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APPENDICES

Appendix 1: Results of Tukey's *post hoc* tests (cluster solution and validation)

Table A4.1: Results of the Tukey's HSD test for the intervention community

Variable	Cluster	Clusters of comparison	Mean difference	Std. error	p
Value of assets (USD)	1	2	-226.48*	47.00	0.000
		3	-1512.93*	105.49	0.000
	2	1	226.48*	47.00	0.000
		3	-1286.45*	107.43	0.000
	3	1	1512.93*	105.49	0.000
		2	1286.45*	107.43	0.000
Farm size (acres)	1	2	-2.4111*	0.45968	0.000
		3	-2.4098	1.03171	0.056
	2	1	2.4611*	0.45968	0.000
		3	0.05128	1.05074	0.999
	3	1	2.4098	1.03171	0.056
		2	-0.5128	1.05074	0.999
Number of farm plots	1	2	-1.8353*	0.14008	0.000
		3	-0.1789	0.31441	0.837
	2	1	1.8353*	0.14008	0.000
		3	1.6564*	0.32020	0.000
	3	1	0.17895	0.31441	0.837
		2	-1.65541	0.32020	0.000

* Statistically significant at the 5 % level

Table A4.2: Results of the Tukey's HSD test for the counterfactual community

Variable	Cluster	Clusters of comparison	Mean difference	Std. error	P
Value of assets	1	2	856.86*	57.82	0.000
		3	934.63*	57.36	0.000
	2	1	-856.86*	57.82	0.000
		3	77.77*	14.40	0.000
	3	1	-934.63*	57.36	0.000
		2	-77.77*	14.10	0.000
Farm size (acres)	1	2	7.62410*	1.18539	0.000
		3	9.90267*	1.17593	0.000
	2	1	-7.6241*	1.18539	0.000
		3	2.27857*	0.29522	0.000
	3	1	-9.90267*	1.17593	0.000
		2	-2.27857*	0.29522	0.000
Number of farm plots	1	2	2.17568*	0.51519	0.000
		3	3.38400*	0.51108	0.000
	2	1	-2.14568*	0.51519	0.000
		3	1.20832*	0.12831	0.000
	3	1	-3.38400*	0.51108	0.000
		2	-1.20832*	0.12831	0.000
Household size	1	2	-1.94595	1.11441	0.191
		3	0.27200	1.10552	0.967
	2	1	1.94595	1.11441	0.191
		3	2.21795*	0.27754	0.000
	3	1	0.27200	1.10552	0.967
		2	-2.21795*	0.27754	0.000

* Statistically significant at the 5 % level

Table A4.3: Results of the Tukey's HSD test for the intervention community (profile variables)

Variable (2008/2009)	Cluster	Clusters of comparison	Mean difference	Std. error	p
Total income (USD)	1	2	-387.584*	166.7296	0.057
		3	-0.01703*	374.2143	0.000
	2	1	387.5841*	166.7296	0.057
		3	-0.01316*	381.1149	0.002
	3	1	0.017033*	374.2143	0.000
		2	0.013158*	381.1149	0.002
Fertiliser use (number of 50 kg bags)	1	2	-0.31284	0.49752	0.805
		3	-3.51462*	1.11665	0.006
	2	1	0.31284	0.49752	0.805
		3	-3.20178*	1.13724	0.016
	3	1	3.51462*	1.11665	0.006
		2	3.20178*	1.13724	0.016
Value of maize harvest (USD)	1	2	-77.807	261.4051	0.952
		3	-0.024*	586.7079	0.000

2	1	77.807	261.4053	0.952
	3	-0.02322*	597.5269	0.001
3	1	0.024*	586.7078	0.000
	2	0.023224*	597.5269	0.001

Statistically significant at the 5 % level

Table A4.4: Results of the Tukey's HSD test for the counterfactual community (profile variables)

Variable (2008/2009)	Cluster	Clusters of comparison	Mean difference	Std. error	p
Total income (USD)	1	2	265.84*	233.28	0.000
		3	283.35*	231.42	0.000
	2	1	-265.84*	233.28	0.000
		3	175.02*	58.099	0.008
	3	1	-283.35*	231.42	0.000
		2	-175.03*	58.099	0.008
Value of maize harvest (USD)	1	2	185.98*	161.45	0.000
		3	199.67*	160.18	0.000
	2	1	-185.98*	161.45	0.000
		3	136.85*	40.27	0.002
	3	1	-199.67*	160.18	0.000
		2	-136.85*	40.27	0.002

* Statistically significant at the 5 % level

Table A4.5: Summary results of divisive non-hierarchical clustering for both communities

