

Food Security Research Project /Michigan State University.

Sustained use of CF practices among small &
medium scale farmers in Zambia

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Introduction

- Agriculture is the main source of income
- Govt aims to seek for an efficient, competitive & sustainable agriculture sector
- CF promotion started early 1990s

Research questions

- % of agric hh adopting the CF practices
- Of those adopting, who are sustaining adoption?
- R/ships of sources & levels of income, human resource & geographical X-tics

Data Used in the study

- Panel data (2000/01 & 2002/03)
- Hhs were nationally represented
- Size of the sample is 5342 hh.
- Since target efforts have been made may not fall within the sample frame.

Methods and Procedures

Model 1: New Adopters vs Non-adopters		
Type	2000/01	2002/03
New Adopters	No	Yes
Non-adopters	No	No

Cont'd Methods & procedures

Model 2: Sustained Adopters vs Disadopters		
Type	2000/01	2002/03
Sustained adopters	Yes	Yes
Disadopters	Yes	No

- Simple frequencies will be used in both models to determine the r/ships.

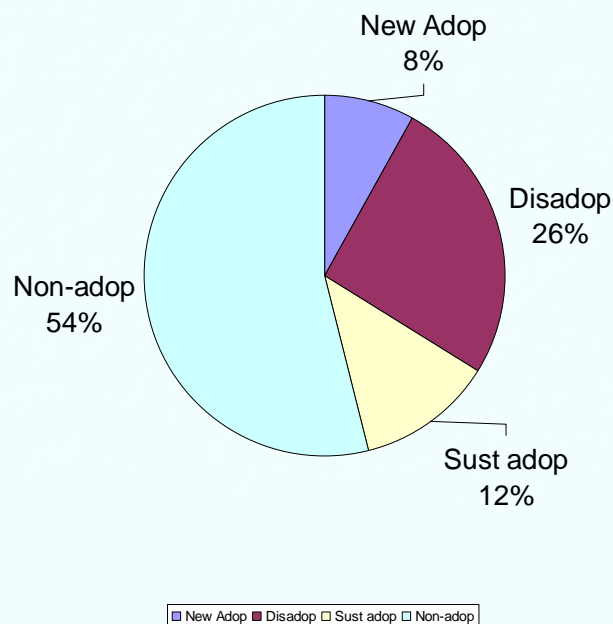
Categories of farmers by CF Practice

	Imf	Incr	Crro	Cres	Pba	Rip
	% of households					
New Adop	0.9	8	32	12	2.1	1
Disadop	8.8	26	8	37	7.7	Na
Sust adop	0.2	12	44	14	0.2	Na
Non-adop	90.1	54	16	37	90	99

