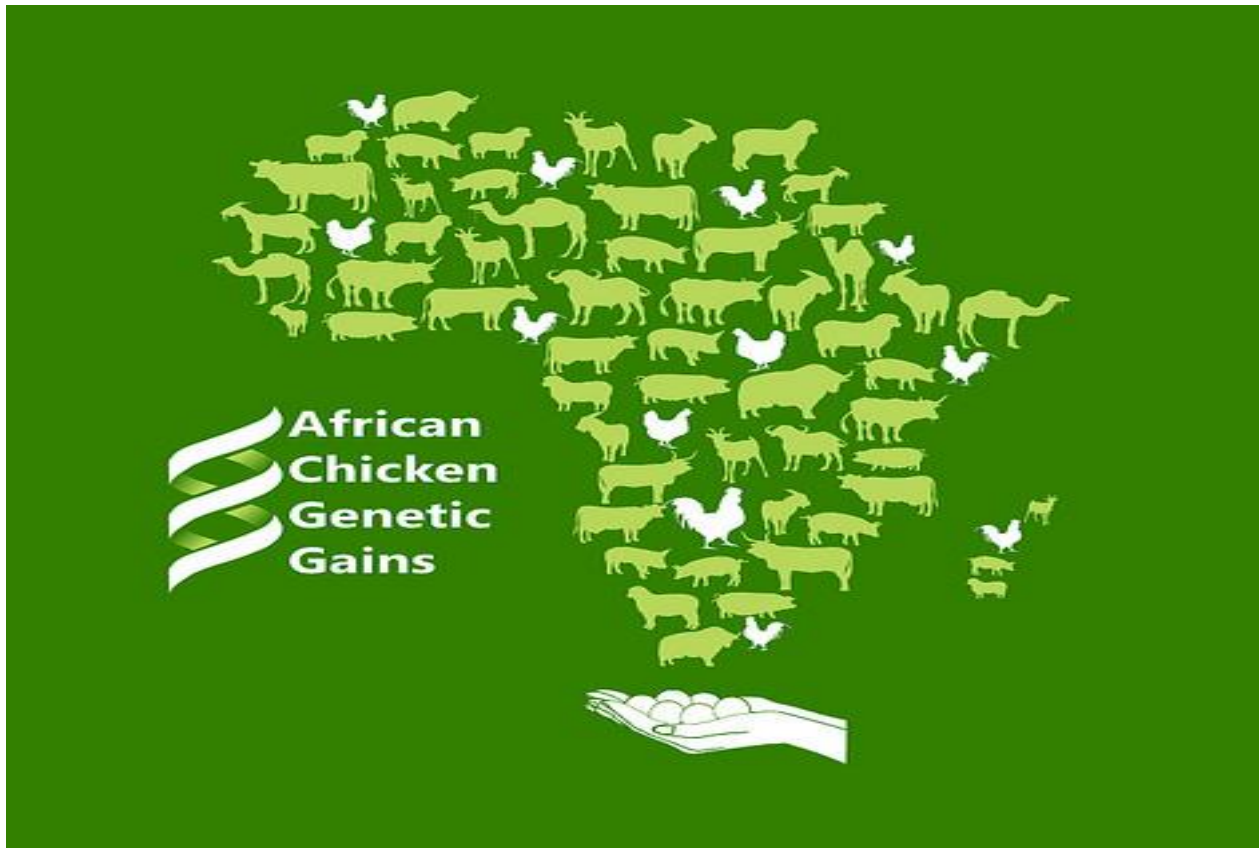


ACGG ON-FARM STUDY
Data Collection Training Manual
(Version: 01 June 2016)



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BILL & MELINDA
GATES foundation



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This document is produced for use by field officers (enumerators), supervisors and study coordinators involved in the on-farm testing for the African Chicken Genetic Gains (ACGG) project.

1. About the ACGG Project

ACGG is a project working with diverse stakeholders including universities, national research institutes and the private sector to increase smallholder chicken production and productivity growth as a pathway out of poverty in sub-Saharan Africa. It is active in Ethiopia, Nigeria and Tanzania. The project intends to achieve this by empowering smallholder farmers, especially women, to access their preferred, but more productive chicken breeds that they can optimally manage in their specific agro-ecology and production systems. Increased production is predicted to lead to more access to meat and eggs in rural communities, which will result in increased household animal protein consumption.

The project is conducting longitudinal on-farm testing to determine which strains are farmer-preferred and high producing in existing chicken producing systems in Nigeria, Tanzania, and Ethiopia.

2. Roles and Responsibilities of Field Officers / Enumerators, Supervisors and Study Coordinators¹

The field officers / enumerators, supervisors, and the Sub National Coordinators (SNCs) work in a team to achieve the objective of collecting the required on-farm data based on the schedule of data collection in the most efficient manner (time and resources) and in a way to obtain the highest quality data.

The **study coordinator (SNC)** will be in charge of the overall operations. S/he will:

- Oversee the study operations in all the sites and ensure that the study program succeeds;
- Monitor the recruitment of field officers (enumerators) by ensuring that proper procedures are followed;
- Ensure that all field officers (enumerators) have been trained and deployed in accordance with the study program;
- Provide logistical and administrative support to trainers during the training of supervisors and field officers (enumerators) and during the field operations;
- Facilitate deployment of supervisors (if applicable) and field officers to their work areas after training;
- Monitor the performance of field officers (enumerators) through regular reviews of data submission summaries and conduct visits to field officers and/or training refresher sessions as needed;
- Report on the progress of the study to their Country Team and NPC; and
- Perform, as the situation may demand, any such duties that will facilitate the smooth execution of study activities.

The Field Supervisor(s) (Nigeria and Ethiopia only) will:

- Ensure that the required number of households are visited as per the data collection schedule;
- Ensure that field officers submit data in a timely manner;
- Lead and guide field officers ensuring that they are performing their work efficiently and according to instructions;
- Ensure that data collected are of the highest quality possible;
- Carry out the day-to-day supervision of enumeration work – support the field officers in case of queries from study respondents;
- Maintain cordial atmosphere in the team, and with the local communities
- Work closely with the Study Coordinator in all matters pertaining to the study operations;
- Report on the progress of the on-farm data collection to the study coordinator from time to time; and
- Perform, as the situation will demand, any such duties that will facilitate as far as possible the smooth execution of the on-farm data collection activities.

To achieve this objective, the roles of the **field officers (enumerators)** are to:

¹ Elements used from Tegemeo TAPRA Household Survey 2007 http://fsg.afre.msu.edu/kenya/2010_TAPRA_Enumeration_Manual.pdf

- Attend the training course and all other scheduled meetings;
- Study this manual very carefully and note the main points which are explained here, become fully familiar with the data collection modules;
- Visit each household on their individual list and conduct the on-farm data collection and bird monitoring as per the schedule (Section 13);
- Ensure all modules are completed and data entered into ODK on the tablet is of **good quality**;
- Report any issues and challenges to supervisors and their study coordinator as soon as possible;
- Submit the data in a timely manner; and
- Maintain cordial atmosphere in the team, and with the local communities.

The field officers (enumerators) are **the key to the success of the study!!** They are the single most important actor in the on-farm study and they alone have a direct influence on the accuracy of the data collected.

3. Ethics and Rules of Conduct

3.1 Field officers and Supervisors

As on-farm data collector, it is your responsibility to **keep completely confidential** anything you learn and observe during data collection. Never disclose any facts about anyone you interview to someone else. Respondents should be told that the information they provide will be used in statistical form only and that their names will not be associated with their answers when the data are analysed.

Things You **Must** Do

- You must introduce yourself on every visit and explain to the respondent the reason for your visit before starting the data collection;
- You must collect the data in exactly the same way to each respondent and according to the schedule defined for different data (Section 13);
- You must make every effort to carefully enter the data into the tablet, and try to avoid damage to the tablet by taking care of it;
- You need to review the data collected in the evening and make any corrections before submitting;
- You must be punctual in keeping all appointments made; and
- You are solely responsible for all documents issued to you in connection with the on-farm data collection, and you must ensure that they are secure at all times.

Things You Must **Not** Do

- You must not solicit or permit any unauthorized person to assist you with your work. No matter how intelligent they are, they will neither have had the training nor the authority to participate in the monitoring;
- You must not combine with the data collection work any canvassing for personal gains, religious, political party or any other organization;
- Do not take any photos without permission – only take photos if you need to reference later (e.g. photo of a chicken to check breed type); and
- You should **NEVER** become involved in religious or political discussions while you are working.