Clusters	Intervention community					Cluster size
	Value of assets (USD)	Farm size (acres)	Mean value		Household size	
			Number of farm plots			
1	653.87	5.69	4.25		5.08	12
2	101.78	3.94	2.97		4.96	83
3	1568.15	5.73	3.16		6.33	6
Counterfactual community						
1	976.41	11.966	5.00		4.00	3
2	415.76	3.36	2.5		4.5	12
3	48.56	2.88	2.03		4.55	187

Table A4.6: Analysis of Variance (ANOVA) results for divisive non-hierarchical clustering

Variable	Intervention community					
		Sum of squares	Degrees of freedom	Mean square	F-ratio	p
Value of assets	Between groups	2.874	2	1.392	437.228	0.000
	Within groups	3.120	98	3.184		
	Total	3.096	100			
Farm size (acres)	Between groups	45.790	2	22.895	3.846	0.025
	Within groups	583.427	98	5.953		
	Total	629.217	100			
Number of farm plots	Between groups	17.024	2	8.512	7.794	0.001
	Within groups	107.035	98	1.092		
	Total	124.059	100			
Household size	Between groups	10.502	2	5.251	0.760	0.470
	Within groups	677.142	98	6.910		
	Total	687.644	100			

Table A4.7: Results of the Tukey's HSD test for intervention community (divisive non-hierarchical clustering)

Variable	Cluster	Clusters of comparison	Mean difference	Std. error	p
Value of assets	1	2	552.0914*	39.36103	0.000
		3	-914.278*	63.72419	0.000
	2	1	-552.09*	39.36103	0.000
		3	-1466.37*	53.87839	0.000
	3	1	914.278*	63.72419	0.000
		2	1466.309*	53.87839	0.000
Farm size (acres)	1	2	1.74540	0.75355	0.058
		3	-0.4167	1.21997	0.999
	2	1	-1.74540	0.75355	0.058
		3	-1.78707	1.03148	0.198
	3	1	0.04167	1.21997	0.999
		2	1.78707	1.03148	0.198

Number of farm plots	1	2	1.27410*	0.32276	0.000
		3	1.08333	0.52254	0.101
	2	1	-1.27410*	0.32276	0.000
		3	-0.19076	0.44180	0.902
	3	1	-1.08333	0.52254	0.101
		2	0.19076	0.44180	0.902

Table A4.8: Analysis of Variance (ANOVA) results for divisive non-hierarchical clustering

		Counterfactual community				
Variable		Sum of squares	Degrees of freedom	Mean square	F-ratio	ρ
Value of assets	Between groups	7.732	2	3.866	578.159	0.000
	Within groups	1.331	199	6.687		
	Total	9.062	201			
Farm size (acres)	Between groups	244.945	2	122.472	23.324	0.000
	Within groups	1044.919	199	5.251		
	Total	1289.864	201			
Number of farm plots	Between groups	27.866	2	13.933	12.734	0.000
	Within groups	217.738	199	1.094		
	Total	245.604	201			
Household size	Between groups	0.939	2	0.469	0.099	0.906
	Within groups	941.160	199	4.729		
	Total	942.099	201			

Table A4.9: Results of the Tukey's HSD test for counterfactual (divisive non-hierarchical clustering)

Variable	Cluster	Clusters of comparison	Mean difference	Std. error	ρ
Value of assets	1	2	560.6524*	37.70237	0.000
		3	927.8499*	33.99144	0.000
	2	1	-560.652*	37.70237	0.000
		3	367.1975*	17.39359	0.000
	3	1	-927.85*	33.99144	0.000
		2	-367.198*	17.39359	0.000
Farm size (acres)	1	2	8.60417*	1.47914	0.000
		3	9.08431*	1.33355	0.000
	2	1	-8.60471*	1.47914	0.000
		3	0.48015	0.68239	0.762
	3	1	-9.08431*	1.33355	0.000
		2	-0.48015	0.68239	0.762
Number of farm plots	1	2	2.50000*	0.67520	0.001
		3	2.96257*	0.60875	0.000
	2	1	-2.50000*	0.67520	0.001
		3	0.46257	0.31150	0.300
	3	1	-2.96257*	0.60875	0.000
		2	-0.46257	0.31150	0.300