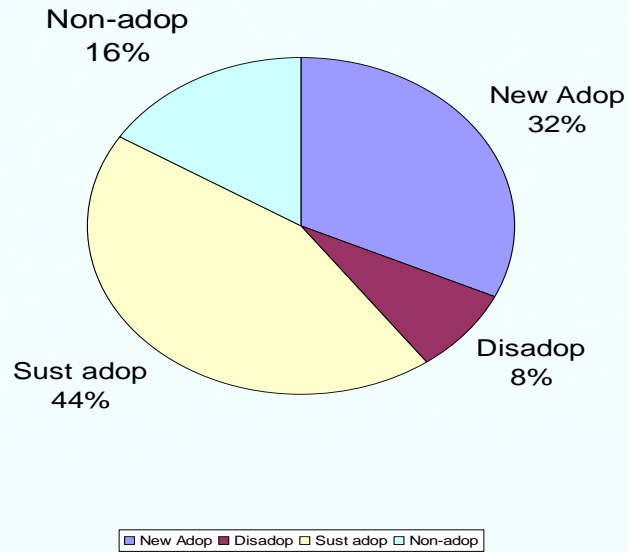
Sample 5342

Source: 00/01 & 02/03 Supplemental Survey data sets

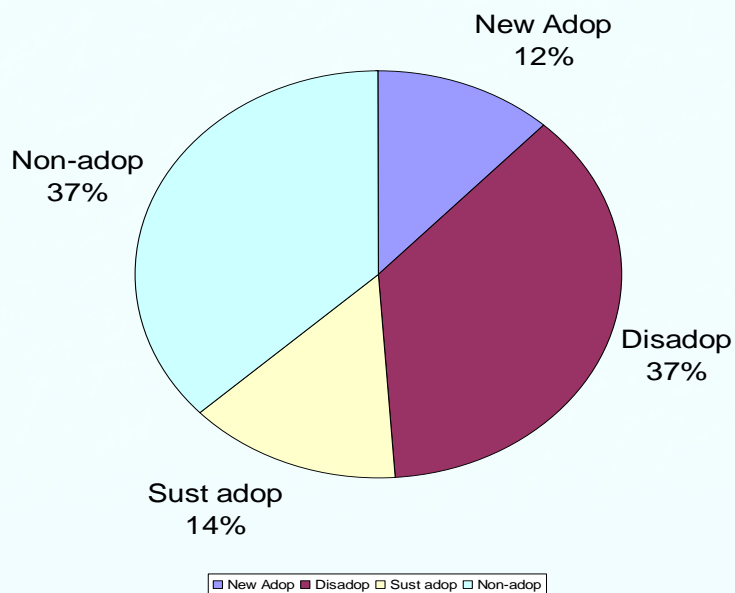
Categories of farmers on Intercropping practice



Categories of farmers on crop rotation practice



Categories of farmers on Leaving crop residues practice



Distribution of categories of hh by Agro-Ecological zones

	IMF			INCR			CRRO		
	I	II	III	I	II	III	I	II	III
	% of hh			% of hh			% of hh		
New adop	4	53	43	11	24	65	9	37	54
Disado	9	52	39	6	47	47	15	52	33
Sust. Adop	16	47	37	5	12	83	4	57	39
Non-adop	9	47	44	10	60	30	17	45	38

Source: 00/01 & 02/03 Supplemental Survey data sets

Cont'd distribution categories of hh by Agro Ecological Zones

	CRES			PBAS			RIP		
	I	II	III	I	II	III	I	II	III
	% of hh			% of hh			% of hh		
New adop	8	56	36	4	50	46	21	79	0
Disado	10	48	42	14	56	30	na	na	Na
Sust. Adop	12	55	33	20	53	27	na	na	Na
Non-adop	6	43	51	8	47	47	12	85	3

Source: 00/01 & 02/03 Supplemental Survey data sets

Percent of New adopters & Non-adopters

	IMF			INCR			CRRO		
	#	Ado	Non	#	Ado	Non	#	Ad	Non
	% of hh			% of hh			% of hh		
ACE I	483	0.5	99.5	411	13.4	86.6	352	52.3	47.7
ACE II	2252	1.1	98.9	1797	5.4	94.6	999	37.2	37.2
ACE III	2128	1.0	99.0	1083	23.0	77.0	1222	74.7	25.3

Source: 00/01 & 02/03 Supplemental Survey data sets

Cont'd Percentage of New adopters and Non-adopters

	CRSE			PBA		
	#	Ado	Non	#	Ado	Non
	% of hh			% of hh		
ACE I	191	29.0	71.0	468	1.1	98.9
ACE II	1171	28.3	71.7	2256	2.6	97.4
ACE III	1231	17.7	82.3	2197	2.4	97.6

Source: 00/01 & 02/03 Supplemental Survey data sets

Characteristics of New adopters & Non adopters

	IMF		INCR		CRRO	
	Adop	Non-ad	Adop	Non-adop	Adop	Non-adop
Mean age	52	48	49	48	48	48
Business %	19	20	26	18	17	22
Employed %	4	16	19	16	19	15
Chron ill %	8	10	8	9	11	9
Hh mean #	6	6	6	6	6	5
Lab force	3	3	3	3	3	3
MDR	0.81	0.98	0.96	0.98	0.97	0.92
HH income (ZK 000)	1084	1144	1158	1189	1391	770
Land cult	1.27	1.22	1.25	1.22	1.22	0.83

Source: 00/01 & 02/03 Supplemental Survey data sets

Cont'd characteristics of New adopters & Non adopters

	CRSE		PBA	
	Adop	Non-ad	Adop	Non-adop
Mean age	48	48	50	48
Business %	17	22	26	20
Employed %	17	14	15	15
Chron ill %	9	10	7	10
Hh mean #	6	6	6	6
Lab force	3	3	3	3
MDR	1.02	0.97	0.98	0.99
HH income (ZK 000)	1558	995	1912	1155
Land cult	1.38	1.13	1.46	1.25

Source: 00/01 & 02/03 Supplemental Survey data sets

Education Level attained by New Adopters

	IMF		INCR		CRRO	
	Adop	Non-ad	Adop	Non-adop	Adop	Non-adop
	%		%		%	
None	27.7	20	19	21	20	25
Lower Pr	30.7	26	25	25	26	27
Higher Pr	26.7	34	33	33	34	33
Junior Sec	0.3	11	14	11	12	8
Higher Ed	14.4	9	9	10	9	7

