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FFS Cycle 4 Khulna, March-September 2015 Comparing Benchmark and End Data

December, 2015



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Technical Note 07

FFS Cycle 4 Benchmark and End Data

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Annex 1 Benchmark and End Data

Annex 2 Location of 40 Farmer Field Schools in Khulna



1. Introduction

1.1 Introduction and Overview

Technical Note 01 ("Use of ODK software in FFS Cycle 3") described how tablets with ODK software were introduced in Blue Gold to help FFS Organizers (FO) recording data of the participants in their FFS. In FFS Cycle 3 (September 2014 – March 2015) the benchmark data were recorded on paper forms while the end data were collected electronically.

FFS Cycle 4 took place from March to September 2015, when 40 FFSs were organized in Khulna with modules homestead vegetables and fruits, poultry and nutrition. Benchmark data and end data were collected by tablets and are discussed in this document.

Annex 1 shows totals and averages of the collected benchmark data and end data side by side. Due to a technical problem with one of the tablets the benchmark data of 4 FFSs were lost and could not be included, which means that benchmark information is available for 900 farmers, while the end data are available for all 1,000 participating farmers.

When interpreting these data it should be understood that the objectives of data collection at the beginning of the FFS are:

- 1. To establish benchmarks that can be used by facilitators and farmers for measuring progress or changes in behavior, and
- 2. To generate interest among farmers and introduce them to the topics which will be discussed and practiced during the FFS season.

The collection of end data is a repetition of the same questions, so that the FFS participants can verify their own progress. They are motivated to share these results, such as an increase of vegetable or egg production, during farmer field days.

Annex 2 shows the locations of the 40 FFS.

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2. General information FFS participants

2.1 **Profile of Participants**

Some of the collected data (end data) can be used to describe the profile of the FFS participants.

2.1.1 Gender

A high percentage of FFS participants are women because FFS cycle 4 deals with homestead activities (vegetable garden, poultry).

Total participants (N)	Percentage women
1,000	89 %

2.1.2 Age

In farmer selection for FFS we try to select young dynamic farmers and they should preferably be younger than 50 years old.

Number of farmers	Average age	Youngest	Oldest
1,000	34	18	55

2.1.3 Education

The majority of farmers are literate, but a significant part (17 %) is illiterate or can only sign their name. This means that it is still important in the FFS to work with drawings where possible and avoid the use of texts.

	Number of farmers
Illiterate	10
Can sign	158
Primary	439
Secondary	349
HCC and above	44

2.1.4 WMG membership

When selecting participants for the FFS we always consult the WMG to assist in organizing a community meeting and selecting FFS participants according to a set of criteria. We found that in cycle 4 most FFS participants were WMG.

	WMG members	Not WMG member	Percentage WMG member
Benchmark (N=900)	881	19	98 %
End (N=1,000)	987	13	99 %



2.1.5 Land for agriculture and homestead area

In farmer selection we give priority to participants from poor and landless households.

N=1,000	Farmers with no land for agriculture	Less than 50 decimal agricultural land (= landless)	50 or more decimals agricultural land
Number of farmers	109	470	530
Percentage	11 %	47 %	53 %

Farmers participating in the FFS are generally smaller farmers with on average 61 decimal (0.24 hectare) of agricultural land. The homestead area is on average 16 decimal (640 m^2).

N=1,000	Agricultural land area (decimal)	Homestead area (decimal)
Average	61	16
Largest	300	80



3. Comparing benchmark data with end data

3.1 Effect of Training

The calculated averages of data collected at the beginning and end of the FFS can be used get an idea of the effect of the training. However, this should not be seen as an impact study because some of the differences measured are a direct result of the training. For example, all FFS farmers report during the end survey that they practice "candling" of eggs (a technique to see if the egg is fertilized). This result shows that they did this during the training, but does not prove that they will continue to do this. Adoption of such practices (and other behavioral changes) should be measured at one or two years after completing the FFS.

This chapter compares the collected benchmark and end data and provides some comments for interpreting the differences.

3.2 Growing homestead vegetables

About 10% of the farmers did not yet grow homestead vegetables when they started the FFS, but they all started during the FFS.