Appendix 2: Data sheet for the Malawi maize sector

Table A5.1: Data sheet for Malawi maize sector

				1988	1989	1990	1991	1992	1993	1994
Supply and demand										
Area harvested	MOA	Hectares	MZARE	1122.52	1227.14	1246.61	1391.87	1368.09	1380.8	1369.14
Yield per unit area	MOA	Tons/Hectare	YLD	1.09	1.03	1.03	0.926	0.55	0.929	0.92
Maize Imports	MOA	1000 Tons	IMMZ	197	200.58	203.23	205.89	760.37	248.79	271.97
Beginning stock				1.8	0.8	1.69	2.65	3.07	2.41	2.42
Domestic maize consumption	MOA	1000 Tons	DMZC	1421	1464	1484	1494.847	1518.03	1528.62	1531.57
Maize Exports	MOA	1000 Tons	EXMZ	0	0.2	1.088	0	0	4.11	1.25
Ending Stock	Computed	1000 Tons	ENDS	0.8	1.69	2.65	3.07	2.41	2.42	2.43
Net Exports	Computed	1000 Tons	NIMP	-197	-200.38	-202.142	-205.89	-760.37	-244.68	-270.72
Production/maize consumption	Computed	Index 1000	PROD/CON	0.865	0.863	0.864	0.862	0.498	0.839	0.823
Per capita maize consumption	Computed	Tons/capita	PCC	170.65	166.35	161.04	156.53	153.77	152.91	156.81
Local Economy										
Local maize production (Ukwe)	Ukwe EPA	1000 Tons	PROD		19.263	16.668	10.327	16.096	24.323	18.746
Local maize consumption (Ukwe)	Ukwe EPA	1000 Tons	AREA_CSP	95	96.8	97	97.8	98.5	98.5	99.8

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Supply and demand													
Area harvested	993.019	1134.39	1252.05	1292.66	1039.03	1099.13	1108.51	1488.44	1218.75	1278.02	1173.77	1482.39	1139.95
Yield per unit area	1.27	1.201	1.112	0.98	1.22	1.185	1.184	0.71	1.102	1.078	1.2056272	1.141	1.49
Maize Imports	270.1	193.97	168.32	299.88	273.14	266.53	256.77	550.35	276.59	271.53	234.15	10.53	74.83
Beginning stock	2.43	1.73	2.78	2.2	2.29	2.88	2.75	2.18	1.56	2.49	1.81	2.18	4.93
Domestic maize consumption	1528.41	1553.88	1558.67	1570.66	1545.94	1567.33	1570.41	1607	1619.1	1650.14	1646.34	1687.76	1722.68
Maize Exports	3.84	2.45	2.67	1.52	1.1	2.24	0	0.94	0	0.41	2.57	11.5	50.62
Ending Stock	1.73	2.78	2.2	2.29	2.88	2.75	2.18	1.56	2.49	1.81	2.18	4.93	4.99
Net Exports	-266.26	-191.52	-165.65	-298.36	-272.04	-264.29	-256.77	-549.41	-276.59	-271.12	-231.58	0.97	-24.21
Production/maize consumption	0.825	0.877	0.893	0.810	0.824	0.831	0.836	0.657	0.829	0.835	0.859	1.00	0.985
Per capita maize consumption	158.287	157.67	154.27	151.6	145.65	144.14	141.04	141.04	138.96	130.88	128.00	128.62	128.69
Local Economy													
Local maize production (Ukwe)	15.936	19.312	18.898	21.679	24.772	20.113	23.481	19.967	20.853	21.372	10.564	19.795	27.283
Local maize consumption (Ukwe)	88.9	90	91.3	91.3	92.5	92.5	93.5	85	95.9	96.5	95.8	98.7	95.6

Appendix 3: Units root tests for time series data

Table A5.2: ADF test results for time series data used in model

Time series variable	ADF Statistic	MacKinnon Critical value	Durban-Watson Statistic	Levels/differences
Domestic maize production	-4.32	-3.82***	1.98	2 nd differences
Domestic maize consumption	-2.70	-2.66*	1.36	2 nd differences
Ending stock	-4.14	3.83***	1.96	1 st differences
Local production	-5.07	-3.85***	1.76	1 st differences
Local consumption	-4.12	-3.83***	1.96	1 st differences
Area of maize	-2.87	-2.65*	2.00	Levels
Yield of maize	-3.16	-3.02**	1.96	1 st differences
Local yield of maize	-3.82	-3.03**	1.98	1 st differences
Local area of maize	-3.88	-3.85***	1.45	1 st differences
Population	-3.92	-3.85***	2.07	2 nd differences
Exports	-3.14	-3.03**	2.03	1 st differences
Imports	-4.55	-3.83***	2.01	1 st differences
Price of fertiliser	-2.97	-2.65*	1.67	1 st differences
Rainfall	-3.26	-3.02**	2.11	1 st differences
Local rainfall	-2.89	-2.65*	2.05	Levels

Appendix 4: Correlation matrices for maize market regression models

Table A5.3: Correlation matrix for model of area of maize planted

	DUM: agri	Lagged ADMARC price	Lagged area planted	SUBSIDY
DUM: agri	1.00	-0.096	-0.203	0.432
Lagged ADMARC price		1.00	0.033	-0.387
Lagged area planted			1.00	-0.290
SUBSIDY				1.00

