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Annex 3B. Household survey endline report

- Impact evaluation food security programme Bangladesh

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1. Introduction

1.1 Baseline and endline samples

To assess the impact of two Food Security projects, Safal and Blue Gold (BG) that are sponsored by the Dutch government, 1.600 households were twice surveyed, in the spring of 2014 (baseline survey) and in the spring of 2016 (endline survey). These surveys were fielded among samples of households that participate in one of both projects, and among control groups. In the Safal areas a distinction is made between 'farmers' and 'landless'. Whilst the first group are the main beneficiaries, landless are expected to benefit in an indirect way from the spin-off effects of Safal on beneficiary farmers. Both the Safal samples and the concomitant control sample are stratified such that 270 households are 'farmers' and 130 are 'landless'.

The surveys therefore consists of six subgroups:

- 400 BG beneficiaries
- 400 BG controls in areas that match with the polders in which BG is active
- 270 Safal beneficiaries ('farmers')
- 130 indirect beneficiaries ('landless') in Safal areas
- 270 control farmers in areas in which Safal is not active
- 130 control landless in areas in which Safal is not active

These groups were selected by choosing four different areas (districts and upazillas), and within those areas unions and villages were chosen at random. The choice of two beneficiary and two control areas, the sampling protocol and the questionnaire are described in the Inception Report. The survey consists of background characteristics and indicators that measure several aspects of food security programs.

1.2 Composition and representativeness of the samples

One way to check whether the samples used are representative is by looking at the distribution of the households by the size of the cultivable land they own.

For Safal Table 1 shows this distribution. It reflects that Safal has deliberately selected as beneficiaries medium (12%) and large scale farmers (2%). This was been done in consultation with the EKN to ensure quantity and quality of commodities supply to the market, especially also on aquaculture products. In total 57,342 beneficiaries were selected against the target of 50,000 to ensure that the project reached to the landless, marginal and smallholders as per the agreed proposal. From Table 1 we learn that:

- the landsizes of the sampled beneficiary households are considerably smaller (and the representation of landless is higher) than that of the full beneficiary population;

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- the landsizes of the sampled farmer households in the control areas are considerably smaller (and the representation of landless is higher) than the sampled beneficiary households.

Unfortunately, we did not know the land size distribution beforehand, and therefore could not stratify the samples by land size. Also, we did not know that Safal selected medium and large-scale farmers from the total population. The control sample may be assumed to represent the composition of the total population.

Land sizes may indicate wealth but can also indicate the degree to which an area is urbanized. Hence, the differences between the Safal population and beneficiary sample and between beneficiaries may be caused by mismatches in wealth, or in urbanization, or both.

Table 1 Safal population and samples by land size

	All Safal farmers (n= 57,342)	Safal samples		Safal control sample	
		Beneficiaries (n= 270)	Landless (n= 130)	Farmers (n= 270)	Landless (n= 130)
Landless (0-49 decimal lands)	20%	58.52%	90.77%	81.85%	99.23%
Marginal Farmer (50-149 decimal lands)	45%	28.15%	8.46%	14.81%	0.00%
Small holder (150-249 decimal lands)	21%	9.63%	0.77%	2.59%	0.77%
Medium farmers (250-749 decimal lands)	12%	3.70%	0.00%	0.74%	0.00%
Large farmers (750 decimal and above)	2%	0.00%	0.00%	0.00%	0.00%
Total	100%	100%	100%	100%	100%

Table 2 shows that the Blue Gold beneficiary and control samples are well matched in terms of landsize.

Table 2 Blue Gold beneficiary and control sample by land size

	Blue Gold beneficiaries	Blue Gold controls
Landless (0-49 decimal lands)	68.50	76.00
Marginal Farmer (50-149 decimal lands)	19.75	13.00
Small holder (150-249 decimal lands)	7.75	5.50
Medium farmers (250-749 decimal lands)	4.00	5.25
Large farmers (750 decimal and above)	0.00	0.25
Total	100%	100%

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1.3 Attrition

For the endline survey the same 1,600 households were approached to be able to observe differences between base and endline at the micro-level. 41 (2.6%) could not be retrieved or interviewed, and had to be replaced by similar households. In multivariate paneltype analyses these 41 households will be disregarded.

Table 3 Number of Replaced Households

Respondent Type	Number of Replacement Households
Blue gold beneficiaries	13
Blue gold control area	16
Safal area direct beneficiaries (producer group)	4
Safal area indirect beneficiaries (landless/extreme poor)	2
Safal control area (producer)	4
Safal control area (landless/extreme poor)	2
Total	41

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2. General household characteristics

2.1 Household size and composition

Table 4 General characteristics of household members

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Sample HH members n=7,640	n=1,999	n=1,945	n=1,350	n=546	n=1,241	n=559
Average family size	5.00	4.75	4.94	3.96	4.45	4.23
Age distribution of HH members						
<=5	6.2	6.9	6.7	6.0	5.7	5.1
5-15	17.4	19.5	15.0	17.3	17.6	22.2
15-30	27.4	25.1	25.1	21.6	25.6	21.1
30-60	36.8	37.0	39.2	41.2	39.4	41.1
=>60	12.3	11.6	14.0	14.0	11.6	10.5
Age distribution of HH head	n=400	n=400	n=270	n=130	n=270	n=130
15-30	5.0	4.8	5.2	4.6	2.2	3.1
30-60	66.5	70.3	74.1	78.5	77.0	76.9
=>60	28.5	25.0	20.7	16.9	20.7	20.0
Gender of HH members	n=400	n=400	n=270	n=130	n=270	n=130
Male /Female ratio	1.34	1.38	1.25	1.24	1.30	1.30
Education of HH head	n=400	n=400	n=270	n=130	n=270	n=130
No education	26.5	30.5	20.7	45.4	36.3	63.1
1-5 years schooling (passed)	29.8	31.0	18.1	31.5	27.0	20.8
6+ years schooling (passed)	23.8	23.5	31.9	18.5	20.7	12.3
Others ^a	16.0	11.8	22.6	3.1	10.4	3.8
% of HH members age =>15 with no education	n=1,502	n=1,391	n=1,054	n=406	n=931	n=393
	19.16	22.82	24.52	43.80	29.86	47.75
Religion of HHs (N=1600)	n=400	n=400	n=270	n=130	n=270	n=130
Muslim	52.5	68.5	23.3	25.4	76.7	80.8
Hindu	47.5	31.5	76.7	74.6	23.3	19.2

a = religious education, don't know; b = this includes three Buddhist households

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2.2 Housing and sanitation

In terms of housing there are no significant differences between BG beneficiary and control areas. Safal beneficiary areas appear to be somewhat better off, when looking at the use of cement as construction material and access to electricity.

Table 5 Housing and sanitation

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Sample of HHs (N=1600)	n=400	n=400	n=270	n=130	n=270	n=130
Ownership of dwelling						
Own	88.25	84.75	92.22	76.15	89.26	83.08
Construction materials of wall						
Cement/brick/rod/tiles	10.75	20.00	52.59	18.46	55.56	20.77
Tin/wood	58.00	50.25	6.30	16.15	7.78	21.54
Other (mud/straw)	31.25	29.75	41.11	65.38	36.67	57.69
Construction materials of roof						
Cement/brick/rod/tiles	5.50	7.25	12.96	5.38	11.11	0.77
Tin/wood	84.75	83.50	75.56	75.38	74.44	81.54
Other	9.75	9.25	11.48	19.23	14.44	17.69
Energy source use for lighting						
Electricity	75.75	88.25	90.00	72.31	84.44	64.62
Battery	21.25	11.75	7.78	26.92	14.44	33.85
Kerosene lamps	2.00	0.00	0.00	0.00	0.37	0.77
Other (solar)	1.00	0.00	2,22	0.77	0.74	0.77
Sanitation						
Source of drinking water						
Tube well	95.3	99.3	87.4	93.1	97.4	100.0
Toilet facility						
Pit latrine with slab	68.0	64.5	48.9	45.4	44.8	43.1
Modern/pit with flush	13.5	16.8	23.7	46.2	31.9	46.2
Ventilated improved pit latrine (vip)	5.8	5.3	3.3	1.5	6.7	1.5
Else (open/hanging etc)	2.3	2.0	0.0	0.8	0.7	0.8
Dispose of stool of children under 5, n=464						
Use toilet	33.33	33.08	39.33	51.52	37.18	19.23
Put/rinsed into toilet	35.19	33.08	28.09	18.18	35.90	34.62
Else (thrown in garbage/rinsed into drain/open etc.)	31.48	33.84	32.58	30.3	26.92	46.15

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In comparison with the baseline the ownership has somewhat decreased. The percentage of households that use electricity or batteries has significantly grown. For instance in the BG control areas it has almost doubled from 45% to 88%. Toilet facilities also have considerably improved and the use of toilets to dispose of the stool of young children has grown alongside this improvement.

2.3 Vulnerability

While drought was the adverse climatic event that was mentioned the most in 2014, it was excessive rainfall in 2016. Crop loss or failure, associated with excessive rain, was reported more frequently in 2016.

Table 6 Percentage of households that suffered adverse events, by event

		Blue Gold		Safal beneficiary areas		Safal control areas	
		beneficiaries	controls	farmers	Landless	farmers	landless
		n=400	n=400	n=270	n=130	n=270	n=130
	<i>Climate</i>						
1	Flood	2.8	11.8	14.8	12.3	10.4	6.9
2	Drought	3.5	4.3	4.4	1.5	4.4	2.3
3	Cyclone	0.8	4.5	0.0	2.3	1.1	2.3
4	River Erosion	0.0	0.0	0.4	0.8	1.1	0.8
5	Excessive Rain	49.0	36.5	31.5	22.3	20.4	24.6
6	Land Slide	0.5	0.0	0.0	0.0	0.0	0.0
7	Wind Damage	15.8	25.3	26.7	30.0	36.7	38.5
	<i>Faced one or more of the 7 natural disaster</i>	<i>59.5</i>	<i>56.3</i>	<i>55.6</i>	<i>56.9</i>	<i>53.7</i>	<i>56.2</i>
	<i>Faced crop lost or crop failure or both</i>	<i>27.0</i>	<i>20.3</i>	<i>9.3</i>	<i>5.4</i>	<i>11.5</i>	<i>5.4</i>

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3. Water management

Table 7 Water management related problems in last 12 months (percentages)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	Landless	farmers	landless
<i>Type of water problem</i>	n=400	n=400	n=270	n=130	n=270	n=130
Lack of water	8.8	7.0	4.4	2.3	4.1	2.3
Flooding	1.5	13.0	23.0	7.7	15.2	10.8
Water Logging	39.8	32.8	28.9	12.3	18.1	8.5
Salinity	7.8	17.3	11.9	3.1	7.8	1.5
Other	1.0	1.5	1.9	0.0	1.9	0.8
<i>Households with at least one water problem</i>	47.5	51.5	53.0	22.3	36.7	20.8
<i>Causes of water problem *</i>	n=190	n=206	n=143	n=29	n=99	n=27
Absence of sufficient water infrastructure	28.9	38.3	30.1	27.6	41.4	29.6
Deterioration of water infrastructure	2.1	8.3	8.4	3.4	8.1	3.7
Sabotage of water infrastructure	0.0	0.5	2.8	0.0	8.1	7.4
Decision by water management group	22.1	19.9	5.6	13.8	5.1	0.0
Drought	8.9	6.3	7.0	6.9	9.1	7.4
Excessive rainfall	74.7	67.0	69.2	65.5	51.5	66.7
No specific cause	2.1	2.9	2.8	0.0	1.0	0.0
Other	3.7	13.6	11.9	17.2	12.1	14.8
<i>Consequences of water problems*</i>	n=190	n=206	n=143	n=29	n=99	n=27
Reduction of crops	42.1	48.1	35.7	27.6	56.6	44.4
Destruction of crops	14.2	14.1	10.5	17.2	17.2	14.8
Planting of crops postponed	34.7	20.9	14.0	6.9	16.2	7.4
Land could not be used for crop production	14.7	13.6	4.9	10.3	9.1	3.7
Fishery/aquaculture production was affected	5.3	29.1	55.2	34.5	26.3	18.5
Livestock production was affected	0.0	0.0	2.1	0.0	0.0	3.7
Source of drinking water was affected	1.1	1.0	0.7	0.0	1.0	0.0
No serious consequences	2.6	1.9	0.7	0.0	7.1	0.0

* multiple responses

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Table 8 Performance of the water management system (percentages)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>WMG member?</i>						
Yes	77.3	3.5	14.8	4.6	1.5	0.0
<i>If not, why not?</i>	91	386	230	124	266	130
Not aware of presence	12.1	31.9	33.9	36.3	37.6	42.3
I have no influence on decisions	8.8	0.5	4.3	5.6	0.4	0.0
No time/money to participate	4.4	1.3	7.0	4.0	3.8	3.1
Not allowed to participate	5.5	1.8	7.4	5.6	7.1	6.9
Other	69.2	64.5	47.4	48.4	51.1	47.7

Table 8a Was the Water Management System (WMS) good for your production?