3.2 On-farm data collection questioning techniques

- Data should be collected exactly as presented in the data sheet and as per the training;
- If the respondent's answer to the initial question is not a complete and adequate answer, probe for clarification and elaboration in a non-directive way; that is, a way that does not influence the content of the answers that result;
- Answers should be recorded without interviewer discretion; the answers recorded should reflect what the respondent says; and
- The field officer should communicate in a neutral, nonjudgmental stance with respect to the substance of answers. S/he should not provide any personal information that might imply any particular values or preferences with respect to topics to be covered in the on-farm data collection.

4. Risks and Benefits to Participating Households

4.1 Benefits to taking part in the study

Sometimes the respondent may ask to know how the household will benefit from participating in the study. It is important that the enumerator does not promise anything to the respondent, but respond that this study will help to inform later project activities in their village and provide the following additional benefits:

- You will get 25-30 vaccinated birds brooded to 42 days (6 weeks). These birds will be reared with high quality brooding practices and they will have received all standard vaccinations;
- The Newcastle Disease (NCD) booster vaccination will be provided for all of the ACGG chickens and for all of the birds in your existing flock;
- Male chickens that have reached Week 12 of the study (approximately 18 weeks of age) can be consumed or (preferably slaughtered and) sold for your benefit;
- You will receive training on recommended chicken management practices; and
- Lastly, you and others may benefit in the future from the information we find in this study.

4.2 Risks of participation

While we perceive the risks of engagement in this study to be low, the following are potential risks of engaging in this study:

- The introduced birds may die
- The existing chickens in the household may die
- The introduced chickens may not be high producing; and
- The introduced birds might outcompete with the existing birds in the household and vice versa.
- While the above are the potential risks of engagement, the ACGG team is committed to resolving all concerns and risk in a fair and equitable manner whenever possible.

5. Household Selection and Coding

5.1 Household Selection

All ACGG program sites - SNZs, districts and villages covered by ACGG Producer Level Baseline survey are expected to be part of the on-farm testing unless the outcomes of the survey suggest otherwise (e.g. the village does not represent typical chicken-keeping situation) or external factors arise (e.g. security problems in a village requires its replacement).

The selection of households to participate in the on-farm activity is a combination of applying criteria for participation and an element of self-selection by participants. The group of participants are likely to be made up of both baseline and non-baseline households and the process below describes in detail how to ensure that the on-farm participants remain a '**representative sample**' of the target population of smallholder chicken-keepers. The following are the process for selection of on-farm households

1. As per the ACGG baseline survey criteria, country teams will randomly select 40 – 60 chicken-keepers (who have kept chicken for at least 2 years and have less than 50 birds currently) in each village to attend a community meeting (note this process may be conducted in more than one community meeting depending on the country team preferences).
2. The baselined households will also be invited to the same community meeting.
3. The community meeting will include the following explanations:
 - Objectives of the on-farm testing
 - Benefits to them and their whole community if they choose to participate
 - Randomization of strains to household (why), numbers of households (40), numbers of birds, etc.
 - Activities that will be under-taken – the monitoring and type of data that will be collected.
 - Roles and responsibilities of each group (households, program, enumerators etc.)
4. The farmers will then be asked if they are willing to participate in the on-farm testing, and ACGG country team confirm if they qualify according to the criteria. If yes, they will sign a written consent form and their name entered into the 'hat' for household selection.

5. If more than 40 households consent to participate, 40 names will then be randomly drawn out of the hat (in the presence of the farmers who consented); the first 8 households allocated to strain A, the second 8 to strain B etc. If 40 households exactly have consented the 'hat' will be used to randomly select a strain, i.e. 40 pieces of paper, 8² with each strain, are placed in the 'hat' then each household puts their hand in and pulls out a strain.
6. Actual training on recommended management should be at the end of the community meeting with the selected participants or at a later date.

Summary criteria for household participation in the on-farm study:

- **Chicken keeping for at least 2 years;**
- **Currently keeps not more than 50 adult chicken;**
- **Willingness to accept 25-30 birds of a randomly selected strain (the number varies among countries);**
- **Commitment to provide night shelter at a minimum;**
- **Commitment to supplemental feeding; and**
- **Willingness to take part in ACGG related discussions; as part of the data collection, allow identification (tagging), vaccination and treatment of introduced and existing birds.**
- **Willingness to participate for a minimum of 72 Weeks in ACGG data collection (pending adverse events outlined in consent form).**

Every ACGG household will be trained on management and randomly provided with one strain of chicken for testing. Participant farmers, however, are expected to incur costs of night shelter, day time enclosures or partitions, feed supplementation, and vaccinations (apart from NCD) for their chickens. However, it is noted that this is an on-farm trial, under farmer's management, and therefore actual chicken husbandry practices will be implemented by each farmer according to their preference, interest and capacity. Documentation of farmer management will be essential for analysis of chicken on-farm performance data later on.

5.2 Household Coding & Recruitment Information

Households participating in the on-farm study will be assigned a unique household ID (HHID) for identification purposes. The code is defined as the below:

ABBCCCC

A = 1 letter for the Country name (see table above); BB = 2 letters for the sub-national area code; CCCC = Household code (from 0001 – 9999).

Country Code	Sub-national Area Code			Householder Code
E – Ethiopia	RM – Oromia	KW – Kwara State	SN – Southern humid & sub-humid	0001,0002, ..., 1001,1002, ..., 5001,
N – Nigeria	AM – Amhara	RV – Rivers State	HL – Southern highlands	5002, ..., 9998,9999
T – Tanzania	TG – Tigray	IM – Imo State	CL – Central semi-arid	
	SR – SNNPR	NS – Nasarawa State	EN – Eastern sub-humid	
	AA – Addis Ababa	KB – Kebbi State	LZ – Lake Zone	

The household ID will be allocated **PRIOR** to the beginning of the on-farm study using information provided during the household recruitment activity and after allocation of strains to each household

The tables below show the project villages to be sampled for the ACGG On-farm study together with the number of households to be interviewed in each village:

² 8 households per strain in each village if number of strains = 5; this figure will be adjusted for each country depending on the number of strains.

Nigeria

Zone Name	Zone code	Name senatorial district	Code	LGA Name	LGA code	Village name	Village code	Number of households for study	
Zone 1 - Kwara State	KW	Kwara North	1	Moro	1		1	42	
				Moro			2	42	
				Edu	2		3	42	
				Edu			4	42	
		Kwara Central	2		Asa	3		5	42
					Asa			6	42
					Ilorin East	4		7	42
					Ilorin East			8	42
		Kwara South	3		Isin	5		9	42
					Isin			10	42
					Ekiti	6		11	42
					Ekiti			12	42
Zone 2 - Rivers State	RV	Rivers East	4	Ikwerre	7		13	42	
				Ikwerre			14	42	
				Obio/Akpor	8		15	42	
				Obio/Akpor			16	42	
		Rivers South-East	5		Khana	9		17	42
					Khana			18	42
					Oyigbo	10		19	42
					Oyigbo			20	42
		Rivers West	6		Degema	11		21	42
					Degema			22	42
					Ahoada West	12		23	42
					Ahoada West			24	42
Zone 3 - Imo State	IM	Owerri	7	Ngor-Okpala	13		25	42	
				Ngor-Okpala			26	42	
				Ezinihite-Mbaise	14		27	42	
				Ezinihite-Mbaise			28	42	
		Orlu	8		Ohaji-Egbema	15		29	42
					Ohaji-Egbema			30	42
					Oru-East	16		31	42
					Oru-East			32	42
		Okigwe	9		Obowo	17		33	42
					Obowo			34	42
					Onuimo	18		35	42
					Onuimo			36	42
Zone 4 - Nasarawa State	NS	Nasarawa West	10	Karu	19		37	42	
				Karu			38	42	
				Nasarawa	20		39	42	
				Nasarawa			40	42	
		Nasarawa North	11		Akwanga	21		41	42
					Akwanga			42	42
					Wamba	22		43	42
					Wamba			44	42
		Nasarawa South	12		Lafia	23		45	42
					Lafia			46	42
					Awe	24		47	42
					Awe			48	42
Zone 5 - Kebbi State		Central	13	Dandi	25		49	42	
				Dandi			50	42	

