

Appendix 4 – Baseline household demographics and farm data

In this section the main socio-demographic and economic characteristics of the farming households in Dedoplistskaro are presented. The data is based on the valuation survey implemented in March and April of 2016.

Socio-demographic and economic household characteristics

Table A4.1 and **A4.2** show the basic SDE characteristics of the sample that was interviewed. As can be seen, the majority of the household heads have grown up in Dedoplistskaro and almost half of them hold a university degree. Interesting, only 22% claim to have received any training in farming although farming represents the main livelihood activity for 90 per cent of the sample and more than half of the farmers started farming more than 20 years ago.

T A B L E A 4 . 1

Basic household characteristics (n=300)

Variable	Mean
Gender of household head (=Male)	94 %
Household head grew up in district	88 %
Any household member with a university degree	46 %
Household head with university degree	39 %
Household has received training in farming	22 %
Household head has grown up in a family of farmers	88 %
Households with an annual income above 5000 GEL/year	46 %
Farming as the main livelihood activity of HH	90 %
Animal husbandry as the main livelihood activity	3 %
Employment as the main livelihood activity	7 %
Household head began farming > 20 years ago	56 %
Household head began farming < than 5 years ago	3 %

T A B L E A 4 . 2

Basic household demographics

	Obs	Mean	Median	Std. Dev.	Min	Max
Age of household head	300	51.8	52	13.3	24	82
Household size	300	4.2	4	1.9	1	13
Nr of HH members below 18 years	300	0.8	1	1.0	0	5
Nr of HH members above 60 years	300	0.7	0	0.8	0	3
Annual Household income (GEL)	300	7,152	4,000	27,000	0	400,000

Farm characteristics

As shown in **Table A4.3** most of the farming households in the same have obtained their land through state allocation (55%). This is followed by ownership acquired by purchase (22%) and inheritance (10%). Only 3% of farmers belong to a cooperative, and even less belong to environmental farmer association. Interestingly however, up to 66% consider joining a cooperative. And of those who responded, no – I do not consider joining a cooperative, the principle reason was because there were no cooperatives within their vicinity.

Table A4.4 testifies the rareness of windbreaks in Dedoplistskaro. Only 27.5% of all farmers claim to have their land partially protected by windbreaks. The average proportion of land protected by windbreaks is 5%.

As shown in **Table A4.3** 22% of farms have purchased land. Table A4.3 shows what year the land was purchased in and at what price. From 1990 to 2015, nominal land prices (not adjusted for inflation) have gradually increased. The real price of land has therefore not risen at the same pace.

As can be seen in **Table A4.6**, farmers cultivate principally wheat and barley. The average farmer has 9 hectares of land as judged by the mean and 3 hectares of land as judged by the median.

In terms of distribution of farm sizes, **Table A4.7** shows that about 48% of farmers cultivate less than 5 hectares of land, and remaining have 5 hectares or more.

T A B L E A 4 . 3

Land ownership and farm characteristics

	Mean
Land under ownership acquired through inheritance	10 %
Land under ownership acquired through state allocation	55 %
Land under ownership acquired through purchase	22 %
Households using or renting land only (no ownership)	13 %
Household belonging to an environmental farmer association	1 %
Household belonging to a cooperative	3 %
Farmers considering joining a cooperative	66 %
Not joined a cooperative because there are none	9 %
There is no need to join a cooperative	13 %

T A B L E A 4 . 4

Farm characteristics and windbreaks (n=300)

Is your farmland protected by windbreaks ?	Mean
Yes	0.3 %
Partially	27.5 %
No	72.1 %
Average share of farmland protected by windbreaks	5 %

TABLE A 4 . 5

Farm characteristics (n=300)

Variable	Mean	Median	Std. Dev.	Min	Max	Max
Land used for farming (ha)	25.5	5	151.6	0.5	2,500	82
Plots of land used for farming	2.7	2	2.7	0	30	13
Last time land was purchased	2004	2005	7.6	1988	2016	5
Price per hectare land when purchased	647	422	595	24	2,300	3
Rental price per hectare (2015)	103.3	87	31.0	84	300	400,000
Hectares cultivated with wheat	9.3	2	30.4	0	250	
Output of wheat (tons)	37.1	2.8	248.8	0	4,000	
Yield (tons/ha)	2.2	2	1.2	0.12	7.5	

FIGURE A 4 . 1

Land prices (not adjusted for inflation) (n=300)