Table A5.4: Correlation matrix for the model of ADMARC maize price

	Dum:INT	Import parity price	DUM:Reforms	Production/consumption
Dum:INT	1.00	-0.107	-0.306	0.113
Import parity price		1.00	0.251	-0.537
DUM:Reforms			1.00	-0.216
Production/consumption				1.00

Table A5.5: Correlation matrix for the model for the local price of maize (Nsundwe)

	ADMARC price	DUM02	Local maize consumption	DUM:Ukwe
ADMARC price	1.00	0.491	-0.350	0.358
DUM02		1.00	-0.374	-0.213
Local maize consumption			1.00	0.126
DUM:Ukwe				1.00

Table A5.6: Correlation matrix for the yield of maize

	Rainfall	PFERT	DUM:agri2	Shift 06
Rainfall	1.00	-0.165	0.254	-0.758
PFERT		1.00	-0.702	0.451
DUM:agri2			1.00	-0.679
Shift 06				1.00

Table A5.7: Correlation matrix for the local maize production

	Lagged local maize price	DUM:Ukwe2	Local rainfall
Lagged local maize price	1.00	-0.107	-0.294
DUM:Ukwe2		1.00	-0.114
Local rainfall			1.00

Table A5.8: Correlation matrix for the local maize consumption

	Local maize production	DUM:BRDG	Local maize price
Local maize production	1.00	-0.144	-0.206
DUM:BRDG		1.00	-0.108
Local maize price			1.00

Table A5.9: Correlation matrix for per capita maize consumption

	DUM:Agri	Shift 06	Rainfall	PFert
DUM:Agri	1.00	-0.165	-0.702	0.451
Shift 06		1.00	0.254	-0.758
Rainfall			1.00	-0.678
PFert				1.00

Table A5.10: Correlation matrix for maize imports

	Net exports	Policy:NFRA	SHIFT06	DUM:Pvt
Net exports	1.00	0.737	-0.812	0.940
Policy:NFRA		1.00	-0.518	0.710
SHIFT06			1.00	-0.734
DUM:Pvt				1.00

Table A5.11: Correlation matrix for ending stocks

	Beginning stock	Domestic production	ADMARC maize price
Beginning stock	1.00	0.338	-0.098
Domestic production		1.00	-0.264
ADMARC maize price			1.00

Appendix 5: ADMARC reforms and impacts

Table A6.1: Historical overall of ADMARC reforms in Malawi

Time line	ADMARC Reform
1971	Formation of ADMARC (mandated to market agricultural inputs, produce; facilitate the development of smallholder sector; and food security role-to buy and sell maize in remote areas)
1987	Monopoly of ADMARC as sole agent responsible for importation, storage and marketing of maize removed. Private sector allowed to engage in maize trade
1987	Partial liberalization of other agricultural commodities (previously only traded by ADMARC)
1990	ADMARC operating 1300 seasonal markets, 3 regional offices and 18 storage depots
1990	ADMARC storage capacity at 468,000 metric ton
Mid-1990's	Maize price band defended by ADMARC revised/removed
2001	Strategic grain reserve function of ADMARC removed and given to National Food Reserve Agency
2002	ADMARC subsidiaries taken over and subsequently taken over by the Ministry of Finance
2002	Disaster and emergency relief function of ADMARC moved to the Office of the President an Cabinet
2002	ADMARC storage capacity reduced to 200,000 metric tons
2004	ADMARC operating 300 seasonal markets, 400 unit markets, 3 regional markets and 9 storage depots

Several studies conducted to access the reforms in ADMARC have shown that there were many impacts. These are summarized in Table below.

Table A6.2: Impact of the ADMARC reforms

Impact of ADMARC reforms			
Impact on private sector	Impact on markets/prices	Impacts on households	Other impacts
Increase in number of input wholesalers and retailers	Differential increase in number of input sellers (number of private traders not positively correlated with absence of ADMRC markets)	Reduced profitability for smallholder famers due to lack of organization and inability to negotiate with private traders	Poor quality of business practice by private traders arising from the lack of regulation and enforcement for fair trading practices
Increase in number of crop buyers	High price volatility within and between communities. High price volatility in prices between pre-harvest and post harvest periods. Both due to lack of competition	Higher transaction and transport costs for input procurement as majority of private traders not engaged in input sales	Widespread claims of cheating on weights and measures by smallholders
Increase in number of crop wholesalers	Interregional and inter-seasonal arbitrage function of ADMARC not successfully taken over by private sector	Smallholders forced to use ADMARC markets in other communities after closure of their own depots	
	Higher margins for traders; and lower competition and efficiency in markets. Lower prices for producers		

Although ADMARC was not cost effective during its full operation; it played a social function by providing the following services which the private sector did not efficiently take over (Kutengule *et al.*, 2006):

- Provided a distribution network for affordable maize in the lean season and in times of famine
- Provided benchmark prices and access to information for smallholder farmers
- Acted as reliable source of inputs
- Provided producers with an outlet market to sell their produce
- Provided the only form of market for households in very remote rural areas

Private sector failed to fully step in where ADMARC was withdrawn because of inadequate infrastructure, inefficient factor input markets, market information; credit delivery systems (Kutengule *et al.*, 2006)



B) CROP PRODUCTION AND MARKETING

1) a. How many plots (pieces of land/minda) does the household currently own?

