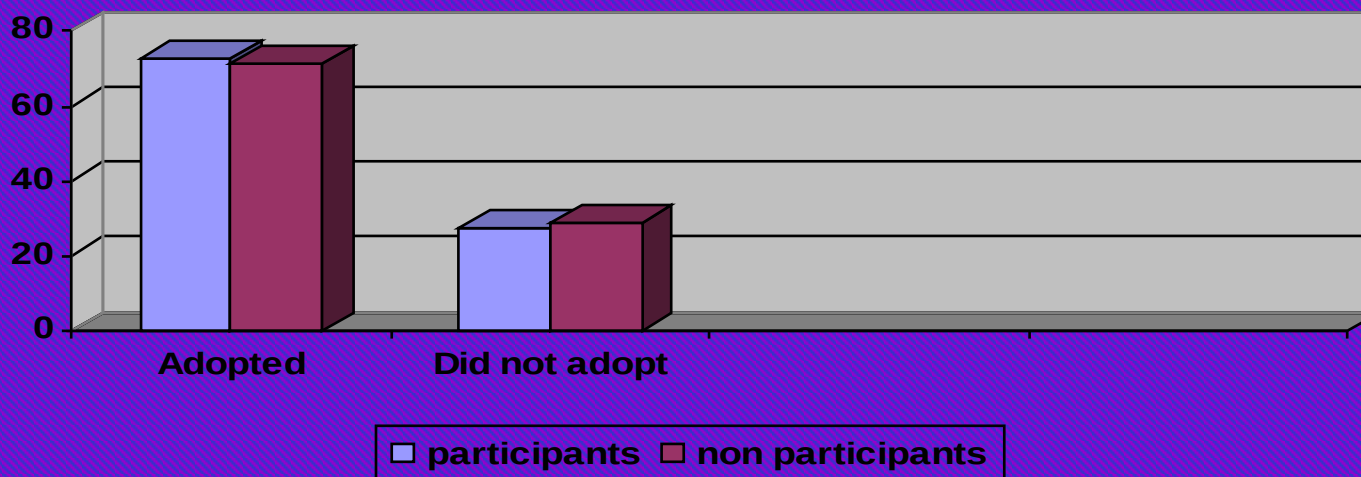


Table 4.30: Frequency distribution and percentages of participants & non participants .by adoption of recommended improved seeds sorghum harvesting time

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	91	68.9	81	61.4
Did not adopt	41	31.1	51	38.6
Total	132	100.0	132	100.0

Source: Data analysis 2006

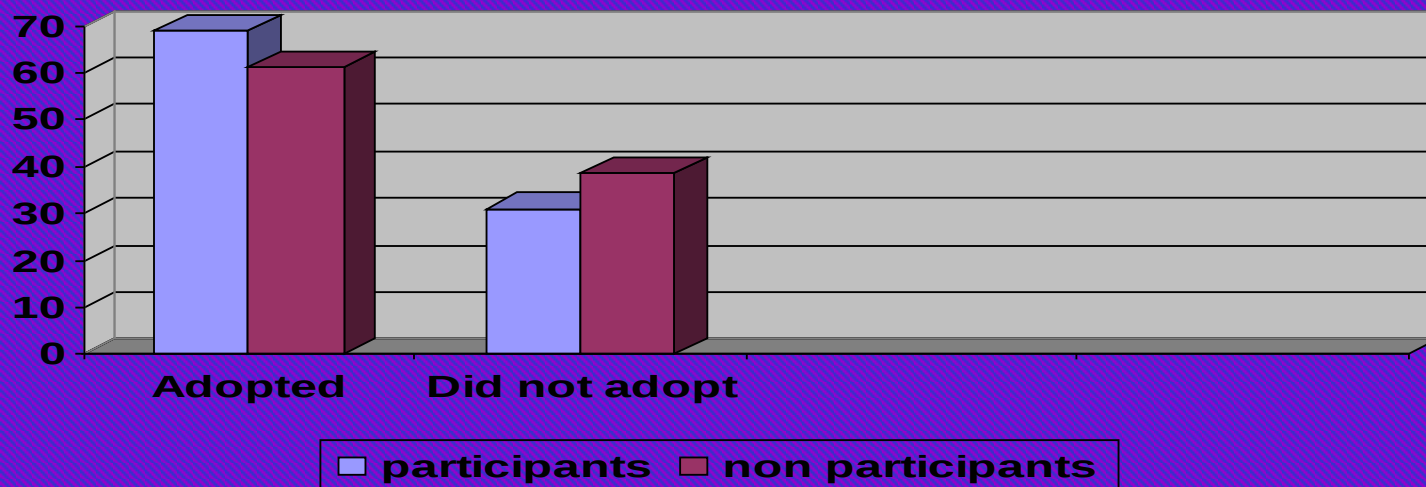


Table 4.27: Frequency distribution and percentages of participants & non participants by .adoption of recommended improved seeds sorghum supplementary irrigation area