Zone Name	Zone code	Name senatorial district	Code	LGA Name	LGA code	Village name	Village code	Number of households for study
	KB			Maiyama	26		51	42
				Maiyama			52	42
		North	14	Argungu	27		53	42
							54	42
				Aliero	28		55	42
							56	42
		South	15	Yauri	29		57	42
							58	42
				Zuru	30		59	42
							60	42

Tanzania

Zone Name (Sub-National Area)	Zone code	Name of District	District Code	Village name	Village code	Number of households for study
1. Southern humid and sub-humid (Southern Zone)	SH	Masasi	16		61	40
					62	40
					63	40
					64	40
		Newala	17		65	40
					66	40
					67	40
					68	40
		Ruangwa	18		69	40
					70	40
					71	40
					72	40
		Lindi rural	19		73	40
					74	40
					75	40
					76	40
2. Southern highlands	HL	Mbeya rural	20		77	40
					78	40
					79	40
					80	40
		Ileje	21		81	40
					82	40
					83	40
					84	40
		Njombe rural	22		85	40
					86	40
					87	40
					88	40
Wanging'ombe	23		89	40		
			90	40		
			91	40		
			92	40		
3. Central semi-arid	CS	Manyoni	24		93	40
					94	40
					95	40
		Iramba	25		96	40
					97	40
					98	40
	99	40				
	100	40				

Zone Name (Sub-National Area)	Zone code	Name of District	District Code	Village name	Village code	Number of households for study
		Bahi	26		101	40
					102	40
					103	40
					104	40
		Chamwino	27		105	40
					106	40
					107	40
					108	40
4. Eastern sub-humid	ES	Kilombero	28		109	40
					110	40
					111	40
					112	40
		Mvomero	29		113	40
					114	40
					115	40
					116	40
		Korogwe	30		117	40
					118	40
					119	40
					120	40
		Muheza	31		121	40
					122	40
					123	40
					124	40
5. Lake zone	LZ	Maswa	32		125	40
					126	40
					127	40
					128	40
		Bariadi	33		129	40
					130	40
					131	40
					132	40
		Misungwi	34		133	40
					134	40
					135	40
					136	40
Sengerema	35		137	40		
			138	40		
			139	40		
			140	40		
			Total number of households			3,200

Ethiopia

Region (Sub-National Area)	Region code	Name of Zone	Name of District (Woreda)	District Code	Village (Kebele) name	Village code	Number of household for study
Oromia	RM	East Shoa	Adami Tulu	36		141	40
						142	40
						143	40
			Dugda	37		144	40
					145	40	
					146	40	
		West Shoa	Bako Tibe	38		147	40
						148	40
						149	40
				Dano	39		150

Region (Sub-National Area)	Region code	Name of Zone	Name of District (Woreda)	District Code	Village (Kebele) name	Village code	Number of household for study
		East Haraghe	Haromaya	40		151	40
						152	40
						153	40
		West Haraghe	Darolabu	41		154	40
						155	40
						156	40
						157	40
						158	40
						159	40
Amhara	AM	West Gojjam	South Achefer	42		160	40
						161	40
						162	40
		Awi	Banja	43		163	40
						164	40
						165	40
		Fageta Lekoma	44		166	40	
					167	40	
					168	40	
		North Gondar	Gondar Zuria	45		169	40
						170	40
						171	40
South Wollo	Kalu	46		172	40		
				173	40		
				174	40		
Tigray	TG	Eastern Tigray	Kelteawlalo	47		175	40
						176	40
		South Eastern Tigray	Saharti-Samre	48		177	40
						178	40
		Central Tigray	Tahtaymachechew	49		179	40
						180	40
Merebleke	50		181	40			
			182	40			
SNNPR	SR	Sidama	Dara	51		183	40
						184	40
						185	40
		Wolaita	Bolosso Sore	52		186	40
						187	40
						188	40
		Gurage	Meskan	53		189	40
						190	40
						191	40
		Silti	Hulbareg	54		192	40
						193	40
						194	40
Kembata Alaba Tembaro	Doyogena	55		195	40		
				196	40		
				197	40		
Addis Ababa	AA	Kolfe	KolfeW.3	56		198	40
						199	40
						200	40
		NefasSilk	NefasSilkW.1	57		201	40
						202	40
						203	40

The data elements listed in the table below will be collected PRIOR TO THE START OF THE STUDY, transferred to the database and used to create the unique household ID. This HH ID is then transferred to all tablets in each village and

by entering the village name a village field officer / enumerator will be presented with only those households in the tablet that are listed under this village.

Note that the Householder Name is the person who signed the consent form to participate in the project. In many cases this will NOT be the household head as the project particularly focuses on the role of women in chicken production.

HOUSEHOLD RECRUITMENT - PRIOR TO STUDY						
Transferred direct to database during household recruitment and allocation to strain - generates unique HH ID						
Name	Name & Code	Name & Code	Name	Allocated by database	Full Name	Name - this is the introduced strain randomly allocated to the household
Country	Sub-National Area	Village	Enumerator Name	Household ID (ABBCCCC)	Householder Name	Strain

5.3 Bird Identification

- For the on-farm study, birds will be wing-banded with an aluminum foil label in the wing web.
- Birds of the introduced flock will be delivered to the households tagged on the right wing with a tag that will show a 5-digit code XYYYY (X is a letter (A-Z), YYYY are numeric).
- The birds previously existing in the household that will be tagged, **i.e. those who age is +/- 2 weeks of the introduced birds** will be tagged on the left wing with a tag that will show a 5-digit code XYYYY (XX - X is a letter (A-Z), YYY are numeric).
- All bird tag numbers will be mapped to each household ID to create a unique bird ID within the database, i.e. ABBCCCCXXXX or ABBCCCCXYYYY.

6. Interactions with on-farm study participants

6.1 First visit to the households

When you first enter the household selected for the study you will either be obtaining their consent to participate or to conduct the first visit (week 0) of the study including delivery of the chickens. In both situations you should introduce yourself with example text such as in the text box.

The respondent's first impression of you as the field officer will influence her/his willingness to co-operate in the study. Your appearance gives the respondent's first impression of you, and the way you dress will determine the success of your data collection and therefore before meeting the respondent, make sure that you are neat and appropriately dressed. In the event that the respondent and the interviewer know each other it is important that the interviewer behave in a professional manner that is as similar as possible to his/her behavior with respondents that he/she does not know. On meeting the respondent, the first thing you should do is to exchange greetings. Next, you must introduce yourself, stating your name and what you want of the respondent. Make sure that you conduct yourself in a friendly and relaxed manner as you introduce yourself. The key aspects to cover, some as a reminder, are:

- Your name;
- Which project you are coming from and the main objectives of the project;
- Any information the farmer gives you will remain confidential and their name and personal information will not be shared outside of the project;
- The information s/he gives will directly benefit their community (and maybe themselves) through the other project activities in the community;
- The duration of the study and the level of engagement required-data collection every 2 weeks; and
- Ask if any questions.

Hello. My name is XXX and I work for the African Chicken Genetic Gains (ACGG) project. The main aim of the project is to reduce poverty in the country by increasing the productivity and production of chicken and its products. The project aims to achieve this by working with various stakeholders to identify and avail highly productive chicken under local conditions.

The project has decided to operate in five sub-national areas in the country. Your community is one of those involved and will directly benefit from this information as we look at how to improve chicken production in the country. In each of the sub-national areas, a few farmers have been randomly selected to participate in the on-farm testing, and you are one of these.

(If this is a visit to obtain written consent from the farmer, discuss the full consent form available from your SNC, you can use the simple text below to explain).

I have come here and plan to come every 2 weeks to ask you some questions related to your chickens and the chickens that have provided to you by ACGG. This testing and monitoring is for research purposes, and your responses will be aggregated with those from other farmers in the country to get an understanding of which chickens work best for farmers and which chickens produce the most in the semi-scavenging system. The information you provide is confidential. This means that we will not publish your name or any personal information, and your data will only be used for research purposes. If you have any questions, don't hesitate to ask. Please note that participation is voluntary.