1b) Please fill in table below

a) Plot No.	b) Size (acres)	c) Location of plot 1) By home 2) Far from home 3) Dimba	d) Distance from homestead KM	e) Farming system 1. Mixed/intercropping 2. Pure stand 3. Fallow 4) partially cultivated with some sides under fallow	f) Person responsible for managing plot 1. Husband 2. Wife 3) Both	g) Ownership of plot 1. Own the plot 2. Rented 3. borrowed	h) How did the household acquire the plot 1) inherited from wife's family 2) Inherited from husband family 3) bought the plot
1							
2							
3							
4							
5							
6							

1c) In which years did you cultivate the plots named in 1b above? Please fill table below

a). Plot No.	Please tick all the years that this plot was under cultivation										
	2008/09	2007/08	2006/07	2005/06	2004/05	2003/04	2002/03	2001/02	2000/01	1999/00	1998/99
1											
2											
3											
4											
5											
6											
7											
Total number of plots cultivated in season (add all ticked above)											

2a) What major crops did the household cultivate in the 2008/2009 agricultural season? Fill Table Below

a) Crop cultivated in 2008/09	b) Total harvest (Amount)	c). Harvest units 1. 50 kg bags 2. 90kg bags 3. Oxcart 4. Weaved big basket 5. Tin pails	d) Total harvest (equivalent in KG)	e) Type of farming practice 1) Mixed cropping 2) pure stand	f) Total harvest sold (equivalent KG)	g) Average price per unit in local market		h) Total amount of money earned (MK)
						MK	Unit 1. 50 kg bags 2. 90kg bags 3. Oxcart 4. Weaved big basket 5. Tin pails	
Maize (chimanga)								
Beans (nyemba)								
Groundnuts (mtedza)								
Sweet potatoes (mbatata yakholowa)								
Tobacco (fodya)								
Cowpeas (khobwe)								



2b) What major crops did the household cultivate in the 2007/2008 agricultural season? Fill Table Below

a) Crop cultivated in 2008/09	b) Total harvest (local measure used)	c). Harvest units 1. 50 kg bags 2. 90kg bags 3. Oxcarts 4. Weaved big basket 5. Tin pails	d) Total harvest (equivalent in kg)	e) Type of farming practice 1) Mixed cropping 2) pure stand	f) Total harvest sold (equivalent kg)	g) Average price per unit in local market		h) Total amount of money earned (MK)
						MK	Unit 1. 50 kg bags 2. 90kg bags 3. Oxcarts 4. Weaved big basket 5. Tin pails	
Maize (chimanga)								
Beans (nyemba)								
Groundnuts (mledza)								
Sweet potatoes (mbatata yakholowa)								
Tobacco (fodya)								
Cowpeas (khobwe)								

3a) Do you own a wetland (dimba)? 0) No 1) Yes 3b) if No do you rent one? 0) No 1) Yes

3c) In the 2009 winter season did you cultivate a wetland (dimba)? 0) No 1) Yes 3d) If Yes to 4c fill in table below with 2009 winter season production

a) Dimba Crop	b) Total dimba harvest Produced			c) Total dimba harvest sold			d) Total amount of money obtained from dimba in 2009 MK
	Amount harvested	Unit 1. 50 kg bags 2. 90kg bags 3. Oxcarts 4. Weaved big basket 5. Big tin pail 6. Small tin pail	kg equivalent	Amount sold	Unit 1. 50 kg bags 2. 90kg bags 3. Oxcarts 4. Weaved big basket 5. Big tin pail 6. Small tin pail	kg equivalent	
Maize							
Green leafy vegetables							
Onions							
Sweet potatoes							
Beans							

3e) In 2008 did you cultivate a wetland (dimba)? 0) No 1) Yes 3f) If Yes fill in table below: Wetland (dimba) Production for 2008 winter season

a) Dimba Crop	b) Total harvest			c) Total harvest sold			d) Total amount of money obtained from dimba in 2009 MK
	Amount sold	Unit 1. 50 kg bags 2. 90kg bags 3. Oxcarts 4. Weaved big basket 5. Big tin pail 6. Small tin pail	kg equivalent	Amount sold	Unit 1. 50 kg bags 2. 90kg bags 3. Oxcarts 4. Weaved big basket 5. Big tin pail 6. Small tin pail	kg equivalent	
Maize							
Green leafy vegetables							
Onions							
Sweet potatoes							
Beans							