	Percentage farmers	
	Benchmark (N=900)	End data (N=1,000)
Growing homestead	90 %	100 %

3.3 Which vegetables

The percentage of farmers growing a certain type of vegetable is shown in the following table. It shows that gourds and leafy vegetables were already popular before the start of the FFS. Several others (e.g. brinjal and lady fingers) became more popular because some seeds were provided to the participants. The increase of aroids, drumstick and other vegetables can be explained because the participants of cycle 4 FFS were also included in a Blue Gold activity implemented in collaboration with Bangladesh Agriculture University (BAU) to introduce and test new types and varieties of vegetables and fruits in the polder areas.

	Percentage farmers	
	Benchmark (N=814)	End data (N=1,000)
Gourds	85 %	>99 %
Brinjal	44 %	97 %
Leafy vegetables	74 %	99 %
Lady fingers	22 %	89 %
Cabbage/Cauliflower	11 %	47 %
Radish	13 %	53 %
Tomato	15 %	72 %
Aroids	22 %	95 %



Drumstick	29 %	92 %
Other vegetables	6 %	69 %

3.4 Crop diversification

The number of different types of vegetables grown within a homestead increased significantly. This is of course a direct result of some inputs (seeds, seedlings) provided during the training. The plan is to measure this again after one or two seasons.

	Average number of different vegetables grown within the same homestead
Bench mark	3.2
End data	8.1

3.5 Vegetable production and selling surplus

Increase of vegetable production during the FFS season resulted in a surplus production which can be sold. The percentage farmers selling vegetables increased from 28% at the start of the FFS to 96% during the FFS season.

	Percentage farmers		
	Benchmark (N=814)	End data (N=1,000)	
Sell none	72 %	4 %	
Sell less than half	14 %	11 %	
Sell and eat about half	11 %	37 %	
Sell more than half	3 %	49 %	
Sell all	<1 %	0 %	

3.6 Homestead space planning

Farmers often miss opportunities to grow vegetables on the limited space available. The FFS helps them to plan the homestead more efficiently. The table shows where participants used to grow vegetables before the FFS (benchmark) and during the FFS season (end data).

	Percentage farmers		
	Benchmark (N=814)	End data (N=1,000)	
In sunny open area	98 %	>99 %	
In shady area	18 %	96 %	
In wet marshy area	21 %	91 %	
On hedges or fences	16 %	90 %	
On roof	16 %	94 %	
Near pond side	10 %	79 %	
On macha	16 %	92 %	
On macha near pond	10 %	75 %	
In pots	1 %	19 %	
Other places	4 %	61 %	

Instead of relying mainly on sunny open areas to grow vegetables farmers started growing during the FFS their vegetables in different types of homestead space.

	Average number of different locations used to grow vegetables
Bench mark	1.9
End data	8.0

3.7 Where farmers get their seed

The questions on where farmers get the seed for their homestead vegetables may have created some confusion. While in the below table the increase of using own seeds (possible for some types of vegetables) could be a result of what they learned, it is strange to see the sharp increase in seeds from NGO and from company. As they received some seeds during the FFS (from Blue Gold) or through the activity with BAU, perhaps this made some farmers answer that they got seeds from an NGO or company.



While the answers are perhaps not so reliable, it is still important to keep this question in the benchmark questionnaire as it starts the farmers thinking about the origin of their seeds. Sources of quality seeds will be discussed during the training.

	Percentage farmers		
	Benchmark (N=814)	End data (N=1,000)	
Own seeds	40 %	98 %	
Seeds from DAE	<1 %	0 %	
Seed from BADC	1 %	2 %	
Seed from NGO	1 %	11 %	
Seed from company	4 %	55 %	
Seed from market	92 %	88 %	
Seed from neighbours	28 %	34 %	

3.8 Fertilizer use in homestead vegetables

Most farmers (90%) had already experience using fertilizer in their homestead vegetables. During the FFS season almost 100% had applied fertilizers.

	Percentage of farmers using fertilizers		
Benchmark (N=814)	90 %		
End data (N=1,000)	> 99%		

While urea, TSP and MP where already used to a large extent before the FFS (benchmark data) we see that during the FFS farmers learned to use also gypsum, zinc, cow dung, chicken manure and farm yard manure (FYM) and compost. Follow up surveys at one or two years after the FFS are planned to see how these practices get adopted.