6.2 Ongoing Engagement

Due to the length of the whole ACGG program (5 years), it is important to maintain a professional and positive engagement with each of the households over a long duration. Therefore, at the start of data collection, clearly articulate to the households the schedule and frequency of data collection, and please ensure that you attend to your data collection appointments in a timely manner (Section 13). Key aspects to cover on return visits:

- 1) A greeting and your name;
- 2) Ask if the household has any questions regarding the introduced birds and ACGG;
- 3) Relay any feedback, messages, or information that you were informed or trained to deliver by your supervisor or other ACGG staff;
- 4) Confirm the data to be collected on that day; and
- 5) At the end of the visit, inform the household of the data and time of your next visit and provide an overview of the data to be collected.

If any significant concerns are presented by ACGG households regarding the introduced chickens or issues related to ACGG, please discuss with your supervisor or SNC (depending on the country) immediately.

7. Definitions

7.1 Household

- ◆ A single householder member (called Householder) has consented to the on-farm study but for household registration (Section 9.1) and to confirm the 'existing household flock' we need to define the household which will be considered for the remainder of the study. A household is defined as follows:
 - a group of individuals, usually related, that conduct activities (farming and non-farming) together and pool their resources from their activities. They usually cook and eat together.

7.2 Poultry

- ◆ Poultry = chicken, ducks, Guinea fowl, turkey etc.
- ◆ More definitions are provided in Section 26.

Sections 9 – 12 detail the on-farm data collection modules. Every module will have an observations / comment (free text) section at the end where enumerators can make general comments; some modules have the observation / comment section at bird level.

It is recommended to carry a notebook with you at all times – you can use this to capture: standardized feed measurements, bird weight (then enter into ODK straight after) and farmer recall information on egg use.

8. Structure of Data Collection Tools & ODK

The data collection tools described in Sections 9 - 12 are grouped into ODK modules according to the schedule of visits to the household and content. There are 8 modules in total:

- Household & Bird Registration (including Sexing of tagged birds) (First visit – Week 0 [Birds approximately 6 weeks of age]) – Section 0
- Bird Management & Other modules (Week 6, 22, 50 and week 70) – Section 0
- Bird Inventory (First visit – Week 0 and then every 4 weeks to week 72) – Section 11.1
- Bird Entries & Exits (From week 4 every 4 weeks to week 72) – Section 11.2 – 11.3
- Body Weight of Tagged Birds (First visit – Week 0 and then every 4 weeks to week 72) – Section 11.4
- Bird Health & Feeding (From week 4 every 4 weeks to week 72) – Section 11.5 – 11.7
- Egg Production & Use (From week 12 every 2 weeks to week 72) – Section 12
- General Observations – see below.

Note that the final visit is listed as Week 72 although birds may be 78 weeks old by this time point. We keep the Week as 72 in the manual and ODK tools because we may include a mid-line survey for the program at Week 72 although regular monitoring of the birds may finish earlier.

Note that every section within a module ends with the opportunity for the enumerator to enter ‘general comments’. In addition, there is a separate module for ‘General Observations’:

<i>dd/mm/yyyy (auto-generated)</i>	<i>Code - filtered by Country</i>	<i>Name - select from drop-down</i>	<i>Auto-shown</i>	<i>Full Name - select from drop-down; filtered by village</i>	<i>Code - 1=Household, 2=Flock, 3=Bird (multi-select)</i>	<i>If Tagged Bird level, give Tag ID</i>	<i>Free text</i>
Date of recording	Sub-National Area	Village	Enumerator Name	Householder Name	Level of observation	Tag ID	Enumerator Observation

To ensure you have the most updated list of tagged birds in the household you MUST ‘Get blank form’ for the Bird Entries & Exits and Bird Health & Feeding modules BEFORE going to the field every day.

9. Household & Introduced Bird Entry to the Study modules

- ◆ When collecting the information for this section try to ensure that the person in the household who commonly manages the chickens is present. This is because the data collected includes questions on chicken standard management and historical chicken-keeping information.
- ◆ Take note of the frequency of data collection, and please refer to Section 25 for setting up a data collection schedule for households.
- ◆ The following sections will be captured using the **Household and Bird Registration ODK module**.

9.1 Household Registration (First Visit – Week 0)

- ◆ At the start of the on-farm study, it is important to get information regarding the household which will be interviewed. Please ask the below questions during the first visit to the household.
- ◆ By selecting sub-national area and your village you will obtain a drop-down list of all householder names (participants in the project) in your village. Once you select the householder name the household ID will automatically be shown.
- ◆ The GPS coordinates will be captured by the tablet, ensure to be standing outside where you can see the sky when taking the coordinates and accept a minimum of 15 meters accuracy.
- ◆ **Note that 'householder' means the person who consented to participate in the project and in many cases will NOT be the household head.**

<i>Name - select from drop-down</i>	<i>Name - select from drop-down</i>	<i>Auto-shown</i>	<i>Name - select from drop-down; filtered by village</i>	<i>Numerical (no phone enter -77)</i>	<i>Code - (1=male, 2=female)</i>	<i>Numeric-range 15 - 99?</i>	<i>Numeric - 0 - 40</i>
Sub-National Area	Village	Enumerator Name	Householder Name	Household Phone Number	Householder Gender	Age of Householder	Number of Years of FORMAL School of householder
					2 – female	43 years	10

- ◆ The sum of all ages of people below must equal total household size. ODK will give an error message if the sum does not equal the total entered in the first column.

<i>Numeric - 1 – 50</i>	<i>Numeric - 0 – 15 (Enter zero – 0 if no members in age / gender category)</i>						
Total Household Size (in Numbers)	Number of children < 2 years of age	Number of children 2 – 4 years of age	Number of children 5 - 17 years of age	Number of adult male (between ages of 18 and 45)	Number of adult female (between ages of 18 and 45)	Number of adult male 46 years & older	Number of adult female 46 years & older
12	1	2	4	2	1	1	1

- ◆ Additional questions to ask (note GPS will be captured at the end of Section 0):

<i>Years - 1 – 99</i>	<i>Code – 1=owned by male; 2=owned by female; 3=owned by male & female</i>	<i>Code - 0 = No, 1 = Yes</i>	<i>(Auto-generated)</i>
How long has chicken been kept in the household? (years)	Who owns the chicken in the household?	Are there currently chickens kept by the households?	GPS
8	2 – owned by female	1 – Yes	Auto

9.2 Tagged Bird Registration and Sexing of Birds (First visit – week 0 [birds approximately 6 weeks old])

- ◆ Upon delivery of the introduced birds, all ACGG tagged introduced birds and existing (household) birds will need to be registered and sexed.
- ◆ The sexing should be carried out for all tagged birds (introduced and household flock)
- ◆ All tagged birds are registered and sexed and the data will be captured using **Tagged Bird Registration ODK table below**
- ◆ The non-tagged birds will be registered in the bird inventory (Section 11.1 Bird Inventory (First visit – week 0 then every 4 weeks))
- ◆ All introduced birds and existing household flock birds who are +/- 2 weeks of the age of the introduced birds will be tagged (i.e. introduced birds are delivered at 6 weeks old so existing household flock birds that are between 4 and 8 weeks will also be tagged).
- ◆ As explained in Section 5.2 by selecting the sub-national area and then your village you will be shown only those households in your village.

<i>dd/mm/yyyy</i> (auto-generated)	<i>Code - filtered by Country</i>	<i>Name - select from drop-down; filtered by SN Area</i>	<i>Name - select from drop-down; filtered by enumerator</i>	<i>1= Introduced ,2=Existing HH (multiple)</i>	<i>Auto-shown</i>	<i>Group creation question: How many birds of this flock are being tagged...?</i>	<i>ID - Manual entry</i>	<i>Code - 1 = Male, 2 = Female</i>
Date of Delivery	Sub-National Area	Enumerator Name	Householder Name	Flock	Strain		Bird Tag ID	Sex
				1 = introduced	auto		A0444	1= Male
				2 = HH	auto		BX123	2=Female

10. Bird Management & Other modules

- ◆ These modules are planned for week 6, 22, 50 and week 70. If it is easier to arrange a separate visit to the farmer to collect these modules they may be separated from the usual 4-weekly and 2-weeks routines.
- ◆ The following sections will be collected using the **Bird Management & Other ODK module**.

<i>Code - filtered by Country</i>	<i>Name - select from drop-down</i>	<i>Auto-shown</i>	<i>Name - select from drop-down; filtered by village</i>
Sub-National Area	Village	Enumerator Name	Householder Name

10.1 Household labour allocation for chickens (week 6, 22, 50 and 70)

- ◆ The section below will be completed in week 6, 22, 50 and 70; to capture changes over time.