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	24	18.2	22	16.7
Did not adopt	108	81.8	110	83.3
Total	132	100.0	132	100.0

Source: Data analysis 2006

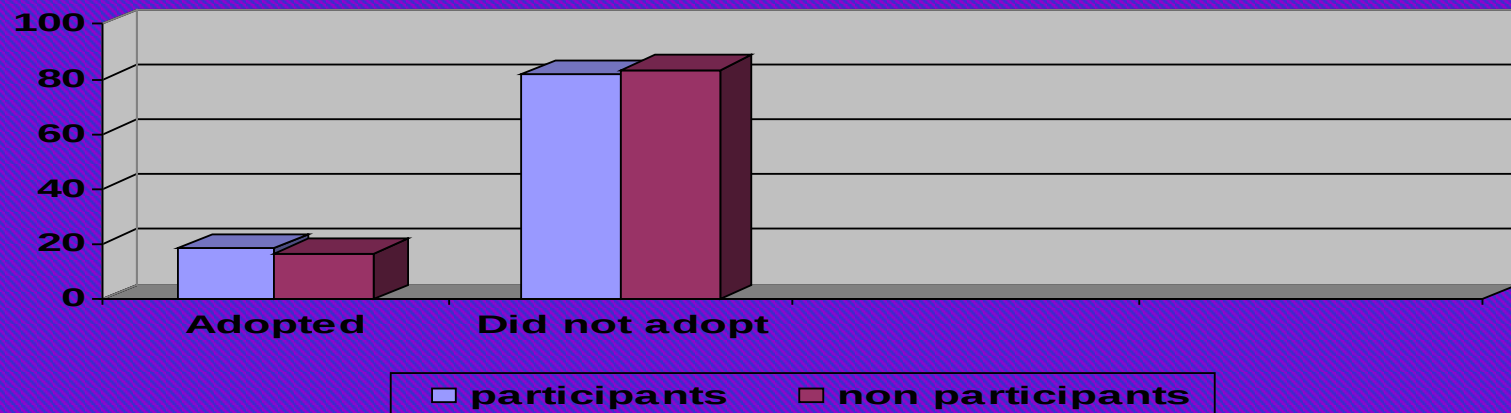


Table 4.29: Frequency distribution and percentages of participants & non participants by adoption of recommended improved seeds sorghum thinning

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Adopted	26	19.7	17	12.9
Did not adopt	106	80.3	115	87.1
Total	132	100.0	132	100.0

Source: Data analysis 2006

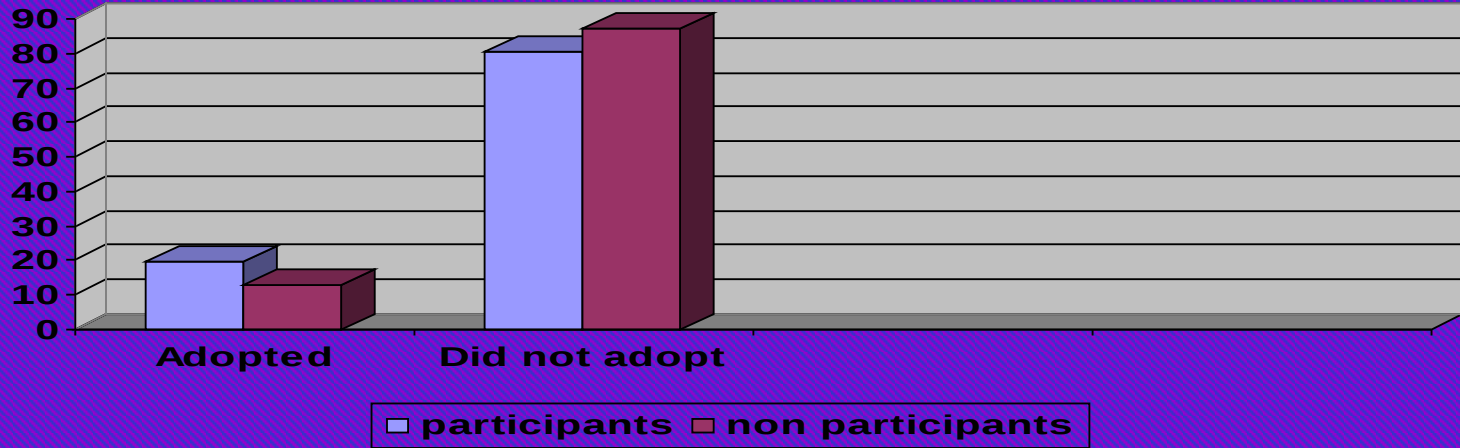


Table 4.16: Frequency distribution and percentages of participants & non participants by accessibility to inputs of improved sorghum seeds