	Percentage farmers		
	Benchmark (N=814)	End data (N=1 000)	
Urea	85 %	99 %	
TSP	51 %	97 %	
MP	38 %	97 %	
Gypsum	2 %	33 %	
Zinc	2 %	25 %	
Cow dung	24 %	91 %	
Chicken manure	15 %	69 %	
FYM	2 %	96 %	
Compost	1 %	16 %	

3.9 Fruit trees

Most farmers who participated in the FFS had already some fruit trees in their homestead area (99% in benchmark), and at the end of the FFS all had trees, as some sapling were provided to farmers during the training and also because these farmers participated in the activity with BAU to test new types and varieties of fruits.

The following table shows the average number of trees per homestead area and for some tree species the average number of grafted trees. Mango, banana and coconut are the most common trees grown at the homestead.

	Benchmark (N=887)		End data (N=1,000)	
	Average trees	Average grafted trees	Average trees	Average grafted trees
Mango	4.4	0.6	6.4	1.9
Litchi	0.3	0.1	1.2	0.8
Lemon	0.9	0.3	1.5	0.8
Guava	1.4	0.3	2.0	0.5
Jujube	0.8	0.2	0.8	0.3
Sapodilla	0.9	0.3	1.6	0.9



Jackfruit	0.9	0.8
Indian blackberry	0.4	0.4
Coconut	4.8	5.5
Date palm	1.9	2.3
Palm tree	0.6	0.7
Рарауа	1.3	3.0
Banana	6.0	9.8
Other fruits	1.7	4.0

The following table shows that the average number of trees per household increased from 26 to 40. This is a much larger increase than what is expected based on the sapling that were distributed during the training. It could be that during the benchmark survey farmers just had to make a rough estimate of their trees, while during the training they became more aware of the trees, which helped them give a more accurate (higher) number during the end survey.

The maximum number of trees in a household seems quite high, but is explained as this farmer had many banana trees in his homestead.

	Number of trees per household		
	Benchmark (N=887)	End data (N=1,000)	
Minimum	0	3	
Maximum	172	150	
Average	26	40	

3.10 Fertilizer use for fruit trees

Before the FFS, farmers were not familiar with using fertilizers for their fruit trees; only 6% mentioned doing this. At the end survey almost all farmers had experience with fertilizing their trees.

	Percentage farmers		
	Benchmark End data		
	(N=887)	(N=1,000)	
Use fertilizer for fruit trees	6 %	> 99 %	
No use of fertilizer	94 %	< 1 %	

3.11 Pest management

When asked how farmers do pest management in their homestead area. The shift to Integrated Pest Management, which is part of the FFS training, is very clear.

	Percentage farmers		
	Benchmark (N=900) End data (N=1,000)		
Do nothing	51.6 %	0 %	
IPM	0.1 %	99.9%	
Chemical control	48.3%	0.1%	

3.12 Money used for pest management

When asked if they spend money for pest management we see that the training resulted in an increase of the percentage of farmers who invest money for pest management purposes.

	Percentage farmers		
	Benchmark (N=900) End data (N=1,000)		
No money used	51.7 %	30.1 %	
Used money	48.3 %	69.9%	

But while more farmers started using pesticides, the average amount of money spent decreased to less than half.

Taka used for pest management



	Benchmark (N=435)	End data (N=699)
Maximum	2,000	1,500
Total spend by all farmers	138,988	97,030
Average	320	139

3.13 Preparing Farm Yard Manure

Before the FFS only 7% of the farmers had a pit where they collect Farm Yard Manure (FYM). During the end survey, almost all farmers had a FYM pit, and most with the recommended shading. A follow up survey after one or two years would be needed to verify if this practice becomes adopted.

	Percentage farmers	
	Benchmark	End data
	(N=900)	(N=1,000)
No FYM pit	93 %	1 %
Pit without shade	7 %	21 %
Pit with shade	0 %	78 %

3.14 Poultry

The percentage of farmers having chicken, chicks, ducks and ducklings increased during the FFS season. One reason for this increase is that some ducklings were distributed among FFS participants.