Question: Who takes care of the chicken in the Household? [] (code)

Code: 1= adult males only, 2= adult females only, 3= Male children only, 4=Female children only, 5=Workers only, 6=All adults, 7=All children, 8=All household members, 9=All household members & workers

- ◆ Once the question above is answered, request if the individual(s) who care for the birds can come and assist with the answering of the next table if not already present.
- ◆ Ask the respondent(s) to recall the last 2 – 3 weeks to answer this section. Other activities must be specified.

Type of activities for chicken	Done? (0 = No, 1 = Yes)	If Yes, fill in. If not, go to next activity	
		Main Type of Person	Second Type of Person
Purchasing inputs (incl. feed, health, live chicken)	1 – Yes	2 – adult females only	0 – none (no-one else)
Feeding chicken (collecting and preparation)	1	7 – all children	2
Watering chicken	0 - No		
Disease control /caring sick chicken	1	6 – all adults	0
Collection of Farm Yard Manure (FYM)	0		
Cleaning of chicken hut / shelter	1	7	0
Egg collection	1	7	2
Selling of live chicken	1	6	0
Selling of eggs	1	8	0
Other (specify: _____ e.g. build shelter)			
Total Hours per Week spent on these activities		3 hours	1 hour
Type of Person: 0 = none (not applicable), 1= adult males only, 2= adult females only, 3= Male children only, 4=Female children only, 5=Workers only, 6=All adults, 7=All children, 8=All household members, 9=All household members & workers. (Note: Main Type of person for activities done cannot be 0 = none)			

10.2 (Other) Livestock Inventory (week 6, 22, 50 and 70)

- ◆ (Other) household livestock is captured in week 6, 22, 50 and 70.

Question: Does your household have any (other) livestock? [] (0=No, 1=Yes)

- ◆ If a household does not own any livestock except chicken, select no, and the livestock ownership section is skipped.
- ◆ If household owns livestock, enter the number of livestock owned and/or kept by male, female or jointly owned by household members. The total owned is a cross-check column – the number will be auto-calculated in ODK, check that is equals the total number of animals owned by the household (for each species).
- ◆ Enter ZERO (0) for species if none owned by different genders.
- ◆ **In areas where pigs are not kept for specific reasons do not ask if any pigs in the household (just enter 0).**

Livestock species	Number owned by males	Number owned by females	Number owned jointly by males and females	Total (auto-calculated)
Cattle	2	0	0	2
Sheep	3	2	0	5
Goats	0	0	1	1
Horses	0	0	0	0
Donkeys	0	0	0	0
Pigs	0	0	0	0
Camel	0	0	0	0
Other Poultry - ducks	2	0	0	2
Other Poultry - guinea fowl	0	0	0	0
Other Poultry - turkey	0	0	0	0
Other Poultry – e.g. quail, pigeon	0	0	0	0

10.3 Housing & Water (week 6, 22, 50 and 70)

- ◆ The section below will be completed in week 6, 22, 50 and 70; to capture changes over time.
- ◆ ‘Made available’ means a form of permanent or semi-permanent water place like a trough, container or pond.

Question: Is water made available to the birds throughout the day? [] (0 = No, 1 = Yes)

- ◆ Similar to the baseline it asks farmers to provide their chicken housing for day and night, separately.

Flock	Housing system –during DAY (code B)	Housing system –during NIGHT (code B)
INTRODUCED	1	1
EXISTING HOUSEHOLD	0	4

Code B (Housing System): 0 = No housing (free range), 1 = Chicken house (coop/hut) made from mud/iron sheet/wood/rocks/bricks, 2=Kept in home (e.g. kitchen), 3=Confined in individual cage, 4= Confined in basket (e.g. bamboo), 5 = Other (specify)

10.4 Farmer Preference for chickens (week 6, 22, 50 and week 70)

- ◆ Householder preference, or likeability, for the introduced chickens compared to the existing household chickens will be carried out in week 6, 22, 50 and 70.
- ◆ Each characteristic is asked for each flock (introduced and existing household) together to enable comparison by the farmer and to help the discussion you have with them. The first section is about the importance of characteristic – “**Is this characteristic important to you**” (note: it is not whether they like the trait or not).
- ◆ Other characteristics may include: homestead recognition, tendency to perch, not getting sick etc.

Characteristic	Is characteristic important? (0=No, 1=Yes)		
	Introduced	Existing Household	
Body size - male	0 – No	1	
Body size - female	1 – Yes	1	
Growth rate - male	0	0	
Growth rate - female	0	0	
Supplementary feed requirement - male	1	0	
Supplementary feed requirement - female	1	0	
Scavenging ability - flock	1	1	
Egg number	1	1	
Egg size	0	0	
Plumage colour	0	0	
Survivability	1	1	
Other characteristic you think are important?	<i>Not getting sick</i>	<i>free text (enter NONE if applicable)</i>	
For each flock rank the top 3 most important characteristics indicated above		<i>Select from drop-down</i>	
Rank	Rank Description	Introduced Flock	Existing Household Flock
1st	Most important	Egg number	Body size – female
2nd	Very important	Body size – female	Survivability
3rd	Important	Survivability	Scavenging ability

- ◆ The second section is what 'level' the farmer perceives in their flock (e.g. low, high) and how much they like the characteristic.

Note: present in same order as shown below	<i>Code - 1 = introduced, 2 = existing HH</i>	<i>Select 'level' of trait for birds (Code A-D)</i>	Code E	<i>Free text</i>
Trait	Flock	Trait Level	Liking of Trait	Comments
Body size - male	Intro ; HH	3 – large ; 2 - medium	1 – very liked ; 3	
Body size - female	Intro ; HH	3 – large ; 2 - medium	1 – very liked ; 3	
Growth rate - male	Intro ; HH	4 ; 2 – medium	6 – don't know ; 3	
Growth rate - female	Intro ; HH	4 ; 1 - slow	6 ; 2 - like	
Supplementary feed requirement - male	Intro ; HH	3 – high; 2 - medium	4 - dislike ; 3	
Supplementary feed requirement - female	Intro ; HH	3 – high; 2 - medium	4 - dislike ; 3 – neither like nor dislike	
Scavenging ability - flock	Intro ; HH	4 – don't know ; 3	6 – don't know ; 2	
Egg number	Intro ; HH	4 – don't know ; 2	6 ; 2 – like	
Egg size	Intro ; HH	4 ; 2 – medium	6 ; 3	
Plumage colour	Intro ; HH	1 – uniform ; 2	3 ; 3	
Survivability	Intro ; HH	4 ; 2 – medium	6 ; 2	
Code A (Body size - male; body size - female; egg size): 1=small, 2 = medium, 3 = large, 4 = don't know / n/a		Code B (Growth rate - male; growth rate – female): 1 = slow, 2 = moderate, 3 = fast, 4 = don't know / n/a		
Code C (Supplementary feed requirement - male; supp. Feed requirement female; scavenging ability; egg number; survivability): 1=low, 2 = medium, 3 = high, 4 = don't know / n/a			Code D (Plumage colour): 1=uniform, 2=multi-colour, 3 = not applicable	
Code E (Liking of trait): 1=Very Liked; 2=Liked, 3=Neither like nor dislike, 4=Disliked, 5=Very Disliked, 6 = don't know / n/a				
Overall which flock do you prefer? (1 = introduced, 2 = existing household, 3 = neither / they are equal)				
Why do you prefer this flock?	<i>Free text (enumerator to check if differences between the why here and the trait importance and preferences above)</i>			

*Note example above is for Week 6 when farmer may not be able to answer all questions about the introduced birds.

11. Routine 4-weekly data collection modules

11.1 Bird Inventory (First visit – week 0 then every 4 weeks)

- ◆ A full bird inventory, with total numbers of birds and number of each sex in both the introduced AND household flocks is captured every 4 weeks, starting at week 0 in the **Bird Inventory ODK module**.
- ◆ It provides the opportunity to track household flocks who have not been tagged, as well as helping to guide enumerators on follow-up questions and modules (see Section 11.2 and 11.3).
- ◆ The number of chicks (non-sexed because too young) plus number of male chicken (any age) plus number of female chicken (any age) = Total Birds.