Source: 00/01 & 02/03 Supplemental Survey data sets

Cont'd Education level attained by HH head new adopters

	CRSE		PBA	
	Adop	Non-ad	Adop	Non-adop
	%		%	
None	14	21	15	19
Lower Primary	26	25	25	26
Higher Primary	23	35	36	35
Junior Secondary	14	11	10	11
Higher education	13	8	15	9

Source: 00/01 & 02/03 Supplemental Survey data sets

Percent of Sustained adopters and Disadopters

	IMF			INCR			CRRO		
	#	Sust	Disa	#	Sust	Disa	#	Sust	Dis
	% of hh			% of hh			% of hh		
ACE I	52	4	96	124	30	70	183	58	42
ACE II	243	2	98	698	11	89	1496	86	14
ACE III	184	2	98	1229	46	54	1088	87	13

Source: 00/01 & 02/03 Supplemental Survey data sets

Cont'd Percentage of Sustained adopters and Disadopters

	CRSE			PBA		
	#	Sust	Disa	#	Sust	Disa
	% of hh			% of hh		
ACE I	344	30	70	64	3	97
ACE II	1324	30	70	239	2	98
ACE III	1081	22	78	115	2	98

Source: 00/01 & 02/03 Supplemental Survey data sets

Characteristics of Sustained adopters & Disadopters

	IMF				INCR			
	Sustained		Disadopters		Sustained		Disadopters	
	00/01	02/03	00/01	02/03	00/01	02/03	00/01	02/03
Business	30	0	28	25	25	25	23	20
Employed	10	10	13	14	12	15	14	16
Chron ill	14	11	10	12	10	12	11	11
Hh mean #	8	7	7	6	6	6	6	6
Lab force	3	3	3	3	3	3	3	3
MDR	2.22	1.37	1.33	1.03	1.16	1.07	1.20	0.95
HH income	1037	2600	929	1494	665	1211	734	1194
Land cult	1.88	1.75	1.25	1.42	1.31	1.50	1.21	1.31

Source: 00/01 & 02/03 Supplemental Survey data sets

Cont'd characteristics of Sustained adopters & Disadopters

	CRRO				CRES			
	Sustained		Disadopters		Sustained		Disadopters	
	00/01	02/03	00/01	02/03	00/01	02/03	00/01	02/03
Business	22	18	18	18	24	20	25	20
Employed	13	14	18	18	15	18	15	16
Chron ill	10	11	12	10	10	11	11	10
Hh mean #	6	6	6	6	7	6	6	6
Lab force	3	3	3	3	3	4	3	3
MDR	1.15	1.03	1.14	0.89	1.25	1.03	1.18	0.97
HH income (ZK000)	816	1500	700	921	967	1637	703	1120
Land cult	1.46	1.56	1.01	1.00	1.31	1.50	1.12	1.25

Source: 00/01 & 02/03 Supplemental Survey data sets

Education Level attained by Sustained adopters & Dis-adopters

	IMF		INCR		CRRO	
	Sust	Disad	Sust	Disad	Sust	Disad
None	13	11	13	18	15	26
Lower Pr	48	25	28	27	25	30
Higher Pr	37	41	39	35	37	25
Junior Sec	0	12	12	11	12	10
Higher Ed	2	11	8	9	11	9

Source: 00/01 & 02/03 Supplemental Survey data sets

Cont'd Education level attained by HH head new adopters

	CRSE		PBA	
	Sust	Disad	Sust	Disad
None	16	20	10	21
Lower Primary	27	26	34	23
Higher Primary	34	34	29	32
Junior Secondary	10	11	27	9
Higher education	13	9	0	14

Source: 00/01 & 02/03 Supplemental Survey data sets

Method of obtaining CF practice advice

	PBA	CRES	CRRO
	%	%	%
Informal conversation	28.7	37.3	37.8
Workshops	36.3	35.5	34.8
Field days	14.7	12.1	12.5
Demonstration plots	11.9	6.9	6
Radio Programme	4.6	5.1	5.5
Others	3.8	3.1	3.4

Source: 00/01 & 02/03 Supplemental Survey

Most important suppliers of CF advice

	PBA	CRES	CRRO
	%	%	%
MACO	66.2	65.1	65.5
Fellow Farmers	7.3	14.8	14.2
CLUSA Group	10.6	8.2	7.4
NGOs	11.8	8.2	8.7
Private Firms	2.5	2.8	2.9
ZNFU	1.4	0.9	0.9
No response	0.3	0.3	0.4

Source: 00/01 & 02/03 Supplemental Survey data sets

Conclusion

- Practices which are closest to traditional cropping (Intercropping, leaving crop residues and crop rotation) are more likely to be used and sustained overtime than the others.
- MACO is the most important supplier of CF advice.
- However, farmers rely heavily on the neighbors and informal conversation.
- Multivariate analysis needed.

The End