	Percentage farmers		
	Benchmark (N=900)	End data (N=1,000)	
Have chicken	88 %	96 %	
Have chicks	55 %	86 %	
Have ducks	85 %	99 %	
Have ducklings	46 %	57 %	

Also the average number of birds present in each household increased, which is one of the objectives of the poultry module in the FFS.

	Average number of birds		
	Benchmark	End data	
Chicken	3.7	9.9	
Chicks	5.2	15.7	
Ducks	3.5	13.4	
Ducklings	4.5	7.0	

3.15 Eggs per bird

Farmers were asked to estimate how many eggs were produced per hen or per duck in a year. During the end survey they estimated this number much higher than at the start of the FFS, possibly because they have learned new practices (e.g. separating ducks from hen after 1 week) which they expect to have positive result on egg production. These numbers are of course rough estimates. We have to plan follow up surveys to see if egg production really sustained at a much higher level.

	Estimated average number of eggs per bird	
	Benchmark	End data
Eggs per hen	47	94
Eggs per duck	49	101

3.16 Egg and poultry consumption

The higher production of birds and eggs resulted also in more households eating their own produced eggs and poultry.



	Benchmark (N=900)	End data (N=1,000)
Consuming own eggs	81 %	98 %
Consuming own poultry	30 %	85 %

Farmers were asked to estimate how many eggs they eat in a week and how many poultry they eat in a month.

	Benchmark (N=900)	End data (N=1,000)
Eggs eaten per week	3.8	11.0
Poultry eaten per month	0.6	1.5

3.17 Selling of eggs

During the FFS the number of farmers selling eggs increased and also the number of eggs sold per month increased.

	Benchmark	End data
Percentage farmers who sell eggs	73 %	90 %
Average number eggs sold per month	8	31

3.18 Selling of poultry

Farmers also estimated how many poultry they could sell in a year.

	Benchmark	End data
Percentage farmers who sell poultry (N=900)	71 %	94 %
Average number birds sold per year	4	21

3.19 Poultry rearing practices

During the FFS farmers learn several practices that help increase their poultry and egg production. The following tables show that these practices were commonly used during the FFS, but follow up surveys will have to show if these practices are all adopted in future.

	Percentage farmers		
	Benchmark (N=900)	End data (N=1000)	
Always vaccinate poultry	< 1 %	95 %	
Use hazal	< 1 %	> 99%	
Use candling	1 %	100 %	
Separate chicks after 1 week	0 %	97 %	

3.20 Vegetable washing

During the nutrition sessions farmers learn that it is better to wash vegetables before cutting them.

	Percentage farmers	
	Benchmark End data (N=900) (N=1000)	
Wash after cutting	97 %	11 %
Was before cutting	3 %	89 %

3.21 Food habits

Farmers estimated how many times per week they eat meat, fish, eggs and fruits. Interpreting the differences in meat and fish consumption is difficult and it is not sure that this can be attributed to the nutrition training. The increase in egg consumption is probably a result of the increased production at the homestead. The doubling in fruit consumption is probably a seasonal effect, as benchmark data were collected in March and end data in September, when more fruits are available.



	Average number of days per week		
	Benchmark (N=900)	End data (N=1000)	
Meat	0.6	1.0	
Fish	3.1	3.9	
Eggs	1.7	2.8	
Fruits	1.2	2.6	

As farmers eat some vegetables always every day, they were asked to estimate how many grams they eat per week. This was a difficult question and amounts estimated covered a wide range. We keep this question in the questionnaire as asking such questions already starts the process of raising awareness on eating more vegetables.

The observed increase (double amount during end survey) can probably be best explained by the increased vegetable production in the homestead and only partly because of awareness creation during the nutrition sessions.

	Estimated grams per week		
	Benchmark End data		
	(N=900)	(N=1000)	
Vegetables	920	1,832	



4. Conclusions

4.1 Short-Term Effects

FFS Cycle 4 was the first time that benchmark data and end data were both collected using ODK forms on tablets.

The presented data collected from 1,000 FFS participants show clearly the immediate effects of the training (e.g. increased vegetable and egg production). However, real impact and sustainability of the FFS training will have to be measured later when the survey is repeated with the same households after one or two years.