<i>dd/mm/yyyy</i> (auto-generated)	<i>Code - filtered by Country</i>	<i>Name - select from drop-down</i>	<i>Auto-shown</i>	<i>Name - select from drop-down; filtered by village</i>	<i>1= Introduced 2=Existing HH (multiple)</i>	<i>Numeric 0 - 500</i>	<i>Numeric 0 - 500</i>	<i>Numeric 0 - 500</i>	<i>auto-generated</i>
Date of Inventory	Sub-National Area	Village	Enumerator Name	Householder Name	Flock	How many chicks? (non-sexed)	How many male chicken	How many female chicken	Total Birds
					Intro	25	0	0	25
					HH	5	10	1	16

11.2 Bird Entries (Week 4 then every 4 weeks)

- ◆ After the start of monitoring NO birds entering the household will be tagged. However, it is necessary to keep track of all entries, whether by birth or purchase. The **Bird Entry & Exit ODK module** should be completed every 4 weeks.
- ◆ The 4-weekly bird inventory will be carried out during every visit (see Section 11.1). The results of the inventory (i.e. has it changed since the last visit) will prompt the enumerator to ask whether any birds have entered the household in the last 4 weeks. **Note that Introduced birds can only enter through BIRTH.**
- ◆ Chicks can have any type of entry (not just birth / hatched on farm). However, if birth / hatched on farm in past 4 weeks then type of bird = chick and age skipped & if chick with different type of entry then age must be < 20 wks.
- ◆ Note all entries are assumed to be into the HOUSEHOLD FLOCK. If the parentage of chicks born on the farm is known then enter this information in Comments.

<i>dd/mm/yyyy</i> (auto-generated)	<i>Code - filtered by Country</i>	<i>Name - select from drop-down</i>	<i>Auto-shown</i>	<i>Name - select from drop-down</i>	<i>Did any birds enter in past 4 weeks? (0=No, 1=Yes)</i>	<i>Code A (select from drop-down)</i>	<i>Code - 1=male, 2=female, 3=unknown (if chick)</i>	<i>Code - <20 weeks; >= 20 weeks</i>	<i>Numeric (1 - 100) (creation of groups)</i>	<i>local currency (entered)</i>	<i>E.g. intro, local or cross-bred strain</i>
Date of recording	Sub-National Area	Village	Enumerator Name	Householder Name		How entered?	What type of bird entered? - sex	What type of bird entered? - age	How many birds entered?	If purchased, TOTAL money paid?	Comments / Parentage (enter if known)
						2	1 – male	>=20 weeks	2	15,000	
						3	3 - female	< 20 weeks	1	----	

Code A (Type of Entry): 1 = Birth / hatched on farm, 2 = Purchased, 3 = Loaned, 4 = Gift, 5 = Obtained as dowry, 6 = Other (specify – after number entered)

11.3 Bird Exits (Week 4 then every 4 weeks)

- ◆ Households should be informed (**and reminded every month**) that they must save the wing band of any bird that exits between visits of the enumerator, unless exit is of live bird then the tag number must be recorded.
- ◆ Exits of birds refers to the chicken that left the household, from either the introduced OR household flock e.g. due to sale, death, given away etc.
- ◆ **Note that introduced birds CANNOT BE SOLD OR CONSUMED unless they are MALE and older than 20 WEEKS**

<i>1=Introduced / 2=Existing HH - tagged / 3=Existing HH - NOT tagged (multi)</i>	<i>Did any birds exit THIS FLOCK & TAG in past 4 weeks? (0 = No, 1 = Yes)?</i>	<i>Numeric (1 – 100) (creating groups)</i>
Flock & Tag		How many birds exited? (for any reason)
Intro	1 – yes	2
HH – not tag	1 – yes	2
HH – tag	0 - no	----

- ◆ Depending on the flock, tagging and reason for exit the data below will be collected:

If Introduced or HH Tagged, for each bird...	<i>ID - filtered by HH (select from drop-down)</i>	<i>Code A</i>		<i>Code B</i>	<i>local currency</i>	<i>Free text</i>
	Bird Tag ID	Reason for exit?		If disease, symptoms	If sale, money received?	Comments
	B0123	1 – died disease		1,8,16	----	
	X0454	7		----	20000	
If Household Not-tagged, for each bird...	<i>Code - 1=male, 2=female, 3=unknown (if chick)</i>	<i>Code - 1 = < 20 weeks old, 2 = >= 20 weeks old</i>	<i>Code A</i>	<i>Code B</i>	<i>local currency</i>	<i>Free text</i>
	What type of bird exited? - sex	What type of bird exited? - age	Reason for exit?	If disease, symptoms	If sale, money received?	Comments
Bird 1	Male	< 20 weeks	6	----	15,000	
Bird 2	Female	>= 20 weeks	2	----	----	

Code A (Type of exit): 1 = Died - disease, 2= Died – accident, 3= Died – killed by predators, 4=Died – old age, 5=Died – unknown cause, 6=Sale – live chicken, 7=Sale – slaughtered chicken, 8=Loaned out, 9=Slaughtered for home consumption, 8 = Gifted out, 9= Lost, strayed, 10=Stolen, 11=Sacrifice – festival, 12=Other (specify)

Code B (If disease – symptoms): 1= Diarrhea - bloody, 2=Diarrhea – green/white, 3= Circling, 4= Coughing and sneezing, 5= Decreased egg production, 6= Dehydration, 7= Drowsiness and weakness, 8= Head edema, 9= Lack of appetite (anorexia), 10= Nasal discharges, 11= Respiratory problems, 12= Soft shells and deformed eggs, 13= Swelling of the joints, 14= Twisting head and neck, 15= Vent picking, 16= weight loss, 17 = Other (specify)

11.4 Body Weight of Tagged Birds (First visit – week 0 then every 4 weeks)

- ◆ Group body weights for the introduced birds and original household flock who have been tagged are taken at the first visit (week 0) and then every 4 weeks using the **Bird Weight ODK module**.
- ◆ Tagged males will be weighed until Week 12 of the study (approximately 18 weeks of age), tagged females will be weighed until Week 72 of the study; **for practical reasons it is likely you may need to use a notebook to record the weights and then complete the ODK after you have finished weighing**.
- ◆ When taking weights, the enumerator will complete the table below. Please note the following key points:
 - Sex of the birds being weighed (**males and females to be weighed seperately**).
 - Tare collection instrument (e.g., bag, bucket, bin) is identified for each sex.
 - ALL tagged birds must be weighed; the number of samples will depend on the tare instrument and the size of the birds. When birds are small they may all be weighted together in one sample but as they grow you may need 2 – 5 samples (e.g. buckets) to capture all the birds, by flock and by sex.

<i>dd/mm/yyyy</i> (auto-generated)	<i>Code - filtered by Country</i>	<i>Name - select from drop-down</i>	<i>Auto-shown</i>	<i>Name - select from drop-down; filtered by village</i>	<i>1= Introduced ,2=Existing HH</i>	<i>Code - 1 = Male, 2 = Female</i>	<i>Select from drop-down – 1= bag, 2=bucket, 3=bin, 4=other specify</i>	<i>Entered - numeric (group creation)</i>	<i>Entered - numeric</i>	<i>Entered – grams (1 – 10,000?)</i>	<i>Free text</i>
Date of Collection	Sub-National Area	Village	Enumerator Name	Householder Name	Flock	Sex	Tare Collection Instrument	Number of samples	No. birds in sample	Weight of sample	Comments
					Introduced	1 (Male)	2	3	2	2000	
									3	2800	
									3	2700	

11.5 Routine Vaccination and Preventative Flock Health (Week 4 then every 4 weeks)

- ◆ During every 4 week visit to the household the enumerator will complete the **Bird Health & Feeding ODK module**.
- ◆ This module is used to record any preventative treatment of the birds, such as vaccination, deworming etc.