4a) During the last hunger season (February to March 2009) did you sell any fresh produce from your field (mbeu zamunda)? 0) No 1) Yes

4b) If yes, fill table below?

a) Fresh Crop sold during hunger seasons (2009)	b) Total sold during hunger seasons	c). Unit 1. 50 kg bags 2. 90kg bags 3. Oxcarts 4. Weaved big basket 5. Big tin pail 6. Small tin pail	d) Total sold during hunger season (Equivalent in kg)	e) Total amount of money earned (MK)
Fresh Maize (chimanga chachiwisi)				
Green Beans (zitheba)				
Fresh groundnuts				

4c) During the last hunger season did you sell any dry produce that had been kept for your own consumption (produce from 2007/08 harvest)? 0) No 1) Yes

4d) If yes, fill table below?



a) Dry produce from 2007/08 season sold in hunger season	b) Total sold during hunger seasons	c) Unit 1. 50 kg bags 2. 90kg bags 3. Ox carts 4. Weaved big basket 5. Big tin pail 6. Small tin pail	d) Total sold during hunger season (equivalent in kg)	e) Total amount of money earned (MK)
Maize				
Beans				
Groundnuts				
Cowpeas (Khobwe)				

4 f) Market access: If you sell your crop produce please fill in table below

a) Name of market where you sell your crop produce	b) Type of market 1) local village market 2) Local community market 3) District market 4) moving market (kabandule) 6. Market in another community	c) Mode of transport to market 1) by foot 2) by own bicycle 3) by hired bicycle 4) by public transport (minibus) 4) by hitchhiking (matola)	d) Distance to market in KM	e) Transport cost to Market in MK	f) Time it takes to travel to market (hours)	g) Type of road to market 1) all season dirt road 2) Dry season dirt road 3) Tarmac 4) Combination of dirt road and tarmac	Other costs (please list and put amount in MK in last column)	
							Type of Cost	Amount in MK
Ngwangwa								
Lilongwe district market								
Area 25 market								
Lumbadzi market								
Katundulu								
Ukwe								
Msundwe								

4g) When selling maize, who sets the prices?? 1) Self 2) Buyer 3) Both negotiate until reach a price 4) use set government price _____

4h) When selling other crops who sets the prices 1) Self 2) Buyer 3) Both negotiate until reach a price 4) use set government price _____

4j) Where do you get information pertaining to the prices of different crops? _____

1) From Radio 2) From fellow farmers 3) From extension officers 4) From posted price board outside ADMARC 5) Do not get any information 6) Other (specify)

C) FERTILIZER USE AND PERCEPTIONS OF FERTILIZER SUBSIDY

5a) Please fill table below with fertilizer use information:

a) Cropping season	b) Did your household apply fertilizer? 0) No 1) Yes	c) If yes, Total amount of fertilizer applied (No. of 50kg bags of each type applied)			d) What was the source of this fertilizer? 1) Subsidized coupons 2) Purchased at full price 3) Received from relatives 4) Received from other sources 5) Other (specify)			Total amount of money spent on all fertilizer for the season (MK)
		23:21:0 (Urea)	CAN	Other (specify)	23:21:0 (Urea)	CAN	Other (specify)	
2004/05								
2005/06								
2006/07								
2007/08								
2008/09								

5b) Please fill table below if you received coupons for subsidized fertilizer

a) Cropping season	b) Is the amount of coupons received for fertilizer sufficient for your household fertilizer needs? 0) No 1) Yes	If no, what do you do to ensure you get sufficient fertilizer 1) Buy coupons from fellow villagers 2) buy coupons from chiefs 3) buy coupons from civil servants 4) Buy extra fertilizer at full price 5) do not apply fertilizer to remaining filed
2004/05		
2005/06		
2006/07		
2007/08		
2008/09		

5c). Apart from fertilizer, did the household incur any other production costs in either the 2008/09 or 2007/08 seasons? 0) No 1) Yes If yes fill table below?