Annex 1

Benchmark data and End data of FFS Cycle 4 in Khulna

FFS modules: Homestead Vegetables and Fruits, Poultry, and Nutrition

Benchmark data

Data of 36 FFS out of 40 FFS in March 2015

(data of 4 FFS lost due to broken tablet)

GENERAL INFO PARTICIPANTS

GENERAL INFO PARTICIPANTS

Data of 40 FFS in September 2015

Gender

Men	110
Women	790
Total farmers	900

Age

-	
Average age	34
Youngest	18
Oldest	55

Education

Illiterate	20
Can sign	110
Primary	442
Secondary	282
HCC and above	46
Total farmers	900

WMG membership

WMG member	881
Not WMG member	19
Total farmers	900

Land for Agriculture

Have no area for agriculture	92
Have area for agriculture	808
Total farmers	900

Condor

End data

Gender	
Men	115
Women	885
Total farmers	1,000

Age

Average age	34
Youngest	18
Oldest	55

Illiterate	10
Can sign	158
Primary	439
Secondary	349
HCC and above	44
Total farmers	1,000

WMG membership

WMG member	987
Not WMG member	13
Total farmers	1,000

Land for Agriculture

Have no area for agriculture	109
Have area for agriculture	891
Total farmers	1,000

Landless (<50 decimal)	423
Not landless (>=50 decimal)	477
Total farmers	900

Average area (decimal) of all 900 HH	61
Biggest area (decimal)	300

Homestead area

Average homestead (decimal)	15
Smallest (decimal)	-
Biggest (decimal)	80

VEGETABLES

Vegetables in homestead

Grow vegetables	814
No vegetables	86
Total	900

Which vegetables grown (num farmers)

Gourds	765
Brinjal	396
Leafy vegetables	665
Lady fingers	198
Cabbage/Cauliflower	99
Radish	117
Tomato	134
Aroids	197
Drumstick	259
Other vegetables	55

Types vegetables grown per farmer

Average types grown	3.2
Max	10
Min	-

Landless (<50 decimal)	470
Not landless (>=50 decimal)	530
Total farmers	1,000

Average area (decimal) of all 1000 HH	61
Biggest area (decimal)	300

Homestead area

Average homestead (decimal)	16
Smallest (decimal)	-
Biggest (decimal)	80

VEGETABLES

Vegetables in homestead

Grow vegetables	1,000
No vegetables	-
Total	1,000

Which vegetables grown (num farmers)

Gourds	995
Brinjal	969
Leafy vegetables	993
Lady fingers	890
Cabbage/Cauliflower	471
Radish	532
Tomato	724
Aroids	948
Drumstick	922
Other vegetables	692

Types vegetables grown per farmer

Average types grown	8.1
Max	10
Min	4

What happens with vegetables

Sell none	583
Sell less than half	114
Sell and eat about half	92
Sell more than half	24
Sell all	1
Total farmers	814

Where are vegetables grown

Veg in sunny open area	796
In shady area	149
In wet marshy area	168
On hedges or fences	129
On roof	132
Near pond side	82
On macha	130
On macha near pond	81
In pots	12
Other places	35
Total farmers	814

How many different locations are used

Average (num locations used per HH)	1.9
Max	8
Min	-

Where do farmers get seeds

Own seeds	328
Seeds from DAE	4
Seed from BADC	5
Seed from NGO	5
Seed from company	35
Seed from market	746
Seed from neighbours	230
Total farmers	814

What happens with vegetables

Sell none	37
Sell less than half	107
Sell and eat about half	370
Sell more than half	486
Sell all	-
Total farmers	1,000

Where are vegetables grown

Veg in sunny open area	996
In shady area	961
In wet marshy area	908
On hedges or fences	897
On roof	935
Near pond side	786
On macha	921
On macha near pond	748
In pots	193
Other places	614
Total farmers	1,000

How many different locations are used

Average (num locations used per HH)	8.0
Max	10
Min	3

Where do farmers get seeds

Own seeds	984
Seeds from DAE	3
Seed from BADC	19
Seed from NGO	110
Seed from company	550
Seed from market	879
Seed from neighbours	343
Total farmers	1,000

Fertilizer use in vegetables

Use no fertilizers	85
Use some fertilizers	729
Total	814

Which fertilizers are used

Urea	694
TSP	417
MP	308
Gypsum	18
Zinc	13
Cow dung	197
Chicken manure	119
FYM	18
Compost	5
Total farmers	814