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Found and possible to purchase it	29	22.0	20	15.2
Found in market and impossible to purchase it	96	72.7	88	66.6
Not found in market	7	5.3	24	18.2
Total	132	100.0	132	100.0

**Source: Data analysis
(2006)**

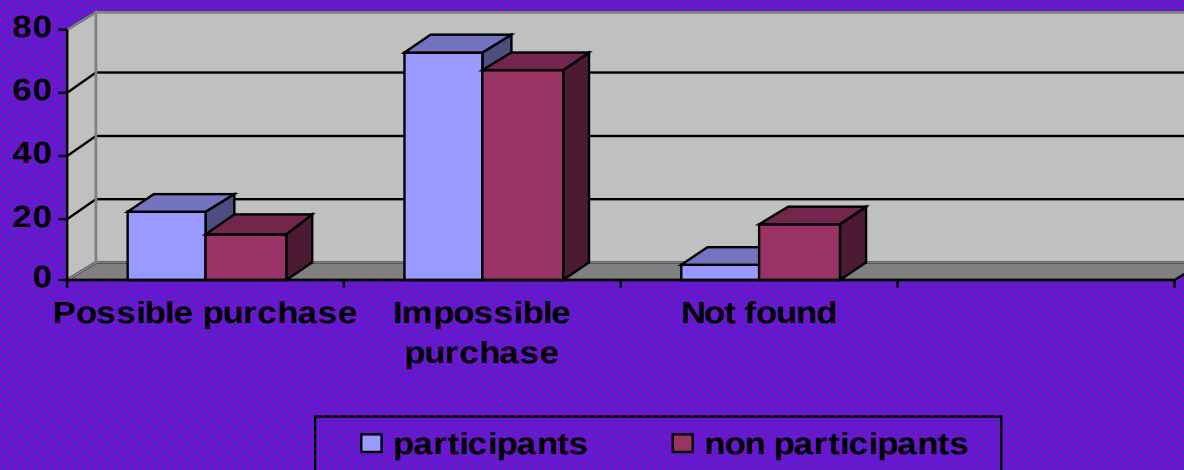


Table 4.22: Frequency distribution and percentages of participants & non participants by the confidence on recommended improved sorghum seeds

	Participants		Non participants	
	Frequency	Percentage	Frequency	Percentage
Did not know	1	0.8	4	3.0
No confidence	8	6.1	22	16.7
Some confidence	30	22.7	28	21.2
High confidence	93	70.4	78	59.1
Total	132	100.0	132	100.0