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
No	33.0	62.0	42.2	39.2	43.0	39.2
Yes, agriculture	49.8	14.8	24.4	20.8	27.8	18.5
Yes, aquaculture	2.0	1.3	14.1	7.7	1.5	0.8
Yes, both agriculture and aquaculture	8.3	3.3	13.0	10.8	8.1	4.6
Don't know / no opinion	7.0	18.8	6.3	21.5	19.6	36.9
<i>If yes</i>	n=240	n=77	n=139	n=51	n=101	n=31
Not at all	12.1	20.8	15.8	2.0	8.9	9.7
A little	75.4	71.4	57.6	74.5	55.4	45.2
Much	11.3	7.8	18.7	17.6	28.7	35.5
Very much	1.3	0.0	7.9	5.9	6.9	9.7

Table 8b Time since last major improvement or maintenance of WM infrastructure

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Less than 1 year ago	13.3	2.5	7.0	0.8	0.4	0.0
1 to 2 years ago	20.5	2.0	8.5	1.5	5.9	0.8
More than 2 years ago	44.5	48.8	54.1	40.8	44.4	37.7
Do not know/cannot recall	21.8	46.8	30.4	56.9	49.3	61.5

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Table 8c Performance of the WMS over the past 2 years

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Improved performance?</i>	400	400	270	130	270	130
Yes	36.3	58.3	49.6	46.9	38.9	19.2
No	50.0	13.5	38.9	20.0	30.4	22.3
Not Applicable	13.8	28.3	11.5	33.1	30.7	58.5
<i>What aspect performs better?</i>	145	233	134	61	105	25
Flood Protection	27.0	48.1	14.3	15.4	3.7	3.4
Drainage	59.0	51.9	31.4	30.8	13.4	24.1
Irrigation	69.0	31.5	72.4	61.5	81.7	72.4
Prevention of salt intrusion	21.0	42.6	5.7	19.2	11.0	3.4
Others	2.0	3.7	5.7	0.0	4.9	10.3
<i>What aspect performs less well?</i>	200	54	105	26	82	29
Flood Protection	23.4	20.6	15.7	16.4	10.5	8.0
Drainage	44.8	37.3	29.1	27.9	15.2	20.0
Irrigation	33.8	25.3	27.6	19.7	28.6	24.0
Prevention of salt intrusion	17.9	31.3	6.7	0.0	5.7	4.0
Others	20.0	37.8	45.5	50.8	54.3	60.0

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4. Project participation and extension

Table 9 Project participation and extension (in percentages)

	Blue Gold	
	beneficiaries	controls
In the past 2 years did you participate in one of the water management groups supported by the BG program?	92.75	0.50
In the past 2 years, did you, or any other member of your household, participate in another project related to water management?	36.75	3.25
In the past 2 years did you, or any other member of your household, participate in another project related to food security, agriculture or nutrition?	15.00	14.50
Did you receive through the water management group any support on agricultural activities?	37.25	0.75
If yes, for what type of crop did you receive support?	n=149	n=3
horticulture	16.1	0
rice	72.5	100
other	26.2	0
In the past 2 years, what are the most important services the WMG provided? *	n=149	n=3
Savings and loans	42.3	33.3
Cooperative services for inputs	21.5	-
Training	60.4	-
Transport to market	3.4	-
Negotiations with traders	2.7	-
Information about markets	6.0	-
Link to agricultural extension services	25.5	33.3
New Information and techniques	16.8	-
Do you pay for these services provided by the water management groups?	4.03	33.33
In the past 2 years, did you participate in a farmer field school?	70.50	9.00
In the past 2 years, did you receive training, advice, or instructions on agricultural, livestock or fishery production <i>other than through farmer field schools</i> ?	19.00	16.50
Are you member of a cooperative of farmers, or farmer group?	93.25	4.75
Do you feel that during the last two years you have improved access to water for agricultural production?	43.00	6.25
Did better access to water lead to better yields and higher food production?	95.93	68.00
Did better access to water lead to higher incomes from food production?	95.35	64.00
Do you have more trust in the good functioning of the Water management group (WMG)?	53.50	4.50
Do you believe that the WMG can help solve your problems with access to water?	54.25	7.00
Do you have better access to funds for investments?	72.00	63.75
Did you provide any funds to the WMG so that the WMG can better carry out its functions of water management?	5.75	1.25
In the past two years, did you participate in a project from which you received an unconditional (free) cash or asset transfer?	36.75	31.00

* multiple responses possible

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Table 10 Project participation and extension (in percentages)

	Safal beneficiary areas		Safal control areas	
	farmers	landless	farmers	landless
In the past 2 years did you participate in one of the producer groups of the Safal program?	98.15	90.77	0.00	0.77
In which Safal producer group did you participate?	n=265	n=118	n=0	n=1
Acquaculture	70.6	44.9	-	100
dairy products	21.9	34.7	-	-
Horticulture	17.0	22.9	-	-
In the past 2 years, did you, or any other member of your household, participate in another project related to food security, agriculture or nutrition?	7.78	10.00	10.00	8.46
In the past 2 years, what are the most important services that have improved? *	n=270	n=130	n=270	n=130
Savings and loans	7.8	11.5	5.6	5.4
Cooperative services for inputs	9.6	4.6	3.0	1.5
Training	83.7	62.3	7.4	6.2
Transport to market	53.3	59.2	61.9	51.5
Negotiations with traders	20.4	16.2	10.4	8.5
Information about markets	55.9	47.7	40.0	35.4
Link to agricultural extension services	6.7	6.2	5.2	3.8
New Information and techniques	41.1	23.8	14.8	5.4
Do you pay for these services?	15.19	14.62	14.07	20.00
In the past 2 years, did you participate in a farmer field school?	96.30	87.69	6.67	1.54
In the past 2 years, did you receive extension services, such as training, advice, or instructions on agricultural, livestock or fishery production other than through farmer field schools?	13.70	18.46	10.37	6.92
Are you member of a cooperative of farmers, or farmer group?	96.67	92.31	4.07	0.77
Do you feel that during the last two years your access to markets has improved?	91.85	73.85	64.44	49.23
Do you receive better prices for your products?	83.70	73.08	62.22	46.92
Are you in a better position to deal with different value chain actors: input providers, traders, middlemen, service providers than two years ago?	88.89	70.00	52.59	46.15
Do you have better access to information about markets?	91.85	78.46	68.15	52.31
Do you have better access to technology?	67.04	44.62	34.81	14.62
Do you have better access to funds for investments?	85.93	55.38	57.78	33.85
Did you provide any funds to the producer group so that the producer group can better carry out its tasks?	5.56	6.92	2.96	3.08
In the past two years, did you participate in a project from which you received an unconditional (free) cash or asset transfer?	16.30	19.23	15.93	16.15

5. Land ownership and use

5.1 Land ownership

Between 2014 and 2016 average plot size has decreased. This was already indicated by comparison of the plot size distribution in Table 1.

Table 11 Ownership rate and average size* of land and ponds in hectares**

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
	n=400	n=400	n=270	n=130	n=270	n=130
<i>Homestead Land:</i>						
ownership rate	87.8	85.8	89.3	70.0	89.6	78.5
average size	0.068	0.067	0.057	0.033	0.053	0.032
<i>Cultivable Land:</i>						
ownership rate	70.3	63.3	79.3	33.8	57.4	13.1
average size	0.576	0.588	0.586	0.223	0.457	0.162
<i>Ponds (deep, non-cultivable)</i>						
ownership rate	63.3	59.3	59.6	30.0	41.5	16.9
average size	0.050	0.057	0.145	0.026	0.055	0.025
<i>Other non-cultivable land</i>						
ownership rate	14.3	10.8	28.5	13.1	22.2	10.0
average size	0.063	0.087	0.107	0.109	0.089	0.026

* The averages are calculated for households that own the specific type of land.

** 1 hectare = 247 158 decimal

In our further analyses we take average plot or pond size separately as input indicators.

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5.2 Land and pond use

While the average size of plots *owned* has decreased the number plots *used* have grown. This may be due to a number of non-exclusive causes: farmers may have bought additional smaller pieces, or they may have split up plots into smaller parts. They may also have increased the number of leased plots. This is indicated by the increased share of leased plots, at the expense of owned plots.

Table 12 Use of plots / ponds by area (excluding homestead)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	farmers	landless	farmers	landless
Number of households using plots and ponds	400	399	267	127	265	128
Number of plots	1,297	1,092	947	284	687	179
Average # of plots and ponds per household	3.2	2.7	3.5	2.2	2.6	1.4
<i>Type of ownership (%) (n=4.609)</i>						
Owned	61.64	60.05	69.77	45.64	59.92	31.18
Share crop	0.46	1.08	0.10	0.00	0.14	0.54
Leased	26.71	31.74	21.62	42.28	30.72	54.30
Other	11.19	7.12	8.50	12.08	9.23	13.98
<i>Product groups (%):</i>						
Rice	67.0	68.8	83.7	57.7	66.3	35.4
Other crops	64.3	42.3	42.6	23.1	47.8	30.8
Aquaculture	75.5	81.5	88.1	57.7	52.6	29.2
Dairy	-	-	89.6	72.3	81.5	70.8
<i>Number of product groups</i>						
0	7.8	8.0	1.1	9.2	6.7	19.2
1	19.3	22.3	4.8	24.6	16.3	27.7
2	31.5	39.0	15.6	26.9	21.9	29.2
3	41.5	30.8	45.9	24.6	32.6	15.4
4	0.0	0.0	32.6	14.6	22.6	8.5

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Management of outputs has shifted towards management by both partners. Females managing outputs is still a rare phenomenon.