FRUIT TREES

Fruit trees in homestead

Have fruit trees	887
No fruit trees	13
Total farmers	900

Fertilizer use in vegetables

Use no fertilizers	1
Use some fertilizers	999
Total	1,000

Which fertilizers are used

Urea	986
TSP	966
MP	965
Gypsum	330
Zinc	248
Cow dung	910
Chicken manure	693
FYM	962
Compost	159
Total farmers	1,000

FRUIT TREES

Fruit trees in homestead

Have fruit trees	1,000
No fruit trees	-
Total farmers	1,000

		Average	Grafted	Average
Types of fruit trees (887 farmers)	Total trees	trees	trees	grafted
Mango	3,923	4.4	502	0.6
Litchi	298	0.3	104	0.1
Lemon	828	0.9	287	0.3
Guava	1,282	1.4	260	0.3
Jujube	738	0.8	214	0.2
Sapodilla	777	0.9	260	0.3
Jackfruit	837	0.9		
Indian blackberry	366	0.4		
Coconut	4,301	4.8		
Date palm	1,715	1.9		
Palm tree	562	0.6		
Рарауа	1,167	1.3]	
Banana	5,324	6.0]	
Other fruits	1.483	1.7]	

Count fruit trees (per HH)

Max	172
Min	-
Average	26

PEST AND FERTILIZER MANAGEMENT

Pest management

Do nothing	464
IPM	1
Chemicals	435
Total	900

Money spent on pesticides

No money used	465
Use money	435
Total	900

		Average	Grafted	Average
Types of fruit trees	Total trees	trees	trees	grafted
Mango	6,396	6.4	1,856	1.9
Litchi	1,193	1.2	821	0.8
Lemon	1,458	1.5	806	0.8
Guava	1,959	2.0	461	0.5
Jujube	843	0.8	251	0.3
Sapodilla	1,647	1.6	887	0.9
Jackfruit	841	0.8		
Indian blackberry	447	0.4		
Coconut	5,492	5.5		
Date palm	2,304	2.3		
Palm tree	734	0.7		
Рарауа	2,982	3.0		
Banana	9,806	9.8]	
Other fruits	4,008	4.0]	

Count fruit trees (per HH)

Max	150
Min	3
Average	40

PEST AND FERTILIZER MANAGEMENT

Pest management

Do nothing	-
IPM	999
Chemicals	1
Total	1,000

Money spent on pesticides

No money used	301
Use money	699
Total	1,000

How much money used

Max (Taka)	2,000
Total (Taka)	138,988
Average (of 900 HH)	154
Average (of 435 HH)	320

Farm Yard Manure

No FYM pit	841
Pit without shade	59
Pit with shade	-
Total	900

Fertilizers for fruit trees

Use fertilizers for fruit	56
No fertilizers for fruit	831
Total	887

POULTRY

Chicken

Max chicken	25
Min chicken	-
Total chicken	2,917
Farmers with chicken	790
Farmers without chicken	110
Average chicken (790 farmers)	3.7
Average chicken (900 farmers)	3.2
Total farmers	900

How much money used

Max (Taka)	1,500
Total (Taka)	97,030
Average (of 1000 HH)	97
Average (of 699 HH)	139

Farm Yard Manure

No FYM pit	7
Pit without shade	208
Pit with shade	785
Total	1,000

Fertilizers for fruit trees

Use fertilizers for fruit	996
No fertilizers for fruit	4
Total	1,000

POULTRY

Chicken

Max chicken	75
Min chicken	-
Total chicken	9,503.0
Farmers with chicken	960
Farmers without chicken	40
Average chicken (960 farmers)	9.9
Average chicken (1000 farmers)	9.5
Total farmers	1,000

Chicks

Max chicks	50
Min chicks	-
Total chicks	2,600
Farmers with chicks	498
Farmers without chicks	402
Average chicks (498 farmers)	5.2
Average chicks (900 farmers)	2.9
Total farmers	900

Ducks

Max ducks	25
Min ducks	-
Total ducks	2,715
Farmers with ducks	767
Farmers without ducks	133
Average ducks (767 farmers)	3.5
Average ducks (900 farmers)	3.0
Total farmers	900