Name of Inputs	2008/09 agricultural season		2007/08 agricultural season	
	Total amount paid (MK)	Source of input 1. Buy from market 2. Buy from agro dealer shops 3) Buy from fellow villagers 4). Receive from relatives 5) Receive from NGO	Total amount paid (MK)	Source of input 1. Buy from market 2. Buy from agro dealer shops 3) Buy from fellow villagers 4). Receive from relatives 5) Receive from NGO
Pesticides				
Herbicides				
Sacks/storage bags				

D). SEED ACQUISITION AND COSTS

5d). Where do you normally obtain seeds for planting your crops and what costs do you incur? Please in table below

Item	2008/09 agricultural season			2007/08 agricultural season		
	Source of Seed 1. Buy from market 2. Buy from agro dealer shops 3) Buy from fellow villagers 4). Receive from relatives 5) Receive from NGO 6. Bought with subsidized coupons 7. Received from farmer organizations	In the 2008/09 season did you buy this seeds 0. No. 1. Yes	If you bought, total amount spent on seeds (MK)	Source of Seed 1. Buy from market 2. Buy from agro dealer shops 3) Buy from fellow villagers 4). Receive from relatives 5) Receive from NGO 6. Bought with subsidized coupons 7. Received from farmer organizations	In the 2008/09 season did you buy this seeds 0. No. 1. Yes	If you bought, total amount spent on seeds (MK)
Cereals (maize)						
Grain legumes (beans, groundnuts, cowpeas)						
Cash Crops (Tobacco, Paprika, Cotton)						

E) LIVESTOCK OWNERSHIP AND MARKETING

6a) Do you own livestock? 0) No 1) Yes

6b) If yes, fill in table below

a) Type of livestock	b) Mark X on all owned by household	c) Number	d) How did you acquire the first livestock? 1) bought 2) given by relatives 3) both 1 and 2 4) group merry go round 5) from NGO	What is the current price of livestock in the local market? MK	If you have sold any livestock in 2008/09 seasons please indicate below	
					Number sold	Price per unit
Chickens (Nkuku)						
Pigs (Nkumba)						
Goats (Mbuzi)						
Beef Cattle (N'gombe)						
Dairy cattle						

F) LABOUR AVAILABILITY

7a) How many people in your household (including other relatives) were involved in agricultural production in the last two seasons on a full time basis?

	Number involved in full time cultivation: 2008/09	Number involved in full time cultivation: 2007/08	Number involved in part time cultivation: 2008/09	Number involved in part time cultivation: 2007/08
Male adults over 18 yrs				
Female adults over 18 yrs				
Teenage boys under 18 yrs				
Teenage girls under 18 yrs				

7b) Did you hire any laborers to work on your farm during the 2008/09 agricultural year? 0) No 1) yes

7c) If yes fill in table below?

	Total number hired (for group specify type of group here)	Number of times that they were hired during the season	Activities for which they were hired 1) Land Preparation 2) Ridge Making 3) Weeding 4) Harvesting 5) decobbing/desheling 6) winnowing	Form of payment 1) cash 2) food/crops 3) clothes	If cash, total cash paid MK	If crops, total value of crops paid MK
Male laborers						
Female laborers						
Groups (church/community/ school groups)						

7d) if community/church/school group what was the purpose of them doing this? 1) To raise funds 2) Is normal cultural practice in the area 3) Other reason (specify) _____

G) INCOME SOURCES

8a) Apart from farming, do you have any other income generating activity (IGA)? 0) No 1) Yes

8b) If yes, fill in the table below

a) Type of Income generating activity	b) Year started?	c) Total amount of money made in the last 12 months MK	d) Where do you normally conduct your business or were do you engage for employment? 1) By Home/farm 2) In local market 3) In district market 4) by main tarmac road 5. In nearby town 6. In nearby village 7. in other districts 8. In nearby urban area
1. Full time salaried employment (ntchito)			
2. On farm seasonal employment (ganyu)			
3. off farm seasonal employment (Kuponda matope, kumang nyumba etc)			
4. Non agricultural commercial enterprise (e.g grocery)			
5. Agro based commercial enterprise (brewing alcohol, selling cooked food items, baking etc)			
6. Piggery			

8c) Do you receive remittances from relatives? 0) No 1) Yes

8d) If you said yes to 8c state amount of remittances received in total below.

Cropping season	Estimated total amount (MK)	What percentage was this of the total money you had that year?
2008/09		
2007/08		

8f) Do you have access to credit? 0) No 1) Yes

If yes please fill table below

Name of lending institute	Who accessed the credit? 1) Wife 2) Husband	Type of credit received 1) Cash 2) Inputs	If cash, amount received (MK)	If inputs amount received (use Unit)	How do you receive the credit 1) Individual 2) group	Rate the repayment conditions 1) Not at all satisfactory 2) satisfactory 3) very satisfactory	Type of credit institutions 1) local informal 2) Local formal 3). Local individual 4) Formal national organization
FINCA							
MRFC							
Katapila							
NASFAM							