Table 13 Management of the output from the parcel

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Agriculture</i>	315	305	235	86	202	54
Male	81.59	79.67	95.32	80.23	90.59	85.19
Female	2.54	2.62	0.43	5.81	1.98	3.70
Both	15.87	17.70	4.26	13.95	7.43	11.11
<i>Fisheries</i>	158	187	142	44	84	20
Male	76.58	78.61	93.66	84.09	90.48	85.00
Female	3.80	2.67	2.82	4.55	2.38	0.00
Both	19.62	18.72	3.52	11.36	7.14	15.00
<i>Homestead</i>	52	46	40	12	35	14
Male	57.69	63.04	67.50	75.00	54.29	71.43
Female	7.69	2.17	0.00	8.33	2.86	14.29
Both	34.62	34.78	32.50	16.67	42.86	14.29

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6. Production & sales

6.1 Specialization

Table 14 Percentage distribution of households by type of product

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Product types</i>						
Only crops	15.3	11.3	8.9	24.6	30.4	31.5
Only fisheries	10.5	14.3	8.5	15.4	6.3	11.5
Both	66.5	66.8	80.4	43.1	47.0	19.2
No crops nor fisheries	7.8	7.8	2.2	16.9	16.3	37.7

6.2 Production and yield in last 12 months

Table 15 Average production per household in kgs

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i># hh's producing:</i>						
Rice	268	275	226	75	179	46
Other crops	254	168	112	30	129	40
Aquaculture	302	326	238	75	142	38
<i>Production volume</i>						
Rice	1,742.2	3,197.7	2,625.4	1,480.8	1,969.2	1,788.3
Other crops	345.2	1,053.6	1,207.6	768.3	970.1	442.1
Aquaculture	113.8	168.4	658.2	191.6	207.4	127.7
<i>Total production volume</i>						
Rice	466,910	879,368	593,340	111,060	352,487	82,262
Other crops	87,681	177,005	135,251	23,049	125,143	17,684
Aquaculture	34,368	54,898	156,652	14,370	29,451	4,853

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Table 16 Number of plots for a crop and average yield per hectare and crop type

Crop type	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	Landless
# plots/ ponds for:						
Rice	908	724	626	190	443	120
Other crops	672	257	172	35	205	56
Aquaculture ^a	187	211	194	47	105	21
Yield per hectare						
Rice	2,620.58	4,452.18	4,627.61	6,401.64	5,536.48	5,536.48
Other crops	595.44	1,313.90	2,002.39	3,254.19	3,421.46	2,795.59
Aquaculture	1,325.37	1,872.37	2,608.55	1,798.02	1,051.36	857.71

^a The number of plots/ponds used for agriculture is smaller than the number of households producing fish because there are households that they harvested fish in the last 12 months (Module G2) but they did not mention any plots/ponds used for fisheries (Module F2 where only information is asked about the 6 biggest plots/ ponds). For these households it was not possible to calculate the yield of fish.

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6.3 Harvest per season

Table 17 Harvest of rice per season

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Season 1</i>						
Average	1025	2628	2586	1473	1722	1558
Minimum	120	120	120	60	50	200
Maximum	2800	12000	21200	6600	12000	5400
Number of households	25	131	194	69	155	45
<i>Season 2</i>						
Average	1080	2533	530	1147	1099	823
Minimum	400	100	80	480	20	120
Maximum	2200	8200	1120	2400	3800	2400
Number of households	4	8	14	3	41	7
<i>Season 3</i>						
Average	1683	2857	1907	723	781	564
Minimum	120	40	240	400	80	80
Maximum	10640	24000	6000	1120	2720	1200
Number of households	255	175	40	6	34	9
<i>Season 4</i>						
Average	873	1649	665	540	1223	440
Minimum	160	360	120	320	240	120
Maximum	3040	3420	2520	780	3120	600
Number of households	9	9	12	3	12	3

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Table 18 Harvest of other crops per season

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Season 1</i>						
Average	268	376	949	309	537	163
Minimum	4	5	20	10	10	3
Maximum	4570	2830	13320	1460	6000	1600
Number of households	125	68	86	21	75	25
<i>Season 2</i>						
Average	209	611	555	346	592	317
Minimum	3	10	15	10	5	10
Maximum	2212	9422	4240	1680	12000	1600
Number of households	29	43	47	15	55	20
<i>Season 3</i>						
Average	144	826	573	588	485	266
Minimum	1	4	10	2	6	3
Maximum	1205	9530	5130	2300	7010	2200
Number of households	55	74	39	19	80	25
<i>Season 4</i>						
Average	238	748	618	37	393	119
Minimum	2	2	10	4	0	3
Maximum	10700	18110	4900	100	4000	500
Number of households	183	93	24	7	39	6

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Table 19 **Number of harvests**

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Rice</i>						
0	33.00	31.25	16.30	42.31	33.33	64.62
1	61.50	57.50	72.59	53.08	45.56	23.08
2	4.75	10.50	9.63	4.62	19.26	10.77
3	0.75	0.75	1.48	0.00	1.85	1.54
<i>Average</i>	<i>0.7</i>	<i>0.8</i>	<i>1.0</i>	<i>0.6</i>	<i>0.9</i>	<i>0.5</i>
<i>Other crops</i>						
0	35.00	57.50	57.04	76.92	52.22	69.23
1	40.25	25.50	24.44	11.54	21.48	12.31
2	18.00	10.00	10.37	1.54	14.44	10.77
3	5.25	4.00	5.19	6.92	5.56	6.15
4	1.50	3.00	2.96	3.08	6.30	1.54
<i>Average</i>	<i>1.0</i>	<i>0.7</i>	<i>0.7</i>	<i>0.5</i>	<i>0.9</i>	<i>0.6</i>
<i>Rice or other crops</i>						
0	19.25	23.00	11.48	39.23	25.19	51.54
1	23.50	35.75	56.67	40.77	26.30	18.46
2	37.75	27.25	18.52	9.23	24.44	16.15
3	17.00	9.75	8.52	7.69	16.30	10.77
4	2.50	4.25	4.81	3.08	7.78	3.08
<i>Average</i>	<i>1.6</i>	<i>1.4</i>	<i>1.4</i>	<i>0.9</i>	<i>1.6</i>	<i>1.0</i>

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6.4 Consumption and sales in last 12 months

Table 20 Production per HH in kgs (last 12 months) and sales (in percentages)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Number of HHs producing crops	321	308	238	79	202	63
<i>Production of crops (kgs)</i>	1727.7	3429.8	3061.3	1697.6	2364.4	1586.4
Sold and stored for sale (%)	52.8%	32.7%	43.1%	46.2%	43.6%	49.8%
Consumed and stored for consumption m(%)	30.9%	57.6%	52.2%	36.4%	43.9%	35.2%
Other (a.o. given away) (%)	16.4%	9.7%	4.8%	17.4%	12.5%	15.0%
Number of HHs practicing fishery	302	326	238	75	142	38
<i>Production of fisheries (kgs)</i>	113.8	168.4	658.2	191.6	207.4	127.7
Sold and stored for sale (%)	52.8%	38.2%	12.8%	24.7%	30.0%	22.7%
Consumed and stored for consumption (%)	44.7%	59.0%	77.9%	72.8%	68.0%	71.9%
Other (a.o. given away) (%)	2.4%	2.7%	9.3%	2.5%	2.0%	5.4%

Table 21 Distribution of sale volumes by channel (in percentages)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Number of HHs selling crops	190	240	178	44	142	40
<i>Volume of crops sold (kgs)</i>	608.5	2401.7	2138.9	1095.3	1422.0	879.7
Farmgate (%)	46.2	73.2	48.9	29.0	29.6	21.5
Village market (%)	47.2	24.8	46.2	61.0	69.7	78.5
District market (%)	6.6	2.0	3.7	9.0	0.7	0.0
Contract (%)	0.0	0.0	0.0	0.0	0.0	0.0
Cooperative (%)	0.0	0.0	1.2	1.0	0.0	0.0
Number of HHs selling fisheries	109	188	207	50	70	19
<i>Sale volume of fisheries (kgs)</i>	123.0	145.3	419.8	138.5	215.3	201.4
Farmgate	48.2	31.6	32.6	42.1	31.9	7.6
Village market	38.1	60.7	62.7	57.9	68.1	92.4
District market	13.6	7.8	4.7	0.0	0.0	0.0
Contract	0.0	0.0	0.0	0.0	0.0	0.0
Cooperative	0.0	0.0	0.0	0.0	0.0	0.0

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Table 22 Average prices (in USD) per kg

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Average sales price</i>						
Rice	0.20	0.49	0.22	0.25	0.26	0.21
Other crops	0.39	0.19	0.25	0.26	0.43	0.36
Aquaculture	4.03	4.10	3.94	3.19	3.51	3.14

7. Livestock and poultry

7.1 Size, purchase and sale

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Table 23 Percentage distribution of production and marketing of livestock and poultry (for Safal project, landowners)

	Study areas											
	Safal beneficiary, n=400						Safal control, n=400					
Number of hhs with at least one:	Bullok, n=139	Milk cow n=178	Goat n=62	Hen n=167	Duck n=199	Others n=10	Bullok n=101	Milk cow, n=139	Goat n=101	Hen n=187	Duck n=150	Others, n=0
Ownership	99.28	96.63	95.16	100.00	99.50	91.7	100.00	96.40	93.07	100.00	99.33	0.00
Present number												
1	66.19	36.52	22.58	15.57	5.53	30.00	69.31	53.24	26.73	15.51	8.67	0.00
2	27.34	36.52	25.81	11.38	14.57	20.00	24.75	30.22	28.71	18.72	21.33	0.00
3+	6.47	26.97	51.61	73.05	79.90	50.00	5.94	16.55	44.55	65.78	70.00	0.00
# bought last 12 months												
0	74.82	91.01	70.97	80.84	59.80	60.00	66.34	74.82	74.26	75.40	62.00	0.00
1	17.27	7.87	17.74	2.99	2.51	30.00	28.71	20.14	17.82	2.67	2.67	0.00
2	6.47	1.12	8.06	7.78	8.54	10.00	2.97	2.88	5.94	8.02	11.33	0.00
3+	1.44	0.00	3.23	8.38	29.15	00.00	1.98	2.16	1.98	13.90	24.00	0.00
Purchase value												
Mean (USD.) ^a	356.19	339.20	34.16	4.45	2.40	39.70	308.00	284.93	30.89	5.35	2.52	0.00
# sold last 12 months												
0	58.99	68.54	51.61	66.47	77.89	30.00	68.32	78.42	63.37	68.98	84.67	0.00
1	33.09	26.40	22.58	1.20	3.52	60.00	24.75	15.83	15.84	4.28	4.00	0.00
2	5.76	3.93	12.90	5.99	4.52	10.00	5.94	3.60	11.88	3.74	2.00	0.00
3+	2.16	1.12	12.90	26.35	14.07	0.00	0.99	2.16	8.91	22.99	9.33	0.00
Sales value												
Mean	466.16	360.47	46.04	2.90	4.40	105.25	401.06	309.98	66.24	2.73	4.21	0.00
Place where sold												
Farm gate	94.47	96.43	96.67	96.43	100.00	71.43	87.50	86.67	86.49	91.38	95.65	0.00
Village	5.26	3.57	0.00	3.57	0.00	28.57	12.50	13.33	13.51	8.62	4.35	0.00
Other	0.00	0.00	3.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Decision to sell												
Male	82.46	69.64	53.33	10.71	9.09	33.33	59.38	76.67	64.86	13.79	17.39	0.00
Female	0.00	3.57	20.00	76.79	72.73	0.00	12.50	0.00	16.22	70.69	65.22	0.00
Both	17.54	26.79	26.67	12.50	18.18	66.67	28.13	23.33	18.92	15.52	17.39	0.00
Controls sales money												
Male	89.47	82.14	60.00	23.21	18.18	28.57	68.75	83.33	72.97	13.79	21.74	0.00
Female	0.00	5.36	20.00	71.43	65.91	42.86	12.50	0.00	16.22	67.24	60.87	0.00

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Both	10.53	12.50	20.00	5.36	15.91	28.57	18.75	16.67	10.81	18.97	17.39	0.00
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Table 24 Percentage distribution of production and marketing of livestock and poultry (for Safal project, landless)