Source: Data analysis 2006

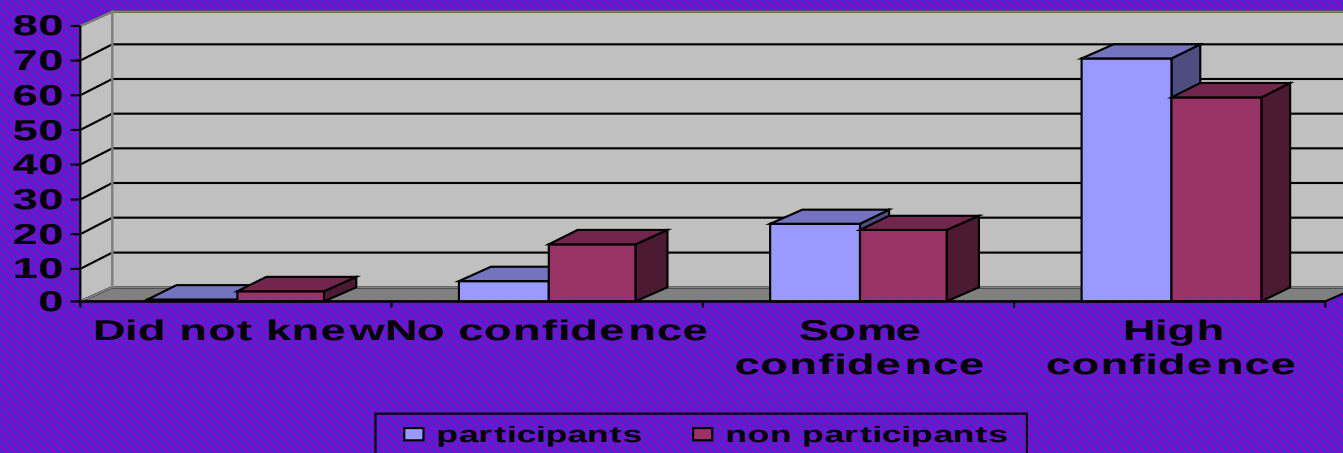


Table 4.31: Frequency distribution and percentages of participants & non participants by .improvement in production due to adoption of project technologies

	Participants		Non participants`	
	Frequency	Percentage	Frequency	Percentage
Big improvement	0	0	0	0
Some improvement	60	45.4	51	38.6
Did not change	59	44.5	69	52.2
Some reduction	6	4.5	4	3.0
Big reduction	8	6.1	8	6.1
Total	132	100.0	132	100.0

)Source: Data analysis (2006

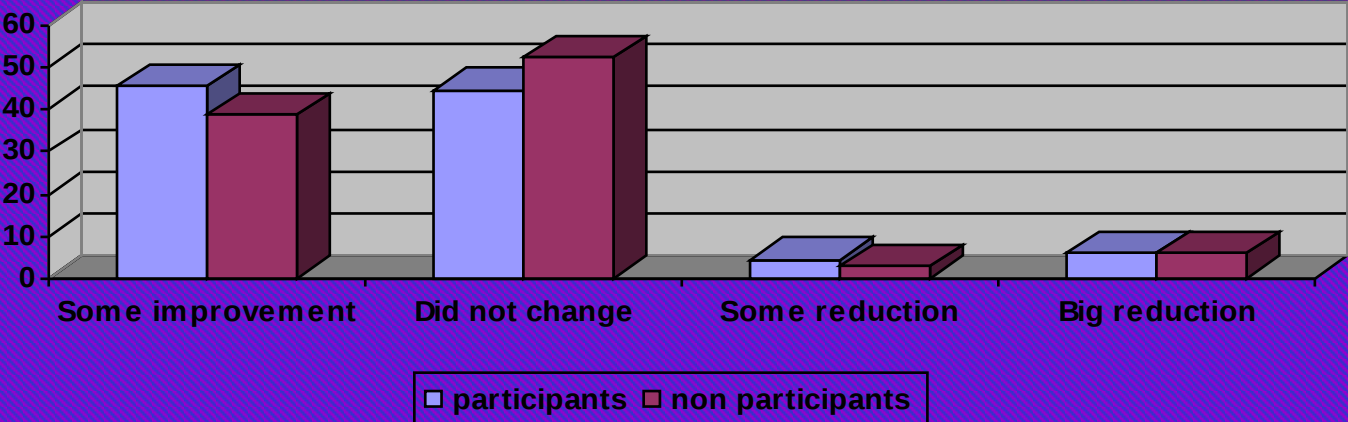


Table 4.32: Frequency distribution and percentages of participants & non participants by the major source of agricultural information or communication channels

	Participants		Non participants`	
	Frequency	Percentage	Frequency	Percentage
Nothing	20	15.2	26	19.7
Mass media	31	23.5	14	10.6
Extension agents	61	46.2	42	31.8
Group leaders	6	4.5	8	6.1
Farmer neighbors	14	10.6	42	31.8
Total	132	100.0	132	100.0