Ducklings

Max ducklings	65
Min ducklings	-
Total ducklings	1,878
Farmers with ducklings	418
Farmers without ducklings	482
Average ducklings (418 farmers)	4.5
Average ducklings (900 farmers)	2.1
Total farmers	900

Eggs per hen per year

Max	90
Average	47

Eggs per duck per year

Max	150
Average	49

Chicks

Max chicks	120
Min chicks	-
Total chicks	13,386
Farmers with chicks	855
Farmers without chicks	145
Average chicks (855 farmers)	15.7
Average chicks (1000 farmers)	13.4
Total farmers	1,000

Ducks

Max ducks	45
Min ducks	-
Total ducks	13,277
Farmers with ducks	988
Farmers without ducks	12
Average ducks (988 farmers)	13.4
Average ducks (1000 farmers)	13.3
Total farmers	1,000

Ducklings

Max ducklings	110
Min ducklings	-
Total ducklings	6,979
Farmers with ducklings	569
Farmers without ducklings	431
Average ducklings (569 farmers)	12.3
Average ducklings (1000 farmers)	7.0
Total farmers	1,000

Eggs per hen per year

Max	200
Average	94

Eggs per duck per year

Max	250
Average	101

Own eggs consumed per week

Max	80
Min	-
Total	3,451
Average	3.8
Farmers eat own eggs	728
Farmers not eat own eggs	172
Total farmers	900

Poultry consumed per month

Max	30
Min	-
Total	505
Average	0.6
Farmers eat own poultry	270
Farmers not eat own poultry	630
Total farmers	900

Eggs sold per month

Max	100
Min	-
Total	7,170
Average	8.0
Farmers selling eggs	654
Farmers not selling eggs	246
Total farmers	900

Poultry sold per year

Max	40
Min	-
Total	3,269
Average	3.6
Farmers selling poultry	640
Farmers not selling poultry	260
Total farmers	900

Own eggs consumed per week

Max	65
Min	-
Total	11,014
Average	11.0
Farmers eating own eggs	981
Farmers not eating own eggs	19
Total farmers	1,000

Poultry consumed per month

Max	25
Min	-
Total	1,499
Average	1.5
Farmers eating own poultry	845
Farmers not eating own poultry	155
Total farmers	1,000

Eggs sold per month

Max	250
Min	-
Total	30,657
Average	30.7
Farmers selling eggs	898
Farmers not selling eggs	102
Total farmers	1,000

Poultry sold per year

Max	180
Min	-
Total	21,060
Average	21.1
Farmers selling poultry	937
Farmers not selling poultry	63
Total farmers	1,000

Poultry vaccinated

Never	839
Sometimes	59
Always	2
Total	900

Hazal

Use hazal	3
No hazal	897
Total	900

Separate chicks from hen

Never	895
After 1 week	-
After 2 weeks	-
After 3 weeks	-
After 4 weeks	5
Total	900

Candling

Use candling	11
No candling	889
Total	900

NUTRITION

Vegetables washing

Wash after cutting	873
Wash before cutting	27
Total	900

Poultry vaccinated

Never	1
Sometimes	48
Always	951
Total	1,000

Hazal

Use hazal	999
No hazal	1
Total	1,000

Separate chicks from hen

Never	4
After 1 week	973
After 2 weeks	23
After 3 weeks	-
After 4 weeks	-
Total	1,000

Candling

Use candling	1,000
No candling	-
Total	1,000

NUTRITION

Vegetables washing

Wash after cutting	112
Wash before cutting	888
Total	1,000

Meat days per week

Max days	6
Min days	-
Average days	0.6
Farmers eat meat	469
Don't eat meat	431
Total farmers	900

Fish days per week

Max days	7
Min days	-
Average days	3.1
Farmers eat fish	893
Don't eat fish	7
Total	900

Eggs days per week

Max days	7
Min days	-
Average days	1.7
Farmers eat eggs	833
Don't eat eggs	67
Total	900

Fruits days per week

Max days	7
Min days	-
Average days	1.2
Farmers eat fruits	702
Don't eat fruits	198
Total	900

Eat grams vegetables per week

Max (grams)	4,000
Min (grams)	100
Average (grams)	920
Farmers eat vegetables	900
Don't eat vegetables	-
Total	900