	Study areas											
	Safal beneficiary, n=400						Safal control, n=400					
Number of hhs with at least one:	Bullok, n=34	Milk cow n=57	Goat n=27	Hen n=63	Duck n=76	Others n=1	Bullok n=32	Milk cow, n=58	Goat n=48	Hen n=64	Duck n=57	Others, n=0
Ownership	100.00	96.49	96.30	100.00	100.00	100.00	100.00	91.38	89.58	95.31	96.49	0.00
Present number												
1	64.71	50.88	25.93	15.87	6.58	0.00	68.75	48.28	33.33	21.88	12.28	0.00
2	32.35	33.33	14.81	15.87	17.11	0.00	21.88	27.59	31.25	15.63	24.56	0.00
3+	2.94	15.79	59.26	68.25	76.32	100.00	9.38	24.14	35.42	62.50	63.16	0.00
# bought last 12 months												
0	67.65	89.47	81.48	52.38	50.00	0.00	71.88	82.76	75.00	70.31	50.88	0.00
1	26.47	7.02	7.41	11.11	3.95	0.00	21.88	13.79	22.92	7.81	1.75	0.00
2	2.94	1.75	7.41	15.87	15.79	0.00	3.13	1.72	2.08	9.38	12.28	0.00
3+	2.94	1.75	3.70	20.63	30.26	100.00	3.13	1.72	0.00	12.50	35.09	0.00
Purchase value												
Mean (USD.) ^a	259.72	177.22	19.29	4.63	2.47	16.71	313.23	256.53	25.29	7.29	1.71	0.00
# sold last 12 months												
0	55.88	73.68	55.56	65.08	85.53	00.00	65.63	81.03	60.42	75.00	80.70	0.00
1	32.35	21.05	29.63	4.76	5.26	100.00	28.13	18.97	14.58	1.56	1.75	0.00
2	5.88	3.51	7.41	11.11	5.26	00.00	3.13	0.00	16.67	3.13	5.26	0.00
3+	5.88	1.75	7.41	19.05	3.95	00.00	3.13	0.00	8.33	20.31	12.28	0.00
Sales value												
Mean	295.01	277.51	52.25	2.83	4.45	141.43	428.98	335.23	43.24	2.53	3.67	0.00
Place where sold												
Farm gate	100.00	93.33	83.33	100.00	100.00	100.00	81.82	81.82	68.42	93.75	90.91	0.00
Village	0.00	6.67	16.67	0.00	0.00	0.00	18.18	18.18	31.58	6.25	9.09	0.00
Decision to sell												
Male	66.67	60.00	33.33	18.18	18.18	100.00	72.73	100.00	52.63	18.75	27.27	0.00
Female	6.67	6.67	25.00	68.18	63.64	0.00	0.00	0.00	21.05	43.75	36.36	0.00
Both	26.67	33.33	41.67	13.64	18.18	0.00	27.27	0.00	26.32	37.50	36.36	0.00
Controls sales money												

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Male	80.00	66.67	75.00	18.18	18.18	100.00	90.91	100.00	57.89	12.50	36.36	0.00
Female	6.67	13.33	25.00	72.73	63.64	0.00	9.09	0.00	26.32	50.00	45.45	0.00
Both	13.33	20.00	0.00	9.09	18.18	0.00	0.00	0.00	15.79	37.50	18.18	0.00

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7.2 Production and use of dairy products

Table 25 Production and use of dairy products (per year)

	Safal beneficiary areas				Safal control areas			
	Farmers		landless		farmers		landless	
# hhs with at least one	79	189	24	66	55	159	27	60
	milk (L)	egg (n)	milk (L)	egg (n)	milk (l)	egg (n)	milk (l)	egg (n)
Produced (average)	738	778	503	440	699	465	445	295
Consumed	22.27	52.0	37.7	51.2	43.3	66.8	32.5	76.6
Sold	77.4	47.9	60.8	47.3	56.34	32.2	66.8	22.5
given away	0.3	0.1	1.5	1.5	0.3	1.0	0.7	0.8
If sold where (%)								
Farm gate	97.9	97.46	100.0	97.67	94.4	95.89	89.5	100.00
Village	2.1	1.69	0.0	0.00	5.6	4.11	10.5	0.00
Other	0.0	0.85	0.0	2.33	0.0	0.00	0.0	0.00
Who decides to sell (%)								
Male	29.2	4.24	41.7	4.65	44.4	5.48	36.8	4.55
Female	33.3	86.44	16.7	83.72	36.1	86.30	47.4	90.91
Both	37.5	9.32	41.7	11.63	19.4	8.22	15.8	4.55
Who controls the money (%)								
Male	39.6	10.17	41.7	9.30	50.0	9.59	42.1	4.55
Female	29.2	81.36	25.0	79.07	33.3	79.45	47.4	90.91
Both	31.3	8.47	33.3	11.63	16.7	10.96	10.5	4.55

8. Income, investments, costs and profits

8.1 Income by source

Table 26 Yearly Farm and Non-Farm Income (in USD)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Yearly farm income</i>						
Average	2198.36	3130.18	4568.09	1601.24	2358.03	1209.21
Minimum	0.65	1.75	0.66	0.26	0.60	0.40
Maximum	16130.32	48,448.19	74,275.16	7379.35	20235.80	8896.60
N	369	368	267	118	251	105
<i>Yearly non-farm income</i>						
Average	5,400.75	5,796.40	4,586.36	2,299.05	4,635.83	3,193.04
Minimum	10.29	14.14	11.57	23.14	77.15	38.57
Maximum	83,510.30	63,972.36	139,027.00	14,941.46	56,316.41	41,723.00
N	388	383	265	130	264	129
<i>Total Yearly Income</i>						
Average	7266.71	8429.81	9018.76	3752.48	6724.90	4145.15
Minimum	243.63	46.29	61.72	23.14	77.146	54.00
Maximum	83,724.80	74,158.63	150,188.10	18596.46	56,316.41	45,433.37
N	400	400	270	130	270	130

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Table 27 Sources non-farm income (in percentages)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Wage labour earnings	5.5	6.7	5.3	30.6	7.8	16.1
Shop or (off-farm) enterprise profit	79.1	80.1	74.9	47.4	76.7	68.8
Remittances	1.4	0.6	1.5	0.2	1.6	0.5
Land rent	1.0	1.4	2.4	0.3	1.4	0.1
Rent of other profits	0.2	0.0	0.6	0.8	0.1	0.6
Cash receipts	0.6	0.5	0.3	0.8	0.5	0.7
Other sources	12.3	10.7	15.0	19.9	11.9	13.2

Table 28 Financial situation: savings and loans

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Households with savings</i>	290	280	208	90	201	99
<i>Proportion of HHs</i>						
<i>Who saved the money?</i>						
Male	28.97	26.79	33.65	17.78	30.85	13.13
Female	27.93	29.64	30.77	52.22	36.82	47.47
Both	43.10	43.57	35.58	30.00	32.34	39.39
<i>Households with loans</i>	344	335	230	108	231	118
<i>Proportion of HHs</i>						
<i>Who lent the money?</i>						
Male	52.03	52.24	57.83	37.96	53.25	34.75
Female	7.27	6.27	7.83	18.52	12.12	21.19
Both	40.70	41.49	34.35	43.52	34.63	44.07

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8.2 Entrepreneurship

Table 29 Willingness to invest to increase annual income by 10% (percentage)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i>Investment (taka)</i>						
10,000	72.75	72.50	87.04	72.31	71.48	60.00
8,000	1.75	0.75	1.85	4.62	4.07	9.23
6,000	1.75	1.75	1.11	2.31	2.59	2.31
4,000	2.75	1.50	1.48	0.77	0.74	0.00
2,000	2.50	2.50	0.37	1.54	1.48	0.00
1,000	0.50	0.75	0.00	0.00	0.00	0.77
Less than 1,000	18.00	20.25	8.15	18.46	19.63	27.69
Average investment (taka) ^a	7775.00	7633.75	9025.926	7892.308	7787.037	7023.07

a Averages are calculated by taking 500 taka for “less than 1,000”.

Table 30 Time until the investment is recuperated

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Number of HHs willing to invest and with known income	328	319	248	106	217	94
<i>Recuperation time</i>						
1 month	18.60	15.67	15.73	2.83	15.67	11.70
1 to 3 months	30.49	31.66	43.15	26.42	34.10	14.89
3 to 6 months	23.48	30.09	26.21	29.25	23.96	17.02
6 to 12 months	16.77	15.67	10.08	21.70	17.05	29.79
1 to 3 years	9.76	6.27	4.03	17.92	7.83	20.21
3 to 10 years	0.91	0.63	0.40	0.94	0.92	2.13
10 years or more	0.00	0.00	0.40	0.94	0.46	4.26
Average recoupment time in months	5.33	4.81	4.68	10.47	5.54	17.57

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8.3 Input costs and profits

Table 31 Total input costs (in USD) - only households with production

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Hired Labour	110.23	231.63	247.98	113.67	171.45	111.70
Seed/Plants	19.49	23.11	27.53	16.82	22.17	21.99
Organic Fertilizer	24.11	8.52	6.24	6.96	30.25	6.88
Chemical Fertilizer	17.83	52.43	78.25	49.26	80.25	80.14
Pesticide	12.71	19.46	16.19	9.65	14.17	14.36
Irrigation cost	19.91	38.06	61.19	52.20	64.70	56.70
Finger Lings and Fish Feed	112.86	270.19	780.93	234.89	306.80	264.51
Veterinary product	25.41	23.19	16.31	10.80	10.72	9.54
Other Cultivation Cost	49.34	60.53	78.69	29.49	41.81	30.63

Table 32 Number of households that used the input item, number of households who got it free and number of households who purchased the respective input

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
<i># hh's that used hired labour as input</i>	235	260	237	74	190	48
and got it free	0	1	0	0	0	0
and incurred a cost	235	259	237	74	190	48
<i># hh's that used seed/plants as input</i>	306	292	233	87	197	53
and got it free	162	89	8	0	0	0
and incurred a cost	144	203	225	87	197	53
<i># hh's that used Organic Fertilizer as input</i>	36	46	45	17	49	10
and got it free	34	42	37	7	36	6
and incurred a cost	2	4	8	10	13	4
<i># hh's that used Chemical Fertilizer as input</i>	256	291	235	86	202	51
and got it free	0	1	0	0	0	0
and incurred a cost	256	290	235	86	202	51
<i># hh's that used Pesticide as input</i>	243	270	196	55	164	43
and got it free	0	1	0	0	0	0
and incurred a cost	243	269	196	55	164	43
<i># hh's that used Irrigation</i>	52	138	199	73	180	50

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<i>cost as input</i>						
and got it free	1	3	3	3	1	1
and incurred a cost	51	135	196	70	179	49
<i># hh's that used Finger Lings and Fish Feed as input</i>	228	281	231	61	122	27
and got it free	0	0	0	0	0	0
and incurred a cost	228	281	231	61	122	27
<i># hh's that used Veterinary product as input</i>	28	35	37	10	14	6
and got it free	0	0	1	0	0	0
and incurred a cost	28	35	36	10	14	6
<i># hh's that used Other Cultivation Cost as input</i>	273	238	182	50	132	38
and got it free	3	1	0	0	1	1
and incurred a cost	270	237	182	50	131	37

Table 33 Profits (in USD) - only households with production

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	Farmers	landless	farmers	landless
<i>Profits from production</i>						
Average	2,226.15	2,897.836	3,706.051	1,713.17	2,413.23	1634.521
Minimum	-2,073.17	-1,270.171	-4,885.428	-270.35	-362.10	-331.7268
Maximum	23,264.43	47,300.00	71,396.59	22,292.49	38,246.25	20,383.55
Households with no profit	2.4%	5.9%	1.9%	9.3%	4.9%	13.6%
N	370	371	263	108	226	81

8.4 Construction of a wealth index

From household assets, found in several parts of the survey, we constructed a wealth index. The indices are constructed for Blue Gold en Safal separately. The index for the Blue Gold area is based on 45 items. For the Safal area we also included livestock, so the index for Safal is based on 56 items. Each of these variables is standardized such that its average is zero and its standard deviation is one (a z-score) over the baseline and endline together, because we want to compare over time. To determine the importance of separate items for the welfare of households we weight the items by using a principal component analysis (PCA) before summing them up. PCA is a valuable approach to weight according to Moser and Felton (2007) because it has a fairly intuitive interpretation (see Box 8-1).

Box 8-1 Why use PCA from Moser and Felton (2007)

“The coefficient on any one variable is related to how much information it provides about the other variables. If ownership of one type of asset is highly indicative of ownership of other assets, then it receives a positive coefficient. If ownership of an asset contains almost no information about what other assets the household owns (its correlation coefficient is near zero), then it receives a coefficient near zero. And if ownership of an asset indicates that a household is likely to own few other assets, then it receives a negative coefficient. Higher and lower coefficients mean that ownership of that asset conveys more or less information about the other assets. This makes PCA excellent for modelling a presumed underlying continuous variable, such as wealth. If ownership of a certain asset is highly correlated with owning the other assets that were asked about in the survey, then it is likely also correlated with owning other types of assets that were not in the survey. For example, wealthy households are more likely to own a television than poor ones, but mobile phone ownership is spread evenly across the area. Therefore, knowing that one household owns a television provides us with more information about that household’s wealth than a mobile phone does, and it receives a higher weighting.”