)Source: Data analysis (2006

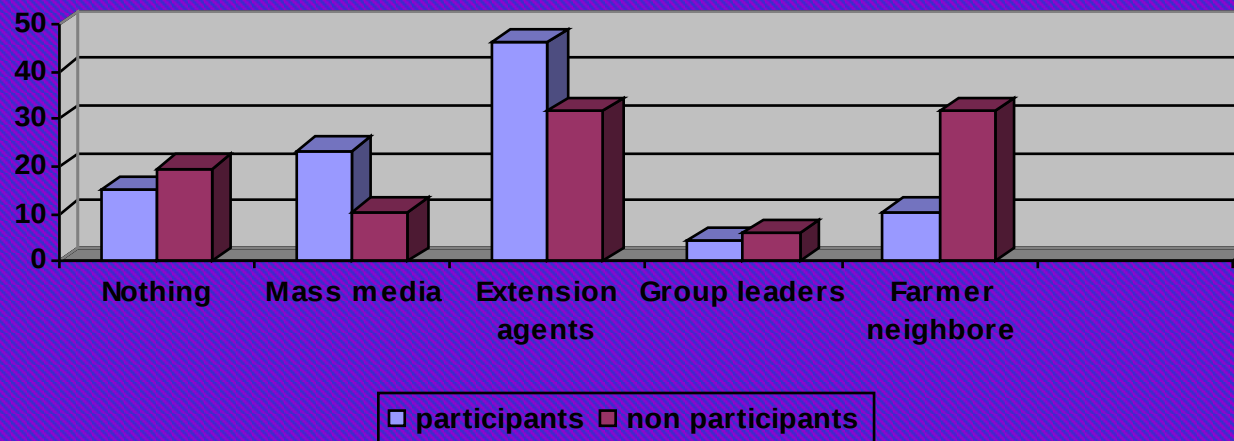


Table 4.36: Chi-square tests for knowledge of some technical package components of recommended improved seeds by sex

Component	Level of significance within each groups		Results
	participants	Non participants	
Knowledge of recommended improved seeds	0.284	0.584	No significant differences for both groups
Knowledge of recommended sowing date	0.220	0.103	No significant differences for both groups
Knowledge of recommended supplementary irrigation	0.294	0.478	No significant differences for both groups
Knowledge of recommended seed dressing or pesticide	0.527	0.935	No significant differences for both groups
Knowledge of recommended harvesting time	0.006	0.009	Significant differences for both groups

)Source: Data analysis (2006

Table 4.40: Chi-square tests for knowledge of some technical package components of recommended improved seeds by degree of complexity of usage

Component	Level of significance within each groups		Results
	participants	Non participants	
Knowledge of recommended improved seeds	0.014	0.376	Significant differences for participants only
Knowledge of recommended sowing date	0.039	0.392	Significant differences for participants only
Knowledge of recommended supplementary irrigation	0.004	0.009	Significant differences for both groups
Knowledge of recommended seed dressing or pesticide	0.007	0.171	significant differences for participants only
Knowledge of recommended harvesting time	0.174	0.213	No significant differences for both groups

)Source: Data analysis (2006

Table 4.44: Chi-square tests for adoption of some technical package components of recommended improved seeds by sex

Component	Level of significance within each groups		Results
	participants	Non participants	
Adoption of recommended improved seeds	0.935	0.638	No significant differences for both groups
Adoption of recommended sowing date	0.266	0.753	No significant differences for both groups
Adoption e of recommended supplementary irrigation	0.763	0.843	No significant differences for both groups
Adoption e of recommended seed dressing or pesticide	0.703	0.614	No significant differences for both groups
Adoption of recommended harvesting time	0.008	0.258	Significant differences for participants only

)Source: Data analysis (2006

Table 4.48: Chi-square tests for adoption of some technical package components of recommended improved seeds by degree of complexity of usage

Component	Level of significance within each groups		Results
	participants	Non participants	
Adoption of recommended improved seeds	0.004	0.915	Significant differences for participants only
Adoption e of recommended sowing date	0.070	0.166	No significant differences for both groups
Adoption of recommended supplementary irrigation	0.024	0.003	Significant differences for both groups
Adoption of recommended seed dressing or pesticide	0.002	0.506	Significant differences for participants only
Adoption of recommended harvesting time	0.003	0.152	Significant differences for participants only

)Source: Data analysis (2006

The most important of the findings:

- 1/ Higher percentage of Participating farmers compared to non Participating knew and adopted some of recommended improved sorghum crop technological package.**
- 2/ The extension activities executed by the project successfully advocated the sowing of sorghum by making better use of recommended seeds varieties, seeds rate, sowing date, seeds spacing, seeds dressing , harvesting time, while it was weak in advocating the use of recommended supplementary irrigation, thinning,.**
- 3/ Extension agents were the main source of information for adopters of sorghum innovations and had generally positive impact .on changing behavior of the farmers**

The most important Recommendations: •

1/Reasonable number of extension agents should be maintained for effective messages to become available to vast majority of farmers in the project area.

2/Extension activities may involve more progressive farmers as linkage farmers passing on ideas and messages to other farmers.

3/ Federal and State governments may seek foreign financier or donor to support the activities of the programme.

4/Both extension and research may get involved in joint strategy of research and technology development and transfer to emphasis on research on farmer's field.

5/The adaptive research programme need to take into consideration the understanding of the local farming systems .and their inherent constrains

**Although there is still need to search the reason which it was/ 6 •
weak in advocating the use of recommended supplementary irrigation so the study recommends that research in the future .must be conducted to reveal the reasons behind that**

The end