<i>dd/mm/yyyy</i> (auto-generated)	<i>Code - filtered by Country</i>	<i>Name - select from drop-down</i>	<i>Auto-shown</i>	<i>Name - select from drop-down; filtered by village</i>	<i>Did you carry out any disease or illness PREVENTION for your birds in past 4 weeks? (0 = No, 1 = Yes)</i>	<i>1 = Introduced, 2 = existing HH flock</i>	<i>Code D (multiple select)</i>	<i>Code E (multiple select)</i>	<i>local currency (0 - ???)</i>
Date of recording	Sub-National Area	Village	Enumerator Name	Householder Name		Flock	Vaccine / Routine Medication	Service Provider	Cost
						3 - Both	4 – deworming	0 = Self	5000
						1 – Introduced	1 – NCD	5 - Project	0

Code D (Type of vaccine / medication): 1=Newcastle Disease vaccination, 2 = Infectious Bursal Disease (Gumboro) vaccination, 3 = Coccidiosis vaccination, 4 = Deworming, 5 = Delousing, 6 = Other (specify)

Code E (Service Provider): 0 = Self, 1=Government extension, 2=Private provider(e.g. para-vet, shop, company), 3=Cooperative or farmer group, 4= Research / training institute, 5 = NGO/Project, 6 = Other farmer / neighbour, 7= Local healer, 8=Certified vet, 9 = Other (specify)

11.6 Bird Sickness Treatment (Week 4 then every 4 weeks)

- ◆ During every 4 week visit to the household the enumerator will complete the **Bird Health & Feeding ODK module**.
- ◆ This module is used to record any treatment of sick animals.

<i>1=Introduced / 2=Existing HH - tagged / 3=Existing HH - NOT tagged (matrix)</i>	<i>Did any birds in THIS FLOCK (tagged & not-tagged) get sick in past 4 weeks? (0 = No, 1 = Yes)</i>	<i>Numeric (creating groups)</i>
Flock & Tag		How many birds got sick?
Intro	1 – Yes	1
HH – not tagged	1 – Yes	2
HH – tagged	0 – No	-----

- ◆ Depending on the flock and whether the bird is tagged the below information will be collected. If type of non-tagged bird = 3 (unknown sex – chick) then Age must be < 20 weeks.
- ◆ Treatment cost will be skipped for Action Taken (Code C) – 4, 5 or 6 only.

	<i>ID - filtered by HH (select from drop-down)</i>		<i>Code B (MULTIPLE SELECT)</i>	<i>Code C</i>	<i>local currency (no decimals)</i>	<i>Free text</i>
IF Introduced or HH Tagged, for each bird...	Bird Tag ID		Symptoms of sickness	Action Taken	If treated, cost	Comments
	D0124		4,7	1	0	
	<i>Code - 1=male, 2=female, 3=unknown (if chick)</i>	<i>Code - 1 = < 20 weeks old, 2 = >= 20 weeks old</i>	<i>Code B (MULTIPLE SELECT)</i>	<i>Code C</i>	<i>local currency</i>	<i>Free text</i>
If Household Not-tagged, for each bird...	What type of bird got sick? – sex	What type of bird got sick? - age	Symptoms of sickness	Action Taken	If treated, cost	Comments
Bird 1	2 – Female	2 = >= 20 weeks	6,9	0 – nothing	-----	
Bird 2	3 – Unknown	1 = < 20 weeks	2	5 - killed	-----	

Code B (Symptoms): 1= Diarrhea - bloody, 2=Diarrhea – green/white, 3= Circling, 4= Coughing and sneezing, 5= Decreased egg production, 6= Dehydration, 7= Drowsiness and weakness, 8= Head edema, 9= Lack of appetite (anorexia), 10= Nasal discharges, 11= Respiratory problems, 12= Soft shells and deformed eggs, 13= Swelling of the joints, 14= Twisting head and neck, 15= Vent picking, 16= weight loss, 17 = Other (specify)

Code C (Action Taken / Treatment): 0 = Nothing, 1=Treated myself – with traditional medicine, 2 = Treated myself - modern medicine (antibiotics, anthelmintic, aspirin etc.), 3=Got an ‘expert’ in to treat them, 4=Killed them immediately – and consumed, 5=Killed them immediately – did not consume, 6=Sold the live chickens immediately, 7 = Other (specify, e.g. quarantine)

11.7 Bird Feeding (week 4 and then every 4 weeks)

- ◆ Bird feeding practices should be collected at week 4 and then every 4 weeks until week 72 using the **Bird Health & Feeding ODK module**.
- ◆ Establishing the weight of feeds:
 - Prior to the start of data collection enumerators will use the first visit (week 0) to ask farmers about the containers they use to feed their chicken.
 - They will establish the weights of different feeds in the containers (**keeping the information in a notebook**) using the bird weighing scales they will have with them.
 - If during any later visit a farmer introduces another container the enumerator will again weigh feeds available in the container.
 - Data entered in the ODK module will be weight in GRAMS.
- ◆ If no supplement and reason for no supplement is Code A = 1, 2 or 5 then enumerator should probe for why; and provide support to overcome.

<i>Name – select from drop-down; filtered by village</i>	<i>Code B (multiple select)</i>	<i>Code A (N.B. NONE = 8)</i>	<i>Free text (box)</i>
Householder Name	Type of feed provided	If none, why?	If no – enumerator comments
Farmer A	1 – grains		
Farmer A	7 – kitchen waste		
Farmer B	None	3	Options for cheaper feed provided
Code B (Type of feed provided): 1=Grains, 2=Vegetables, 3=Root crops, 4=Legumes, 5=Oil seeds, 6=Commercial feed (e.g. wheat bran, oilseed by-products, mash), 7=Kitchen waste, 8 = Other (specify)			
Code A (If none, why?): 1=Lack of awareness about supplementary feed, 2=Unavailable feed, 3=High cost of feed, 4=Time shortage, 5=Lack of money to buy feed, 6=Other (specify)			

- ◆ For each feed type the following data should be collected

	<i>Code C - select from drop-down</i>	<i>Numeric – 1 - 28</i>	<i>Grams - Entered</i>	<i>local currency (can be 0 or greater) - entered</i>
Next columns asked for each feed type	Feed type provided to which birds?	Number of days feed provided in past 4 weeks	(Average) Quantity given each day?	Feed cost in past 4 weeks
Farmer A – grains	1 – Introduced flock	28	300 grams	20,000
Farmer A – kitchen waste	3 – Both flocks	3	500 grams	0
Code C (Feed provided to which birds?): 1 = Introduced flock, 2 = Existing Household flock, 3 = Both flocks				

- ◆ In Farmer A example the enumerator may have previously established that the farmer gives 3 handfuls of grains every day and each handful weighs approximately 100 grams. She buys a 5 kg bag for 20,000 Tsh and it lasts 4 weeks so could also work out the weight from this information (5000 grams / 28 days = 180 grams / day).

12. Routine 2-weekly data collection modules

12.1 Egg production (week 12 [Birds approximately 18 weeks of age] then every 2 weeks)

- Egg production will be collected starting at week 12, every 2 weeks until the end of 72 weeks and entered using the **Egg Production & Use ODK module**.
- In advance of the field officer's arrival, the household will be informed to collect all eggs for the **DAY BEFORE** the field officer's arrival;
- If the farmer is able to differentiate eggs laid by introduced flock from those by existing flock, the enumerator will record **the total number of eggs produced by each flock in the last two weeks**. Enumerators may sensitize farmers to use a variety of innovative ways that help them identify eggs from each flock and recall productivity such as by encouraging households to store eggs from different flocks into different baskets, separating/spotting laying nests and identifying unproducing females, tallying information with the support of school children (perhaps with some incentives), introducing simple recording forms that can be kept at the household, and by observing differences in egg shell colour and size when applicable.
- In case households are brooding existing household flock eggs or some eggs have been broken (or eaten by chicken) then enter the number of eggs weighed (which may be less than total egg number).
- It is important to collect the number of laying hens from each flock so that in analysis we can estimate the number of eggs from each flock.
- Farmers are encouraged **NOT** to allow the introduced hens to brood on their eggs, because it is not clear whether the performance ("goodness") can be maintained in the new chicks. However, the farmer should continue with her usual practice of brooding the household flock, if they are able to identify which eggs come from each flock (e.g. because they see them lay, have a specific laying place, etc.) then they should try to ensure that household flock hens brood on household flock eggs.