Because the data covers multiple time periods, the “values” of these assets may have changed between observations. We address this issue by aggregating the data across time. Summing the weighted Z-scores of the items yields our proposed wealth index.

The scores on the wealth index can be ordered by size and divided into 25% groups. This gives quartiles: in the first quartile are the 25% households with the lowest wealth scores; the fourth quartile contains those with the highest scores. If the wealth score of each household would be the same the wealth distribution would be uniform: 25% in each quartile.

Whilst the Safal control group has highest non-farm income it is lowest in wealth. This may be due to a “farming bias” in the choice of items to construct the wealth index. The difference in wealth between BG beneficiaries and controls is smaller than what one would expect from the difference in agricultural production and non-farm income.

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Table 34 Wealth distribution in quartiles (in percentages)

	Study areas					
	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	Landless
	n=400	n=400	n=270	n=130	n=270	n=130
First quartile (low)	26.00	24.00	10.74	40.00	20.37	49.23
Second quartile	26.00	24.00	14.81	33.85	27.41	32.31
Third quartile	26.00	24.00	25.19	16.92	34.07	13.85
Fourth quartile (high)	22.00	28.00	49.26	9.23	18.15	4.62

To check the validity of this constructed index we cross it against the HFIP food security scale. Our hypothesis is that wealth and food security are correlated. Table 35 shows that, in a statistical sense, food security and wealth go together.

Table 35 Wealth distribution versus food insecurity Blue Gold (in percentages)

	food secure	Extent of food insecurity (HFIP)		
		mildly	moderately	severely
	n=427	n=219	n=130	n=24
First quartile (low)	11.48	29.68	51.54	79.17
Second quartile	22.48	30.59	24.62	20.83
Third quartile	28.81	25.11	16.92	0.00
Fourth quartile (high)	37.24	14.61	6.92	0.00

Table 36 Wealth distribution versus food insecurity Safal (in percentages)

	food secure	Extent of food insecurity (HFIP)		
		mildly	moderately	severely
	n=419	n=221	n=97	n=63
First quartile (low)	11.69	28.51	41.24	76.19
Second quartile	19.33	33.03	37.11	15.87
Third quartile	27.45	27.15	21.65	6.35
Fourth quartile (high)	41.53	11.31	0.00	1.59

Each household is assigned a z-score on each of the items in the wealth index. A variable is standardized by subtracting its mean and dividing the difference by its standard deviation. The relative wealth index for an individual household is the sum of all standard scores of the items considered.

Some of these variables are dummy variables, such as household owned assets (see tables below). For example on average 89% of the households owns a mobile phone. By using z-scores not having a mobile phone yields a relatively large negative contribution to the wealth

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index and having one means only a small positive contribution to the index. So, z-scores take account of the relative uniqueness of having or not having a specific item. Other dummy variables considered in the wealth index are (see Table 39):

- relatively luxurious materials used to build the walls and/or the roof of the house: 1= build with tin, cement, brick, rod or wood, 0=otherwise).
- whether they are connected to the electricity network or use solar energy (1=yes, 0=no), and kind of energy source for cooking (1=electricity, gas, kerosene stove or earthen stove, 0=fire wood or cow dung).

Continuous and ordinal variables used in the wealth index are:

- type and number of cattle the household owns;
- savings and loans. Loans are multiplied by minus one because it is a negative attribute;
- kind of toilet: 0=pit latrine with slab, 1=modern latrine/pit with flash, -1=else;
- area of homestead;
- area of cultivable land;
- area of owned fish ponds.

Table 37 Ownership of HH assets, transport, productive and agricultural tools ^a

Variables	Blue Gold		Safal	
	Mean	Standard deviation	Mean	Standard deviation
HH assets				
Radio/cassette player	0.04	0.20	0.02	0.15
Electric fan	0.53	0.50	0.72	0.45
Computer	0.02	0.13	0.02	0.14
Mobile phone	0.96	0.20	0.94	0.23
Television	0.28	0.45	0.43	0.50
Dish antenna / decoder	0.01	0.11	0.05	0.23
VCD/DVD	0.01	0.11	0.01	0.09
Air Conditioning / Fans / Heaters	0.00	0.00	0.00	0.00
Washing Machine				
Stove / oven/ micro-oven	0.00	0.00	0.01	0.07
Clock	0.42	0.49	0.36	0.48
Jewellery	0.97	0.16	0.95	0.21
Transport				
Pickup/vehicle	0.02	0.14	0.02	0.13
Motor bike	0.06	0.23	0.08	0.28
Bicycle	0.28	0.45	0.65	0.48

^a 'Kind of toilet' is a categorical variable. A disadvantage of using normal PCA with categorical variables is that the 'distance' between having a modern latrine/pit with flash and a pit latrine with slab is the same as the 'distance' between having a pit latrine with slab and something worse. Polychoric PCA is considered to be better method for categorical variables. However, we used just one categorical variable so we decided to do the more simple analysis.

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Variables	Blue Gold		Safal	
	Mean	Standard deviation	Mean	Standard deviation
Productive				
Local boat	0.09	0.29	0.15	0.35
Engine driven boat	0.01	0.09	0.00	0.05
Fishing net	0.66	0.47	0.49	0.50
Rickshaw/van	0.10	0.30	0.09	0.29
Bus/tram				
CNG/auto rickshaw	0.02	0.13	0.01	0.09
Buffalo cart	0.00	0.05	0.01	0.09
Tractor	0.00	0.06	0.00	0.00
Power tiller	0.06	0.24	0.02	0.13
Spraying machines	0.35	0.48	0.27	0.45
Tube well	0.13	0.34	0.33	0.47
Barrow	0.00	0.00	0.00	0.04
Trolley	0.00	0.06	0.00	0.05
Agricultural tools				
Plough	0.08	0.28	0.04	0.20
Irrigation pump	0.16	0.37	0.21	0.41
Axe	0.65	0.48	0.66	0.47
Kodal (Spade)/ Shabol (Shovel)	0.88	0.33	0.81	0.39
Paddle thresher	0.01	0.10	0.11	0.31
Chopper	0.16	0.36	0.03	0.16
Treadle pump	0.00	0.00	0.01	0.09
Hoe	0.92	0.28	0.91	0.29
Threshing machine	0.03	0.18	0.07	0.25
Shallow tube well	0.07	0.26	0.20	0.40
Power pump	0.01	0.11	0.03	0.17

Source: Section D of the baseline household questionnaire.

Table 38 Ownership of livestock and poultry ^b

Variables	Safal	
	Mean	Standard deviation
<i>Number of:</i>		
bullocks	0.55	0.86
cows	1.01	1.22
buffalos	0.00	0.00
horses	0.00	0.04
pigs	0.01	0.09
goats	0.90	1.88
sheep	0.04	0.46
hens	4.42	7.39

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ducks	3.29	4.32
pigeons	0.00	0.00

Source: Section K.1 of the baseline household questionnaire

Table 39 Housing: construction materials

Variables	Blue Gold		Safal	
	Mean	Standard deviation	Mean	Standard deviation
Walls are made of tin, cement, bricks, rod or wood (1=yes)	0.69	0.46	0.54	0.50
Roof is made of tin, cement, bricks, rod or wood (1=yes)	0.90	0.30	0.84	0.36
Lighting (1=electricity or solar power; 0=gas, kerosene lamps, battery charger)	0.82	0.38	0.81	0.39
Cooking (1=electricity, gas, kerosene stove, earthen stove; 0=fire wood or something else)	0.86	0.35	0.60	0.49

Source: Section H of the baseline household questionnaire

Table 40 Financial situation: savings and loans

Variables	Blue Gold		Safal	
	Mean	Standard deviation	Mean	Standard deviation
Total amount in taka of all savings outstanding	22538.53	70991.62	20647.85	59319.23
Total amount in taka of all loans outstanding	67752.44	108116.00	49632.88	135304.21

Source: Section E of the baseline household questionnaire

Table 41 Kind of toilet facility

Variables	Blue Gold		Safal	
	Mean	Standard deviation	Mean	Standard deviation
Quality of toilet: 1=Modern latrine/ pit with flush, 0= Pit latrine with slab, -1= Else/worse	0.25	0.57	0.46	0.63

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Table 42 Currently owned land

Variables	Blue Gold		Safal	
	Mean	Standard deviation	Mean	Standard deviation
Homestead (in hectares)	0.06	0.08	0.04	0.05
Cultivable land (in hectares)	0.39	0.62	0.26	0.59
Ponds (in hectares)	0.06	0.10	0.06	0.30

Source: Section F1 of the baseline household questionnaire

Table 43 shows the contribution of the assets to the wealth index. Having an electric fan, a television, an irrigation pump, a spraying machine and electricity or solar power are examples of items that wealthy households often have.

Table 43 Component Score Coefficient Matrix

Variables	Component 1	
	Blue Gold	Safal
HH assets		
Radio/cassette player	.1003259	.0713035
Electric fan	.3078956	.2594296
Computer	.1029284	.0722632
Mobile phone	.1305234	.1622334
Television	.2929981	.2658065
Dish antenna / decoder	.1138691	.1138124
VCD/DVD	.1133030	.0698430
Air Conditioning / Fans / Heaters	NA	.0211156
Washing machine	NA	NA
Stove / oven/ micro-oven	NA	.0518815
Clock	.1956013	.1994386
Jewellery	.1904489	.2162979
Transport		
Pickup/vehicle	.0147707	-.0058485
Motor bike	.1339995	.1579883
Bicycle	.2078829	.2140373
Productive		
Local boat	.1830138	.1655135
Engine driven boat	.0094330	-.0012432
Fishing net	.1906466	.2028441
Rickshaw/van	.0371945	-.0604990
Bus/tram	NA	NA
CNG/auto rickshaw	.0209396	-.0184420
Buffalo cart	.0405534	.0059488
Tractor	.0178411	.0378484
Power tiller	.1606546	.0652867
Spraying machines	.2606372	.2292847

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Variables	Component 1	
	Blue Gold	Safal
Tube well	.1182025	.1352850
Barrow	.0078571	-.0046579
Trolley	.0006848	.0179210
Agricultural tools		
Plough	-.0036062	.1126686
Irrigation pump	.2441494	.2179919
Axe	.2630045	.2064547
Kodal (Spade)/ Shabol (Shovel)	.1498863	.1443284
Paddle thresher	.0829656	.1528602
Chopper	-.0374779	-.0790485
Treadle pump	.0073826	.0218786
Hoe	.1922385	.1202770
Threshing machine	.1433123	.1508456
Shallow tube well	.1572527	.1452608
Power pump	.1050618	.1055662
Livestock		
<i>Number of:</i>		
bullocks	NA	.1161806
cows	NA	.1513147
buffalos	NA	NA
horses	NA	-.0243544
pigs	NA	-.0005363
goats	NA	.0170059
sheep	NA	.0002772
hens	NA	.0838767
ducks	NA	.1376501
pigeons	NA	.0197770
Housing		
Walls are made of tin, cement, bricks, rod or wood (1=yes)	-.0417057	.1738568
Roof is made of tin, cement, bricks, rod or wood (1=yes)	.0484733	.1300504
Lighting (1=electricity or solar power; 0=gas, kerosene lamps, battery charger)	.2551045	.2362165
Cooking (1=electricity, gas, kerosene stove, earthen stove; 0=fire wood or something else)	.0433999	-.0642107
Financial		
Total amount in taka of all savings outstanding	.1600852	.1455125
Total amount in taka of all loans outstanding	.0567820	.1183896

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	Component 1	
Variables	Blue Gold	Safal
Toilet		
Quality of toilet: 1=Modern latrine/ pit with flush, 0= Pit latrine with slab, -1= Else/worse	.1116391	.0747957
Owned land		
Homestead (in hectares)	.1102408	.1379064
Cultivable land (in hectares)	.1964183	.2015547
Ponds (in hectares)	.1499408	.0567984