9 c) Please fill Table below

	In 2008/09 season				In 2007/2008 season?				Five years ago?			
Total number of agricultural related trainings and meetings attended by household												
Total number of agricultural trainings and meetings attended by female member of household?												
Total number of agricultural trainings and meetings attended by male member of household?												
ENUMERATOR: Please tick all types of organizations whose trainings household members have attended	CGIAR	NGO	MOA	FO	CGIAR	NGO	MOA	FO	CGIAR	NGO	MOA	FO

G) ACCESSIBILITY AND AVAILABILITY OF PUBLIC CAPITAL

11) How long does it take to travel from the household to access the following facilities? Fill in table below with shortest travel time and estimated distance

Public Capital Resource	Shortest travel time (hours)	Distance (km)	Public Capital Resource	Shortest travel time (hours)	Distance (km)
Primary school			Mobile phone network		
Public Secondary school			An operational animal dip tank		
Health clinic			Agricultural extension offices		
District hospital			Agricultural extension officer house		
VCT centre			Permanent market		
Borehole			Moving market venue (kabandule)		
Piped water tap			Post office		
Dug well			Public telephone (ground line)		
Public telephone			Public telephone (private phone bureau)		
Tarmac road			Agrodealer		
All year ploughed dirt road			ADMARC		
Public bus depot (stop)			Research Station		



I) ASSETS

12) Please indicate how many of these assets the household owns

Asset	No. of assets	Amount paid per unit (MK)	Perceived current market value MK	Asset	No. of assets	Amount paid per unit MK	Perceived current market value MK
Bicycles				Spades			
Motor cycle				Panga Knives (zikwanje)			
Ox cart (Ngolo)				Hoe (makasu)			
Granaries with food				Mobile phones			
Radios				Television			
Beds				Sofa chairs			
Blankets				Car			
Mattresses				Wheel barrow			
Chairs				Iron sheets roof			
Mats				Window panes on house			

J) HOUSEHOLD CHARACTERISTICS

14) Fill in table below

Questions	Response
1. Age in number of years of household head	
1b) Age in number of years of spouse	
2. Marital status 1=Married; 2=Single (never married); 3=Divorced; 4=Widowed	
2b. Type of Marriage: 1= Monogamy 2= Polygamy (mitala)	
3. Level of education of head of HH? 0=no formal education; 1= Attended and finished primary education (Std1-Std 8); 2. Attended but did not finish primary (dropped out) 3=Attended and finished secondary education (F1-F4) (failed MSCE or did not write exams); 4. Attended but did not complete secondary school (dropped out before exam) 5 = Completed and passed MSCE 6=Certificate 7= diploma 8= Adult Literacy	
3b. Level of education of spouse? 0=no formal education; 1= Attended and finished primary education (Std1-Std 8); 2. Attended but did not finish primary (dropped out) 3=Attended and finished secondary education (F1-F4) (failed MSCE or did not write exams); 4. Attended but did not complete secondary school (dropped out before exam) 5 = Completed and passed MSCE 6=Certificate 7= diploma 8= Adult Literacy	
4. How many people are currently leaving with you? Adult (F+M) aged 60+	
Adult females (18-59)	
Adult males (18-59)	
Children (7-17)	
Young children below 6 years	
5. Do you have any other occupation other than farming? 0=No 1=Yes	
6. If yes, which one? 1=School teacher; 2=Village technician (agric); 3 = Money lender 4.Traditional doctor 5.Church preacher/pastor 6. Agrodealer 7. Business (grocery) 8. Business (agro base) 9) Business (bicycle hire and carry) 10) More than one of these (put all numbers)	
7. Is the household head, member of any farmer group? 0) No 1) Yes	
8. Are other people in the household members of farmer groups? 0) No 1) Yes	
9.Is the household head a member of more than one farmer group? 0) No 1) Yes	
10. Is the spouse a member of more than one farmer group? 0) No 1) Yes	
11a.Give total number of groups that all household members have membership into	
11b. Does head of household hold any leadership position in the village? 0)No 1) Yes	
11c. If yes to 13a state position 1) Traditional leader 2) Advisor to traditional leader 3)Leader of farmer group 4)church leadership 5)Traditional healer 6) Traditional Birth Attendant	
11d. Does spouse hold leadership position in the village? 0) No. 1) Yes	
11e. If yes to 13c state position 1) Traditional leader 2) Advisor to traditional leader 3)Leader of farmer group 4)church leadership 5)Traditional healer 6)Traditional birth attendant	
12.Do you have a public extension officer in your village/community? 0 = No 1) Yes	
13. Do you have a private extension officer in your village/community? 0 = No 1) Yes	
14. Do you have a village technician in your village/community 0 = No 1= Yes	
15. How often do you come into contact with an extension agent: 0) Never 1)daily 2)Weekly 3) Monthly 4) quarterly 5) annually	

Zikomo Kwambili

Thank you very much