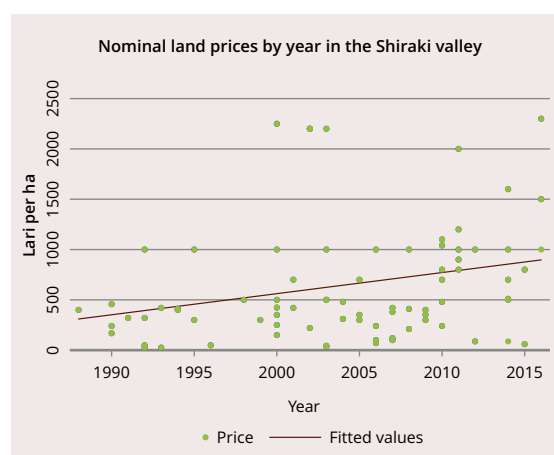
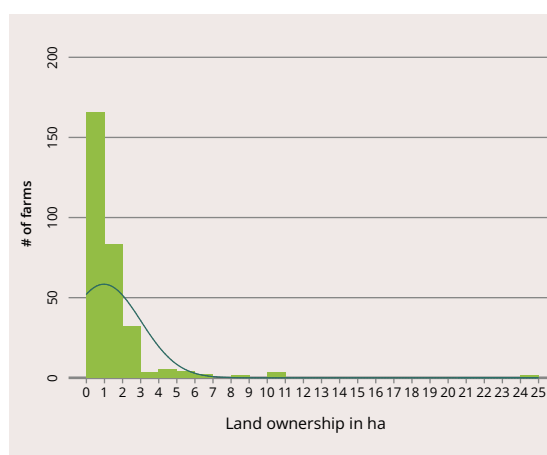


FIGURE A 4 . 2

Land ownership (n=300)



Agricultural yields

As shown in **Figure A4.8**, average yields (tons/ha) in Dedoplistskaro vary between less than 1 ton per hectare and up to 3.5 ton per hectare depending on the source. It is interesting to note however, that average yields estimated from the valuation survey in 2015 are lower than yields provided by ICC and Klein. That is probably because the valuation survey captures both ineffective and effective farmers because of the representative sample size, whereas estimates from ICC and Klein are based on data from a much smaller subset of farmers. It is thus more reasonable to expect that average yields are in the order of 2.2 tons/ha in 2015 and not above that. **Figure A4.3** however, shows that some

farmers were able to fetch up to 6–7 tons/ha in 2015 whilst others had less than 0.5 tons/ha.

Figure A4.3 gives an indication as to what determines yields. In this case, we clearly see that smaller farmers with less than 5 ha of land have lower yields than larger farmers (with >5 hectares of land).

Land under sustainable land use management practices

In terms of uptake of conservation tillage and residue management (**Table A4.9**) 3% of farmers in Dedoplistskaro cultivate with both light discs and a 'combi' harvester that shreds crop residues during harvest. Remaining farmers use heavy machinery for cultivation and/or harvest.

Amongst the different kinds of improved agronomic practices, crop rotation is the only major practice undertaken by farmers. Consulting **Table A4.10**, it can be seen that 28% of all cereal fields have been cultivated/rotated with other crops within the last 2 years.

TABLE A 4 . 6

What is grown (n=300)

Farmer's land cultivated with	Mean	Median	Std. Dev.	Min	Max	Pct share
Wheat	9.3	2	30.4	0	250	49%
Barley	5.5	1	20.0	0	300	29%
Wheat and barley	14.9	3	27	0	300	58%
Sunflower	0.7	0	3.5	0	50	4%
Pastures	3.4	0	24.8	0	271	18%
Vineyards	0.1	0	0.7	0	10	1%
Other/fallow	6.3					
Total	19.1	3	58.3	0	590	100%
	Share	Total ha				
% dedicated to wheat and barley out of total arable land	60%	20,562				
% dedicated to wine and sunflower out of total arable land	3%	11,82				

TABLE A 4 . 7

Distribution of farm sizes (not ownership) in Dedoplistskaro

Distribution of farm sizes (land cultivated, not ownership)	Number	Percent %	Cumulative %
Less than 1 ha	4	1.4	1.4
1 ha - 1.9 ha	33	11.4	12.3
2 ha - 2.9 ha	41	13.7	26.0
3 ha - 3.9 ha	34	11.3	37.3
4 ha - 4.9 ha	32	10.7	48.0
5 ha - 46.9 ha	32	10.7	58.7
7 ha - 9.9 ha	25	8.3	67.0
10 ha - 14.9 ha	28	9.3	76.3
15 ha - 19.9 ha	17	5.7	82.0
20ha - 29.9 ha	22	7.3	89.3
> 30 ha - 100 ha	21	7.0	96.3
> 100 ha	11	3.7	100.0