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9. Food security

Table 44 Percentage of households experiencing food insecurity

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
1. In the past four weeks did you worry that your hh would not have enough food? YES	17.75	20.25	8.15	31.54	24.07	48.46
If yes, how often?						
Rarely	63.38	69.14	90.91	58.54	76.92	50.79
Sometimes	23.94	30.86	4.55	34.15	13.85	33.33
Often	12.68	0.00	4.55	7.32	9.23	15.87
2. In past four weeks, were you or any hh member not able to eat the kinds of food you preferred due to lack of resources? YES	43.00	45.25	22.59	59.23	40.37	66.92
If yes, how often?						
Rarely	55.23	62.98	80.33	64.94	74.31	56.32
Sometimes	26.74	26.52	18.03	24.68	17.43	29.89
Often	18.02	10.50	1.64	10.39	8.26	13.79
3. In the past four weeks, did you or any hh member have to eat a limited variety of foods due to a lack of resources? YES	26.00	27.50	15.93	46.15	30.74	60.77
If yes, how often?						
Rarely	61.54	64.55	86.05	76.67	75.90	53.16
Sometimes	31.73	30.91	11.63	18.33	18.07	34.18
Often	6.73	4.55	2.33	5.00	6.02	12.66
4. In the past four weeks, did you or any hh member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food? YES	25.50	25.00	10.00	37.69	19.26	53.08
If yes, how often?						
Rarely	54.90	63.00	88.89	63.27	65.38	55.07
Sometimes	34.31	30.00	11.11	26.53	26.92	36.23
Often	10.78	7.00	0.00	10.20	7.69	8.70

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5. In the past four weeks , did you or any hh member have to eat a smaller meal than you felt you needed because there was not enough food? YES	9.50	10.50	4.07	23.85	11.48	36.92
If yes, how often?						
Rarely	57.89	69.05	81.82	61.29	64.52	50.00
Sometimes	28.95	30.95	18.18	29.03	16.13	31.25
Often	13.16	0.00	0.00	9.68	19.35	18.75
6. In the past four weeks, did you or any hh member have to eat fewer meals in a day because there was not enough food? YES	5.00	6.50	2.96	14.62	9.26	22.31
If yes, how often?						
Rarely	55.00	57.69	87.50	63.16	68.00	34.48
Sometimes	25.00	30.77	12.50	26.32	16.00	41.38
Often	20.00	11.54	0.00	10.53	16.00	24.14
7. In the past four weeks, was there ever no food to eat of any kind in your hh because of a lack of resources to get food? YES	1.50	2.00	1.48	6.15	2.59	13.85
If yes, how often?						
Rarely	66.67	62.50	100.00	75.00	85.71	50.00
Sometimes	16.67	25.00	0.00	25.00	14.29	38.89
Often	16.67	12.50	0.00	0.00	0.00	11.11
8. In the past four weeks, did you or any hh member go to sleep at night hungry because there was not enough food? YES	1.50	1.75	1.48	8.46	2.59	14.62
If yes, how often?						
Rarely	100.00	28.57	100.00	90.91	71.43	57.89
Sometimes	0.00	71.43	0.00	9.09	28.57	31.58
Often	0.00	0.00	0.00	0.00	0.00	10.53
9. In the past four weeks did you or any hh member go a whole day and night without eating anything because there was not enough food? YES	1.25	0.25	0.74	2.31	0.37	4.62
If yes, how often?						
Rarely	100.00	100.00	100.00	66.67	100.00	50.00

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Sometimes	0.00	0.00	0.00	33.33	0.00	50.00
Often	0.00	0.00	0.00	0.00	0.00	0.00

Table 45 Percentage of households by food insecurity status (HFIAS and HFIP)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Average household food insecurity access scale (HFIAS) score ^a	2.02 (3.35)	1.98 (3.04)	0.78 (1.78)	3.25 (4.26)	1.91 (3.35)	5.2 (5.51)
Household food insecurity prevalence (HFIP)						
Food secure	54.50	52.25	72.59	33.85	54.81	23.85
Mildly food insecure	25.75	29.00	21.85	35.38	28.52	30.00
Moderately food insecure	16.50	16.00	3.33	20.77	11.11	23.85
Severely food insecure	3.25	2.75	2.22	10.00	5.56	22.31

^a standard deviations in brackets.

Table 46 Percentage of households by HHS

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Little to no hunger in the household	98.75	98.75	99.26	94.62	98.89	88.46
Moderate hunger in the household	1.25	1.25	0.74	5.38	1.11	10.00
Severe hunger in the household	0.00	0.00	0.00	0.00	0.00	1.54

In further analysis we take the commonly used HFIAS as indicator of food insecurity.

10. Nutrition

10.1 Nutritional Knowledge

Table 47 Seasoning (food item) often fortified with iodine (percentages)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Salt	61.00	56.00	64.81	49.23	57.04	40.77
Don't know	34.25	39.25	31.48	47.69	40.00	50.77
Others	4.75	4.75	3.70	3.08	2.96	8.46

Table 48 What households think they should do when their child has diarrhea

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
ORS	98.25	98.50	98.89	96.15	97.41	98.46
Feed less than usual	2.50	2.00	1.48	0.00	1.85	0.00
Feed as much as usual	3.00	0.00	1.85	2.31	1.85	1.54
Feed more than usual	7.00	5.75	3.33	3.85	4.81	6.15
Give less liquids than usual	0.50	0.50	0.74	0.00	0.74	0.00
Give more liquids than usual	2.50	2.75	1.11	0.77	3.33	1.54
Give more liquids than usual	5.75	9.00	9.63	3.08	8.15	4.62
Breastfeed more often	1.75	1.00	0.74	1.54	0.74	1.54
Continue breastfeeding	2.50	2.75	3.33	0.77	2.22	0.00
Give syrups	5.25	4.25	9.26	4.62	8.52	7.69
Give traditional medicine	24.25	19.50	27.04	23.08	25.56	25.38
Give treated water	3.00	0.00	3.70	0.77	7.41	2.31
Give Carrot juice or rice water	4.50	1.00	1.11	0.00	0.00	0.00
Give Zinc	0.25	0.50	1.48	0.00	0.00	0.77
Other	6.25	4.00	8.15	9.23	6.67	6.92
Don't know	1.00	0.50	0.74	1.54	1.11	0.77

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Table 49 **When households think they should wash their hands**

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Before eating	97.25	97.00	97.41	99.23	98.15	98.46
After using toilet	91.50	90.00	87.78	83.08	87.41	79.23
Before feeding child	14.50	18.50	16.30	16.15	14.81	18.46
Before cleaning a child who has defecated	9.75	15.75	8.52	9.23	9.26	16.92
Other	5.25	4.00	7.78	7.69	10.74	8.46
Don't know	0.00	0.00	1.11	0.00	0.37	0.77

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10.2 Nutritional intake

Table 50 Real intake compared to recommended intake of vitamins and minerals
(percentage distribution of households)

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Energy						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	1.50	1.25	1.11	1.54	1.48	0.00
25-50%	7.50	5.00	3.33	6.92	5.19	4.62
50-75%	36.50	37.75	24.07	29.23	26.67	41.54
75-100%	40.50	39.75	45.93	41.54	45.56	36.92
At least 100%	14.00	16.25	25.56	20.77	21.11	16.92
Carbohydrate						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	3.00	2.00	1.48	1.54	2.96	0.77
25-50%	1.25	2.50	2.59	3.08	2.59	1.54
50-75%	7.00	6.00	2.22	4.62	4.44	5.38
75-100%	28.75	26.75	16.67	18.46	15.93	21.54
At least 100%	60.00	62.75	77.04	72.31	74.07	70.77
Protein						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	1.50	1.00	0.74	0.77	1.11	0.00
25-50%	6.50	3.50	1.48	3.08	2.96	2.31
50-75%	19.25	20.50	16.67	21.54	14.44	22.31
75-100%	40.25	39.25	35.19	40.00	35.19	41.54
At least 100%	32.50	35.75	45.93	34.62	46.30	33.85
Ca						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	67.25	56.25	50.74	65.38	64.81	73.08
25-50%	24.75	33.25	36.67	23.08	26.30	23.08
50-75%	5.25	6.25	7.78	9.23	5.56	3.85
75-100%	1.00	1.75	1.85	1.54	1.48	0.00
At least 100%	1.75	2.50	2.96	0.77	1.85	0.00
Fe						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	11.25	9.50	2.22	11.54	5.56	10.00

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25-50%	66.00	67.00	61.48	60.00	64.81	64.62
50-75%	17.75	17.00	28.89	19.23	20.74	18.46
75-100%	3.75	4.25	4.81	6.92	4.81	3.85
At least 100%	1.25	2.25	2.59	2.31	4.07	3.08
Mg						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	0.25	0.50	0.00	0.00	0.74	0.00
25-50%	2.75	1.75	1.11	2.31	2.22	0.77
50-75%	7.75	5.50	4.07	6.15	2.59	1.54
75-100%	19.50	21.50	10.74	11.54	12.96	20.00
At least 100%	69.75	70.75	84.07	80.00	81.48	77.69
Zn						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	0.50	0.50	0.37	0.00	1.48	0.00
25-50%	4.75	3.50	1.85	4.62	2.22	1.54
50-75%	15.50	17.25	6.67	11.54	8.52	14.62
75-100%	32.50	33.50	28.89	30.00	29.63	33.85
At least 100%	46.75	45.25	62.22	53.85	58.15	50.00
A						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	46.00	51.25	35.19	43.08	40.74	46.92
25-50%	32.00	29.50	32.96	32.31	32.59	27.69
50-75%	12.00	10.25	17.78	9.23	14.44	16.15
75-100%	5.50	4.50	8.52	10.00	5.56	5.38
At least 100%	4.50	4.50	5.56	5.38	6.67	3.85
B1 Thiamin						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	14.50	14.50	8.15	15.38	9.63	14.62
25-50%	69.75	71.00	73.33	68.46	70.37	77.69
50-75%	12.50	10.50	14.44	13.08	15.93	6.15
75-100%	1.75	2.50	2.22	2.31	1.85	0.77
At least 100%	1.50	1.50	1.85	0.77	2.22	0.77
B2 Riboflavin						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	23.50	23.75	24.44	36.15	24.81	26.15
25-50%	48.75	47.50	44.81	44.62	49.63	57.69
50-75%	16.25	19.00	22.59	10.77	19.26	10.77

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75-100%	6.75	6.50	4.44	3.85	2.96	3.08
At least 100%	4.75	3.25	3.70	4.62	3.33	2.31
B3 Niacin						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	2.25	1.25	1.11	0.77	1.85	0.00
25-50%	9.50	8.00	3.70	8.46	3.70	4.62
50-75%	31.00	35.25	22.96	30.00	23.33	36.15
75-100%	37.25	35.00	41.48	37.69	38.15	38.46
At least 100%	20.00	20.50	30.74	23.08	32.96	20.77
B6						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	35.00	31.75	30.00	49.23	25.56	35.38
25-50%	56.00	56.50	53.70	40.00	58.52	56.92
50-75%	7.00	7.25	11.85	10.00	10.74	6.15
75-100%	1.25	3.25	1.85	0.77	1.85	1.54
At least 100%	0.75	1.25	2.59	0.00	3.33	0.00
B9 Folate						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	73.50	77.00	74.07	79.23	71.11	76.15
25-50%	23.50	20.25	24.07	17.69	24.44	22.31
50-75%	2.25	1.75	0.74	3.08	2.59	0.77
75-100%	0.00	0.50	0.74	0.00	0.37	0.00
At least 100%	0.75	0.50	0.37	0.00	1.48	0.77
B12						
0%	2.75	2.75	1.48	4.62	3.33	8.46
Less than 25%	41.25	37.25	32.22	50.77	40.00	51.54
25-50%	33.50	34.50	38.52	26.92	37.41	29.23
50-75%	15.50	17.00	15.19	10.00	12.96	9.23
75-100%	3.75	4.25	6.67	3.85	1.85	1.54
At least 100%	3.25	4.25	5.93	3.85	4.44	0.00
C						
0%	0.00	0.00	0.00	0.00	0.00	0.00
Less than 25%	1.75	1.00	0.37	3.08	1.11	0.77
25-50%	12.50	17.00	15.56	19.23	11.85	16.15
50-75%	22.50	26.25	26.67	28.46	27.41	28.46
75-100%	22.00	18.75	22.59	20.00	24.81	23.85
At least 100%	41.25	37.00	34.81	29.23	34.81	30.77