Meat days per week

Max days	6
Min days	-
Average days	1.0
Farmers eat meat	839
Don't eat meat	161
Total farmers	1,000

Fish days per week

Max days	7
Min days	-
Average days	3.9
Farmers eat fish	992
Don't eat fish	8
Total	1,000

Eggs days per week

Max days	7
Min days	-
Average days	2.8
Farmers eat eggs	979
Don't eat eggs	21
Total	1,000

Fruits days per week

Max days	7
Min days	-
Average days	2.6
Farmers eat fruits	984
Don't eat fruits	16
Total	1,000

Eat grams vegetables per week

Max (grams)	3,500
Min (grams)	200
Average (grams)	1,832
Farmers eat vegetables	1,000
Don't eat vegetables	-
Total	1,000

Annex 2 - Locations of 40 FFS in Cycle 4

Khulna, March-September 2015

FFS ID	Water Management Group	Polder	Union	Upazila	Facilitator
177	Fulbari	22	Deluti	Paikgachha	Zakir
178	Britti Khalsebunia	30	Gangarampur	Batiaghata	Zakir
179	Katamari Gopalkhali	30	Gangarampur	Batiaghata	Zakir
180	Sukhdara	30	Surkhali	Batiaghata	Zakir
181	Auskhali	30	Batiaghata	Batiaghata	Sabina
182	Boyarbhanga Madhya	30	Gangarampur	Batiaghata	Sabina
183	Britti Salua	30	Gangarampur	Batiaghata	Sabina
184	Par Salua	30	Gangarampur	Batiaghata	Sabina
185	Andharia Khejurtala	30	Gangarampur	Batiaghata	Salam
186	Bajeafti Debitala	30	Gangarampur	Batiaghata	Salam
187	Balabunia	30	Batiaghata	Batiaghata	Salam
188	Gangarampur	30	Gangarampur	Batiaghata	Salam
189	Dumuria Dakshin	29	Dumuria	Dumuria	Hafsa
190	Dumuria Uttar	29	Dumuria	Dumuria	Hafsa
191	Rajibpur Dakshin Mahal	29	Bhandarpara	Dumuria	Hafsa
192	Sahas Joykhali	29	Sahas	Dumuria	Hafsa
193	Kapalidanga	29	Sahas	Dumuria	Waliullah
194	Dakshin Sarappur	29	Sarappur	Dumuria	Waliullah
195	Uttar Sarappur	29	Sarappur	Dumuria	Waliullah
196	Taiabpur	29	Sarappur	Dumuria	Waliullah
197	Rajapur	29	Sahas	Dumuria	Zahida
198	Maikhali	29	Bhandarpara	Dumuria	Zahida
199	Kukhia	29	Sahas	Dumuria	Zahida
200	Sahas Kumarghata	29	Sahas	Dumuria	Zahida
201	DGKC (Digholia, Golaimari,	29	Sahas	Dumuria	Shahidul
	Khotakhali, Chotobond)				
202	Kagaji Para	29	Sahas	Dumuria	Shahidul
203	Keakhali	29	Sarappur	Dumuria	Shahidul
204	Chatchatia	29	Sahas	Dumuria	Shahidul
205	Bakultala	29	Bhandarpara	Dumuria	Monalisa
206	DKB (Dhanibumia, Kanaidanga,	29	Bhandarpara	Dumuria	Monalisa
	Britti Kanaidanga)				
207	Bhandar Para	29	Bhandarpara	Dumuria	Monalisa
208	Orabunia-Rajnagar	29	Bhandarpara	Dumuria	Monalisa
209	Kanchan Nagar	29	Bhandarpara	Dumuria	Nasima
210	Kharibunia	29	Bhandarpara	Dumuria	Nasima
211	Jabra	29	Bhandarpara	Dumuria	Nasima
212	Telikhali (P29)	29	Bhandarpara	Dumuria	Nasima
213	Asannagar	29	Sarappur	Dumuria	Nasir (FO)
214	Ratankhali	29	Sarappur	Dumuria	Nasir (FO)
215	Sundar Mahal Purba	29	Surkhali	Batiaghata	Nasir (FO)
216	Jhaltala	29	Sarappur	Dumuria	Nasir (FO)