TABLE A 4 . 8

Yields (tons/ha) in the Dedoplistskaro district from different sources

Year	ICC	Klein (n=15)	Camacho et al., 2015 (n=census)	Westerberg (n=300)
2010	.	2.6	.	.
2011	.	2	.	.
2012	2.1	3	1.8	.
2013	1.8	2.8	.	.
2014	2.7	0.7	.	.
2015	3.5	3.2	.	2.27 ± 0.2
Average	2.5	2.5	1.8	2.2

TABLE A 4 . 9

Uptake of Sustainable Land management practices
Share of farmland (harvested with SLM equipment)

Soil management practices	Share of farmers	Ha	Std dev	Share of land
Pure conservation practices				
Cultivation with light discs and COMBI harvesting	3%	0.4	4.7	3 %
Crop residue mulching	0.3%	0.05	0.6	0.4 %
Conservation and conventional farm practices				
Cultivation with heavy discs and COMBI harvesting	23%	4.4	17.9	33 %
Cultivation with light discs and conventional harvesting	19%	3.9	33.7	30 %
Conventional farm practices only				
Cultivation with heavy discs and conventional harvesting	45%	4.4	14.6	34 %

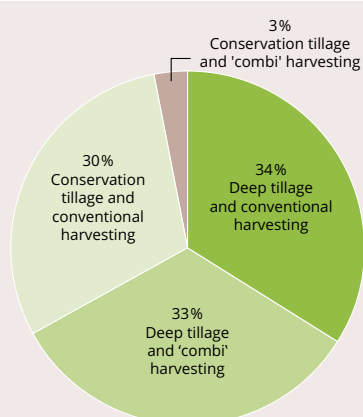


FIGURE A 4 . 3

Distribution of yields in 2015 from the valuation survey

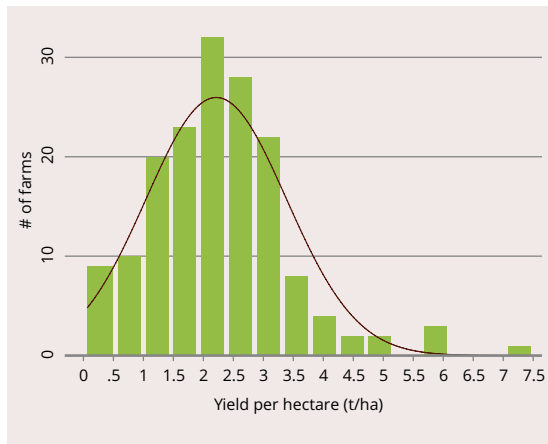


FIGURE A 4 . 4

Crop yields in Dedoplistskaro from different sources

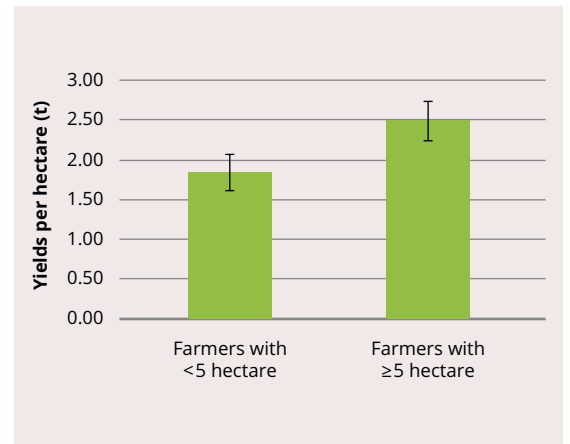


TABLE A 4 . 1 0

Uptake of Sustainable Land management practices

Crop rotation	Obs	Share of farmers	Hectares of land	Share of land
Farmer has last time rotated crop in 2014 or 2015	84	30 %	18.1	28 %
Farmer has last time rotated crop in 2013	89	31 %	16	25 %
Farmer has last time rotated crop in 2012	66	23 %	14.5	23 %
Farmer has last time rotated crop in 2011 or before	42	14 %	11.6	18 %
Farmer has never rotated crops	11	4 %	4.1	6 %

Last time farmers rotated crop