11. Health

11.1 Perceived health status

Table 51 Self-perceived health indicators

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	controls	farmers	landless	farmers	landless
Member of HHs, N=465	n=117	n=127	n=88	n=32	n=71	n=30
Self-assessment of health						
Good	41.03	36.22	46.59	28.13	33.80	46.67
Fair	53.85	51.18	46.59	53.13	57.75	46.67
Bad	5.13	12.60	6.82	18.75	8.45	6.67
In past 4 weeks any illness?						
Yes	52.14	65.35	44.32	50.00	46.48	56.67
If yes, types of illness^a						
Prolonged fever (1)	52.46	65.06	53.85	37.50	63.64	47.06
Diarrhea (2)	9.84	9.64	10.26	12.50	12.12	11.76
Cough (4)	45.90	60.24	53.85	25.00	54.55	47.06
Mouth or throat infection (6)	0.00	0.00	0.00	0.00	0.00	0.00
Skin sores/rashes (5)	9.84	4.82	2.56	12.50	0.00	0.00
Significant weight loss (3)	1.64	0.00	0.00	6.25	0.00	0.00
Others (99)	19.67	20.48	10.26	37.50	18.18	35.29

a Multiple responses

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11.2 Children's development

11.2.1 Weight and height

Table 52 Weight (kgs) and height (cms) of children age 0-59 months by sex, age and study area

	Blue Gold						Safal beneficiary areas						Safal control areas					
	beneficiaries			Controls			farmers			landless			farmers			landless		
Age (years)	N	KG	CM	N	KG	CM	N	KG	CM	N	KG	CM	N	KG	CM	N	KG	CM
Male																		
0	9	7.5	66.4	6	8.62	71.3	1	9.5	73.7	1	8.7	74.4	2	6.8	67.1	2	7.3	67.4
1	13	9.5	75.8	8	10.0	81.5	8	9.5	79.2	1	8.1	75.2	9	8.7	77.4	5	9.1	77.9
2	13	12.0	89.5	17	11.0	86.0	8	11.5	80.2	3	10.4	82.6	4	11.0	86.9	2	9.8	79.9
3	11	12.1	93.7	11	14.1	93.7	8	13.5	95.9	2	11.6	91.9	3	14.2	97.7	5	12.6	93.0
4	15	14.0	101.3	19	15.0	101.4	12	14.1	95.0	5	13.8	101.2	11	14.8	101.4	3	12.3	94.9
Female																		
0	6	8.7	71.2	8	8.2	70.0	10	7.5	68.7	4	7.4	67.4	6	7.1	67.8	0	0.0	0.0
1	4	7.8	74.4	15	9.0	74.7	9	9.3	78.2	2	7.2	72.1	8	8.9	75.4	5	9.5	80.3
2	13	10.7	83.7	14	11.7	87.0	8	11.7	88.3	8	10.1	83.7	11	10.9	87.2	1	7.5	83.1
3	11	11.6	90.8	11	12.5	93.7	7	11.8	89.3	1	11.4	94.0	4	12.0	92.8	2	13.3	92.5
4	9	13.5	100.6	10	14.6	101.3	10	13.3	99.5	4	13.3	96.4	10	15.0	100.2	2	13.6	99.9

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11.2.2 Malnutrition: stunting, wasting and overweight

Table 53 Percentage of under five children by gender, different nutritional indices and study area

	Blue Gold						Safal beneficiary areas						Safal control areas					
	Beneficiaries			Controls			farmers			landless			farmers			landless		
	HAZ<-2	WHZ<-2	WAZ>+2	HAZ<-2	WHZ<-2	WAZ>+2	HAZ<-2	WHZ<-2	WAZ>+2	HAZ<-2	WHZ<-2	WAZ>+2	HAZ<-2	WHZ<-2	WAZ>+2	HAZ<-2	WHZ<-2	WAZ>+2
Male	31.2	11.9	4.9	18.0	1.6	3.3	27.0	8.6	0.0	33.3	16.7	0.0	24.1	17.2	0.0	35.3	0.0	0.0
Female	25.6	7.0	4.7	25.9	1.7	1.7	27.3	4.6	0.0	31.6	10.5	0.0	15.4	7.7	2.6	20.0	20.0	0.0
Total	28.9	9.8	4.8	21.9	1.7	2.5	27.2	6.3	0.0	32.3	12.9	0.0	19.1	11.8	1.5	29.6	7.4	0.0

11.2.3 Nutritional awareness

Table 54 To what extent does caretaker agree with the following statement about the height of their boy / girl. "Compared to other boys / girls of the same age in this area, my boy / girl is too short."

	Blue Gold		Safal beneficiary areas		Safal control areas	
	Beneficiaries	controls	Farmers	landless	farmers	landless
Boys	n=61	n=61	n=37	n=12	n=29	n=17
Strongly disagree	19.67	32.79	35.14	8.33	24.14	29.41
Disagree	45.90	34.43	51.35	75.00	44.83	35.29
Neutral	11.48	8.20	2.70	0.00	6.90	0.00
Agree	21.31	19.67	5.41	16.67	24.14	23.53
Strongly agree	1.64	4.92	5.41	0.00	0.00	5.88
Don't know	0.00	0.00	0.00	0.00	0.00	5.88
Girls	n=43	n=58	n=44	n=19	n=39	n=10
Strongly disagree	16.28	31.03	36.36	26.32	20.51	30.00
Disagree	48.84	34.48	34.09	31.58	38.46	30.00
Neutral	16.28	6.90	6.82	10.53	0.00	10.00
Agree	16.28	25.86	20.45	31.58	38.46	20.00
Strongly agree	2.33	1.72	2.27	0.00	2.56	10.00
Don't know	16.28	31.03	36.36	26.32	20.51	30.00

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Table 55 To what extent does caretaker agree with the following statement about the height of their boy / girl when the boy /girl has an HAZ<-2. "Compared to other boys / girls of the same age in this area, my boy / girl is too short."

	Blue Gold		Safal beneficiary areas		Safal control areas	
	Beneficiaries	controls	Farmers	landless	Farmers	landless
Boys	n=19	n=11	n=10	n=4	n=7	n=6
Strongly disagree	21.05	18.18	30.00	0.00	14.29	50.00
Disagree	31.58	27.27	50.00	75.00	42.86	16.67
Neutral	15.79	0.00	0.00	0.00	14.29	0.00
Agree	26.32	54.55	10.00	25.00	28.57	33.33
Strongly agree	5.26	0.00	10.00	0.00	0.00	0.00
Don't know	0.00	0.00	0.00	0.00	0.00	0.00
Girls	n=11	n=15	n=12	n=6	n=6	n=2
Strongly disagree	9.09	6.67	16.67	33.33	0.00	0.00
Disagree	45.45	40.00	33.33	33.33	50.00	50.00
Neutral	27.27	20.00	8.33	0.00	0.00	0.00
Agree	18.18	26.67	33.33	33.33	50.00	50.00
Strongly agree	0.00	6.67	8.33	0.00	0.00	0.00
Don't know	0.00	0.00	0.00	0.00	0.00	0.00

Table 56 To what extent does caretaker agree with the following statement about the height of their boy / girl when the boy /girl has an HAZ>=-2. "Compared to other boys / girls of the same age in this area, my boy / girl is too short."

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	Farmers	Landless	Farmers	landless
Boys	n=42	n=50	n=27	n=8	n=22	n=11
Strongly disagree	19.05	36.00	37.04	12.50	27.27	18.18
Disagree	52.38	36.00	51.85	75.00	45.45	45.45
Neutral	9.52	10.00	3.70	0.00	4.55	0.00
Agree	19.05	12.00	3.70	12.50	22.73	18.18
Strongly agree	0.00	6.00	3.70	0.00	0.00	9.09
Don't know	0.00	0.00	0.00	0.00	0.00	9.09
Girls	n=32	n=43	n=32	n=13	n=33	n=8
Strongly disagree	18.75	39.53	43.75	23.08	24.24	37.50
Disagree	50.00	32.56	34.38	30.77	36.36	25.00

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Neutral	12.50	2.33	6.25	15.38	0.00	12.50
Agree	15.63	25.58	15.63	30.77	36.36	12.50
Strongly agree	3.13	0.00	0.00	0.00	3.03	12.50
Don't know	0.00	0.00	0.00	0.00	0.00	0.00

Table 57 For your child to be healthy and grow tall, healthy food is important. If you could choose five food items for today, which ones would you choose 1st to feed your child?

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	Farmers	landless	Farmers	landless
Food group	n=104	n=119	n=81	n=31	n=68	n=27
Staple foods: rice, maize / ugali, porridge, potato, cassava, wheat / bread / pasta	24.04	18.49	27.16	19.35	25.00	29.63
Legumes: beans, soya, groundnut, nuts, seeds	0.96	1.68	2.47	12.90	0.00	3.70
Yellow / orange coloured vegetables (pumpkin, carrot, chilli, yellow cassava, yellow sweet potato)	0.96	4.20	4.94	16.13	8.82	7.41
Dark green leafy vegetables (cassava leaf, pumpkin leaf, etc)	10.58	11.76	9.88	6.45	11.76	0.00
Yellow / orange coloured fruits (mango, papaya)	3.85	10.92	8.64	0.00	10.29	14.81
Other vegetables	0.00	0.00	1.23	0.00	0.00	0.00
Other fruits	0.96	1.68	0.00	0.00	0.00	0.00
Fish, Meat, Organ meat, Poultry, Eggs,	38.46	32.77	27.16	32.26	27.94	25.93
Milk, yoghurt and other dairy	20.19	17.65	16.05	9.68	16.18	14.81
Sugar and sugar products, honey	0.00	0.84	2.47	3.23	0.00	3.70
Fortified oil or margarine	0.00	0.00	0.00	0.00	0.00	0.00
Other oils and fats	0.00	0.00	0.00	0.00	0.00	0.00
Condiments: spices, tea coffee, salt,	0.00	0.00	0.00	0.00	0.00	0.00

Table 58 For your child to be healthy and grow tall, healthy food is important. If you could choose five food items for today, which ones would you choose 2nd to feed your child?

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	Farmers	landless	Farmers	landless
Food group	n=104	n=119	n=81	n=31	n=68	n=27
Staple foods: rice, maize / ugali, porridge, potato, cassava, wheat / bread / pasta	8.65	9.24	4.94	3.23	2.94	7.41
Legumes: beans, soya, groundnut, nuts, seeds	4.81	7.56	6.17	0.00	7.35	14.81
Yellow / orange coloured vegetables	6.73	4.20	6.17	12.90	17.65	3.70

ENDLINE

(pumpkin, carrot, chilli, yellow cassava, yellow sweet potato)						
Dark green leafy vegetables (cassava leaf, pumpkin leaf, etc)	14.42	10.08	12.35	6.45	13.24	18.52
Yellow / orange coloured fruits (mango, papaya)	8.65	10.92	7.41	32.26	11.76	3.70
Other vegetables	1.92	5.04	1.23	0.00	1.47	0.00
Other fruits	2.88	1.68	4.94	9.68	1.47	0.00
Fish, Meat, Organ meat, Poultry, Eggs,	28.85	26.89	27.16	9.68	27.94	25.93
Milk, yoghurt and other dairy	22.12	22.69	28.40	22.58	16.18	22.22
Sugar and sugar products, honey	0.96	1.68	1.23	3.23	0.00	3.70
Fortified oil or margarine	0.00	0.00	0.00	0.00	0.00	0.00
Other oils and fats	0.00	0.00	0.00	0.00	0.00	0.00
Condiments: spices, tea coffee, salt,	0.00	0.00	0.00	0.00	0.00	0.00

Table 59 For your child to be healthy and grow tall, healthy food is important. If you could choose five food items for today, which ones would you choose 3rd to feed your child?