<i>dd/mm/yyyy (auto-generated)</i>	<i>Code - filtered by Country</i>	<i>Name - select from drop- down</i>	<i>Auto-shown</i>	<i>Name - select</i>	<i>dd/mm/yyyy (entered - calendar)</i>	<i>Numeric (0 - 99) Entered</i>		<i>Entered – Grams (0 - ???)</i>	<i>Numeric (Entered - for each flock)</i>	<i>Use format in example – period is the LAST 2 WEEKS</i>	
Date of recording	Sub-National Area	Village	Enumerator Name	Householder Name	Date of egg collection	Total Egg Number	Number of eggs weighed	Total Egg Weight	Number of laying hens	<i>Number of eggs produced by Introduced flock (if known)</i>	<i>Number of eggs produced by existing flock (if known)</i>
				Farmer A		35	30	185grams	Intro – 20; HH - 15		
				Farmer B		15	15	90grams	Intro – 10; HH - 20		

12.2 Egg Use - Sale, Consumption, Hatching, Gifts or other (week 12 then every 2 weeks)

- ◆ The data for egg sales, consumption and gifts is carried out every 2 weeks from week 12 until week 72; immediately after the egg production has been collected (Section 11.2) complete the **Egg Production & Use ODK module**.
- ◆ Encourage the farmer to keep a daily record (simple tally ###) of eggs sold, consumed, used to hatch chickens and gifted or other (other may include breakages or eaten by other chickens). This will help you to complete the table below. Note whether farmer recall or farmer recorded.
- ◆ **Note that the eggs collected the day before (and entered in previous section) are NOT counted in this section but in the NEXT 2-weekly visit.**

<i>Name - select from drop-down; filtered by village</i>	<i>Numeric (0 – 500)</i>	<i>Local currency (0 - ???) – Enter zero (0) if no eggs sold</i>	<i>Numeric (0 – 500). Other includes broken or eaten (by chicken) eggs.</i>			<i>Code – 1=recall (memory), 2 = recorded</i>
Householder Name	No. Eggs Sold	Money received from egg sales	No. Eggs Consumed	No. Eggs used to hatch chicks	No. Eggs Gifted or Other	Recall or recorded?
Farmer A	36	8000	15	12	10	1 - recall
Farmer B	0	-----	28	10	12	2 - recorded

13. Schedule of visits to Households

The on-farm study runs from the day of delivery of the introduced chicks to 72 weeks later. **The introduced birds may be delivered at different times for each strain so farmers may have their first visit in different weeks or months depending on the strain they will be receiving.**

It is suggested to follow the process below to set up a schedule for household visits:

- ◆ At the first visit (week 0) to the household when birds are delivered discuss with the farmer a routine for visits over the next 72 weeks.
- ◆ You will be visiting every 4 weeks from the first visit (week 0) up to week 12 – i.e. visiting week 0, week 4, week 8 and week 12.
- ◆ From week 12 you will be visiting every 2 weeks, collecting egg data and continuing to collect the other data every 4 weeks, i.e. visiting week 12,14,16,18 ... until week 72.
- ◆ Try to always visit on the same day of the week from the first visit, e.g. if you schedule the Week 0 visit for a Monday then future visits will be 4 weeks later on a Monday or 2 weeks later on a Monday. It is easier to set a routine schedule with the farmer, but it is reasonable if sometimes the visit is +/- 1 day of the usual day.
- ◆ For egg collection you should contact the farmer 2 days before the routine visit to remind them to collect all the eggs from the day before your visit, i.e. if you are due to visit on Friday, contact them Wednesday and remind them to collect all eggs on Thursday.
- ◆ Remember that the bird management and other modules (Section 0) are used only on week 6, 20, 52 and 72.
- ◆ You can use the calendar in your tablet to set-up the appointment schedule, see example below. Refer to the ODK training manual for detailed guidance in setting up repeated appointments in the tablet.

MAY

M	T	W	T	F	S	S
	1 Jane (wk 20) - PLUS extra modules	2 Call Tesfahun	3	4 Tesfahun (wk 24)	5	6
7	8	9	10 Fasil (wk 16)	11	12	13 Call Jane
14	15 Jane (wk 22 - eggs)	16 Call Tesfahun	17	18 Tesfahun (wk 26) eggs	19	20
21	22 Call Fasil	23	24 Fasil (wk 18 - eggs)	25	26	27 Call Jane
28	29 Jane (wk 24)	30	31			

14. Glossary of technical terms in English

Terms	Explanation
Household	A household is a group of individuals, usually related, that conduct activities (farming and non-farming) together and pool their resources from their activities. They usually cook and eat together.
Householder	For the on-farm study this is the person who signed the consent form and should be the key owner and/or manager of the chickens.
Introduced Flock	The flock delivered to the household for the on-farm study
Existing / Household Flock	The flock (local or mixed breed) which is already owned and kept by the household
Species	A classification of closely related organisms that are capable of breeding and raising fertile offspring Example: some important poultry species are Chicken (<i>Gallus domesticus</i>), Duck (<i>Anas platyrhynchos</i>)
Bran	Known as miller's bran, is the hard outer layers of cereal grain, often produced as a by-product of milling in the production of refined grains. E.g. Wheat bran
Chicken breed	A population of chickens with definable and identifiable external characteristics that enable it to be separated by visual appraisal from other populations within the same species, or a group for which geographical and/or cultural separation from phenotypically similar groups has led to acceptance of its separate identity (FAO, 2001).
Household head	For this study, in households with a man as the senior most member in the household, this is assumed to be the husband, but in a household where a woman is the senior most, this is assumed to be the woman (e.g. if a woman is widowed, divorced or separated). A member of a household is a person resident in the house/compound at least three months in a year.
Local / indigenous breed	Breeds which have been in the country for a sufficient time to be genetically adapted to one or more of traditional production systems or environments in the country (s) (FAO, 2001).
Cross breed	Offspring produced by mating parents of two different breeds
Exotic breed	Breeds which are maintained in a different area from the one they were developed and including breeds that are not locally adapted. Exotic breeds comprise both recently Introduced Breeds (whose importation was within the last 5 generations) and Continually Imported Breeds (whose local gene pool is regularly replenished from one or more sources outside the country) (FAO, 2001).
Chicken	Chicken of both sexes below 8 weeks of age; for this study has not been sexed
Productivity	Quantity and quality of production of a single chicken during a specified period of time (day, month, laying cycle, year, lifetime etc.).
Broody hen	A hen that wants to sit on eggs to hatch them and to brood chicks.
Supplementary feed	Feed given to chicken, any feed not obtained from scavenging
Head edema	Brain/head swelling
Newcastle Disease	An acute infectious viral disease affecting birds, characterized by nasal discharge and bloody diarrhea.
Infectious Bursal Disease (Gumboro)	A viral disease affecting young chicken. Infected birds are depressed, have ruffled feathers, droopy appearance and may be seen pecking at the vent.
Coccidiosis	A parasitic protozoal infestation, usually occurring in damp and unclean housing conditions. It is characterized by droopiness, loss of appetite, ruffled, unthrifty feathers, huddling or blood or mucus in the feces and diarrhea.
Chicken inventory	A complete listing of all numbers of chicken in a flock by age, sex and breed
Preference	Liking or choice
Chicken entries	Chicken of any age and breed that are newly introduced into a household by any means (purchase, hatching, gift, etc.)
Chicken exits	Chicken of any age and breed leaving a household by any means (slaughter, death, sale, gift, etc.)

Terms	Explanation
Infectious Bronchitis	A viral disease affecting chickens of all ages, characterized by depressing, coughing, nasal discharge and soft-shelled eggs.
Pullorum (Salmonella)	Disease caused by one of the two poultry-adapted strains of Salmonella bacteria, Salmonella pullorum, usually causing mortality in birds up to 3 weeks of age. Characterized by depressing, ruffled feathers, closed eyes, loud chirping and white diarrhea.
Mortality	Refers to death as a result of disease, predation, accident and other factors

References

FAO. 2001. Working definitions for use in developing country reports and providing supporting data. Special issue of state of the world. *Animal Genetic Resources Information* 30:34-40.

Annex

Table. Chicken strains to be tested by ACGG in the three project countries

Nigeria	Ethiopia	Tanzania
Koekoek	Koekoek	Koekoek
Kuroiler	Kuroiler	Kuroiler
Sasso (not confirmed)	Sasso	Sasso
Fulani	Horro	Australorp
Embrapa 051	Embrapa 051	Embrapa 051
ShikaBrown	Fayoumi (not confirmed)	Local strain (not confirmed)
FUNAAB Alpha		
Existing household strains at SNZs	Existing household strains at SNZs	Existing household strains at SNZs