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	Farmers	landless	Farmers	landless
Food group	n=104	n=119	n=81	n=31	n=68	n=27
Staple foods: rice, maize / ugali, porridge, potato, cassava, wheat / bread / pasta	6.73	11.76	7.41	6.45	10.29	7.41
Legumes: beans, soya, groundnut, nuts, seeds	5.77	2.52	0.00	0.00	2.94	7.41
Yellow / orange coloured vegetables (pumpkin, carrot, chilli, yellow cassava, yellow sweet potato)	10.58	12.61	9.88	6.45	5.88	3.70
Dark green leafy vegetables (cassava leaf, pumpkin leaf, etc)	17.31	15.13	8.64	19.35	16.18	25.93
Yellow / orange coloured fruits (mango, papaya)	16.35	19.33	18.52	19.35	17.65	29.63
Other vegetables	6.73	4.20	1.23	0.00	1.47	3.70
Other fruits	7.69	5.04	7.41	3.23	4.41	3.70
Fish, Meat, Organ meat, Poultry, Eggs,	9.62	11.76	30.86	29.03	19.12	11.11
Milk, yoghurt and other dairy	18.27	16.81	12.35	16.13	17.65	7.41
Sugar and sugar products, honey	0.96	0.84	1.23	0.00	2.94	0.00
Fortified oil or margarine	0.00	0.00	2.47	0.00	1.47	0.00
Other oils and fats	0.00	0.00	0.00	0.00	0.00	0.00
Condiments: spices, tea coffee, salt,	0.00	0.00	0.00	0.00	0.00	0.00

ENDLINE

Table 60 For your child to be healthy and grow tall, healthy food is important. If you could choose five food items for today, which ones would you choose 4th to feed your child?

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	Farmers	landless	Farmers	landless
Food group	n=104	n=119	n=81	n=31	n=68	n=27
Staple foods: rice, maize / ugali, porridge, potato, cassava, wheat / bread / pasta	7.69	5.88	8.64	9.68	16.18	0.00
Legumes: beans, soya, groundnut, nuts, seeds	2.88	6.72	7.41	6.45	2.94	11.11
Yellow / orange coloured vegetables (pumpkin, carrot, chilli, yellow cassava, yellow sweet potato)	16.35	15.13	19.75	22.58	20.59	11.11
Dark green leafy vegetables (cassava leaf, pumpkin leaf, etc)	13.46	15.13	9.88	12.90	8.82	11.11
Yellow / orange coloured fruits (mango, papaya)	18.27	10.92	14.81	9.68	14.71	25.93
Other vegetables	7.69	8.40	4.94	6.45	0.00	0.00
Other fruits	9.62	9.24	3.70	0.00	1.47	7.41
Fish, Meat, Organ meat, Poultry, Eggs,	10.58	10.08	8.64	9.68	17.65	7.41
Milk, yoghurt and other dairy	10.58	14.29	19.75	16.13	14.71	11.11
Sugar and sugar products, honey	0.00	1.68	1.23	6.45	2.94	7.41
Fortified oil or margarine	0.00	0.84	0.00	0.00	0.00	0.00
Other oils and fats	0.96	0.84	1.23	0.00	0.00	7.41
Condiments: spices, tea coffee, salt,	1.92	0.84	0.00	0.00	0.00	0.00

Table 61 For your child to be healthy and grow tall, healthy food is important. If you could choose five food items for today, which ones would you choose 5th to feed your child?

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	Farmers	landless	Farmers	landless
Food group	n=104	n=119	n=81	n=31	n=68	n=27
Staple foods: rice, maize / ugali, porridge, potato, cassava, wheat / bread / pasta	15.38	10.92	23.46	16.13	8.82	18.52
Legumes: beans, soya, groundnut, nuts, seeds	13.46	5.88	7.41	16.13	11.76	11.11
Yellow / orange coloured vegetables (pumpkin, carrot, chilli, yellow cassava, yellow sweet potato)	14.42	11.76	14.81	19.35	13.24	3.70
Dark green leafy vegetables (cassava leaf, pumpkin leaf, etc)	10.58	9.24	9.88	9.68	13.24	0.00
Yellow / orange coloured fruits (mango, papaya)	7.69	15.13	6.17	3.23	13.24	7.41
Other vegetables	6.73	7.56	1.23	6.45	2.94	0.00
Other fruits	10.58	6.72	4.94	0.00	2.94	7.41
Fish, Meat, Organ meat, Poultry, Eggs,	6.73	9.24	4.94	12.90	8.82	22.22

ENDLINE

Milk, yoghurt and other dairy	2.88	11.76	17.28	12.90	19.12	22.22
Sugar and sugar products, honey	5.77	4.20	6.17	3.23	1.47	3.70
Fortified oil or margarine	0.96	0.00	2.47	0.00	1.47	3.70
Other oils and fats	4.81	5.88	1.23	0.00	2.94	0.00
Condiments: spices, tea coffee, salt,	0.00	1.68	0.00	0.00	0.00	0.00

Table 62 To what extent do caretakers agree with the following statements: “For my child to grow tall, it is especially important to feed:...”?

	Blue Gold		Safal beneficiary areas		Safal control areas	
	beneficiaries	Controls	Farmers	landless	Farmers	landless
Food group	n=104	n=119	n=81	n=31	n=68	n=27
Staple foods: rice, maize / ugali, porridge, potato, cassava, wheat / bread / pasta						
Strongly disagree	0.00	0.00	1.23	3.23	1.47	0.00
Disagree	0.96	4.20	3.70	3.23	8.82	0.00
Neutral	8.65	5.04	6.17	0.00	1.47	3.70
Agree	71.15	77.31	69.14	77.42	70.59	81.48
Strongly agree	18.27	9.24	16.05	16.13	16.18	14.81
Don't know	0.96	4.20	3.70	0.00	1.47	0.00
Legumes: beans, soya, groundnut, nuts, seeds						
Strongly disagree	0.00	0.00	1.23	0.00	1.47	0.00
Disagree	0.96	3.36	4.94	3.23	10.29	0.00
Neutral	7.69	6.72	2.47	0.00	1.47	7.41
Agree	73.08	67.23	65.43	74.19	70.59	59.26
Strongly agree	16.35	15.13	20.99	19.35	13.24	29.63
Don't know	1.92	7.56	4.94	3.23	2.94	3.70
Yellow / orange coloured vegetables (pumkin, carrot, chilli, yellow cassava, yellow sweet potato)						
Strongly disagree	0.00	0.84	0.00	0.00	0.00	0.00
Disagree	0.96	0.84	2.47	0.00	4.41	0.00
Neutral	6.73	2.52	3.70	0.00	1.47	3.70
Agree	71.15	75.63	62.96	80.65	73.53	66.67
Strongly agree	21.15	15.13	25.93	16.13	19.12	25.93
Don't know	0.00	5.04	4.94	3.23	1.47	3.70
Dark green leafy vegetables (cassava leaf, pumkin leaf, etc)						
Strongly disagree	0.00	0.84	0.00	0.00	0.00	0.00
Disagree	0.00	1.68	3.70	0.00	4.41	0.00

ENDLINE

Neutral	7.69	0.84	0.00	6.45	1.47	0.00
Agree	67.31	68.07	67.90	74.19	67.65	70.37
Strongly agree	25.00	23.53	23.46	19.35	19.12	18.52
Don't know	0.00	5.04	4.94	0.00	7.35	11.11
Yellow / orange coloured fruits (mango, papaya)						
Strongly disagree	0.00	0.00	1.23	0.00	0.00	0.00
Disagree	0.96	3.36	1.23	0.00	2.94	0.00
Neutral	0.96	0.84	2.47	3.23	2.94	0.00
Agree	68.27	63.87	51.85	70.97	70.59	59.26
Strongly agree	27.88	27.73	39.51	25.81	20.59	40.74
Don't know	1.92	4.20	3.70	0.00	2.94	0.00
Other vegetables						
Strongly disagree	0.00	0.00	1.23	0.00	0.00	0.00
Disagree	0.96	2.52	1.23	0.00	4.41	0.00
Neutral	2.88	0.00	2.47	3.23	1.47	3.70
Agree	72.12	67.23	60.49	87.10	67.65	55.56
Strongly agree	21.15	26.05	30.86	9.68	19.12	33.33
Don't know	2.88	4.20	3.70	0.00	7.35	7.41
Other fruits						
Strongly disagree	0.00	0.84	1.23	0.00	0.00	0.00
Disagree	0.96	3.36	2.47	0.00	1.47	0.00
Neutral	2.88	0.84	0.00	0.00	1.47	0.00
Agree	69.23	61.34	54.32	80.65	67.65	55.56
Strongly agree	25.96	29.41	37.04	16.13	25.00	40.74
Don't know	0.96	4.20	4.94	3.23	4.41	3.70
Fish, Meat, Organ meat, Poultry, Eggs,						
Strongly disagree	0.00	1.68	0.00	0.00	0.00	0.00
Disagree	1.92	3.36	2.47	0.00	4.41	0.00
Neutral	0.00	0.00	1.23	0.00	0.00	3.70
Agree	58.65	54.62	38.27	61.29	63.24	55.56
Strongly agree	38.46	36.97	53.09	35.48	29.41	40.74
Don't know	0.96	3.36	4.94	3.23	2.94	0.00
Milk, yoghurt and other dairy						
Strongly disagree	1.92	0.84	0.00	0.00	0.00	0.00
Disagree	0.00	5.04	1.23	0.00	2.94	0.00
Neutral	0.96	0.00	1.23	3.23	2.94	0.00
Agree	63.46	60.50	41.98	64.52	61.76	62.96

ENDLINE

Strongly agree	33.65	31.09	50.62	32.26	30.88	37.04
Don't know	0.00	2.52	4.94	0.00	1.47	0.00
Sugar and sugar products, honey						
Strongly disagree	1.92	3.36	1.23	0.00	0.00	0.00
Disagree	8.65	10.92	16.05	16.13	11.76	7.41
Neutral	18.27	8.40	4.94	0.00	1.47	11.11
Agree	58.65	55.46	41.98	67.74	60.29	55.56
Strongly agree	11.54	16.81	27.16	16.13	16.18	22.22
Don't know	0.96	5.04	8.64	0.00	10.29	3.70
Fortified oil or margarine						
Strongly disagree	4.81	7.56	7.41	3.23	5.88	3.70
Disagree	7.69	22.69	19.75	16.13	19.12	7.41
Neutral	14.42	6.72	4.94	0.00	4.41	0.00
Agree	51.92	37.82	41.98	64.52	45.59	55.56
Strongly agree	8.65	13.45	18.52	12.90	13.24	18.52
Don't know	12.50	11.76	7.41	3.23	11.76	14.81
Other oils and fats						
Strongly disagree	4.81	9.24	7.41	6.45	5.88	3.70
Disagree	13.46	17.65	23.46	25.81	14.71	18.52
Neutral	12.50	4.20	2.47	0.00	2.94	0.00
Agree	56.73	46.22	39.51	54.84	54.41	48.15
Strongly agree	9.62	13.45	20.99	9.68	11.76	14.81
Don't know	2.88	9.24	6.17	3.23	10.29	14.81
Condiments: spices, tea coffee, salt,						
Strongly disagree	4.81	7.56	11.11	6.45	8.82	0.00
Disagree	19.23	23.53	23.46	22.58	32.35	22.22
Neutral	17.31	8.40	4.94	6.45	2.94	0.00
Agree	43.27	36.97	29.63	51.61	41.18	40.74
Strongly agree	8.65	12.61	19.75	6.45	8.82	22.22
Don't know	6.73	10.92	11.11	6.45	5.88	14.81