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Alleviation



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and Sustainable Land  
Management



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Development



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# FIJI AGRICULTURE & RURAL STATISTICS

Sub Regional Training Course on Sampling Methods for Producing Core  
Data Items for Agricultural and Rural Statistics

13<sup>th</sup> – 17<sup>th</sup> August, 2018



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## CONTENT

- ✦ OVERVIEW OF THE AGRICULTURE SECTOR (Crop & Livestock)
- ✦ RESOURCES
- ✦ CURRENT DATA COLLECTION SYSTEM
- ✦ PROPOSED DATA COLLECTION SYSTEM
- ✦ RECOMMENDATION FOR WAYFORWARD





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# 1.0 OVERVIEW- AGRICULTURE SECTOR IN FIJI

(Crop & Livestock Sub-sector)



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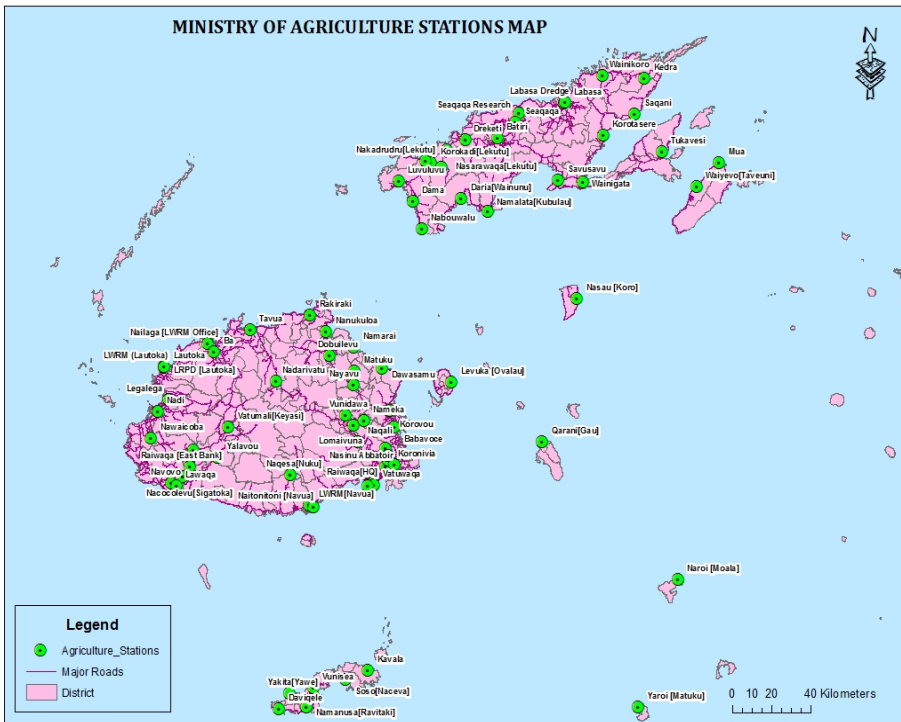


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## OVERVIEW

- ✦ Backbone of the Economy
- ✦ Agriculture contributed 7.5% to National GDP in 2016
- ✦ Subsistence Agriculture - 80%
- ✦ Total Agriculture Household – 118, 801 [Population Census – 2017]
  - ✦ **Crop** - 107,568
  - ✦ **Livestock** - 31,387
- ✦ Farmers Classification [FHBS – 2015/2016]
  - ✦ **Subsistence** – 83% [\$0 - \$8,000]
  - ✦ **Semi Commercial** – 12% [\$8,001 - \$16,000]
  - ✦ **Commercial** – 4% [\$16,001+]
- ✦ Total Agriculture Land – 4,280 km<sup>2</sup>
- ✦ 43.9% have farm size of < 1 ha [Communal land]





## DEMOGRAPHIC INFORMATION

- + Fiji Islands consists of around 330 islands of which only around 110 are inhabited
- + 2 Main islands make up the bulk of Fiji Islands;
  - + Viti Levu
  - + Vanua Levu
- + These 2 islands make-up almost 80% of the countries population
- + **Total Number of Province: 15**
- + **Total Number of Districts: 199**
- + **Total Number of Villages: 1,170** (Excluding Settlements)
- + **Total Number of Agriculture Stations: 85**



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## 2.0 AVAILABLE RESOURCES

(Crop & Livestock Sub-sector)





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## OVERVIEW

Fiji Agricultural and Rural Statistics (FARS) Unit play a vital role in enhancing data compilation through census, surveys and quarterly divisional reports, to ensure timely dissemination of improved quality and reliable Agricultural Statistics



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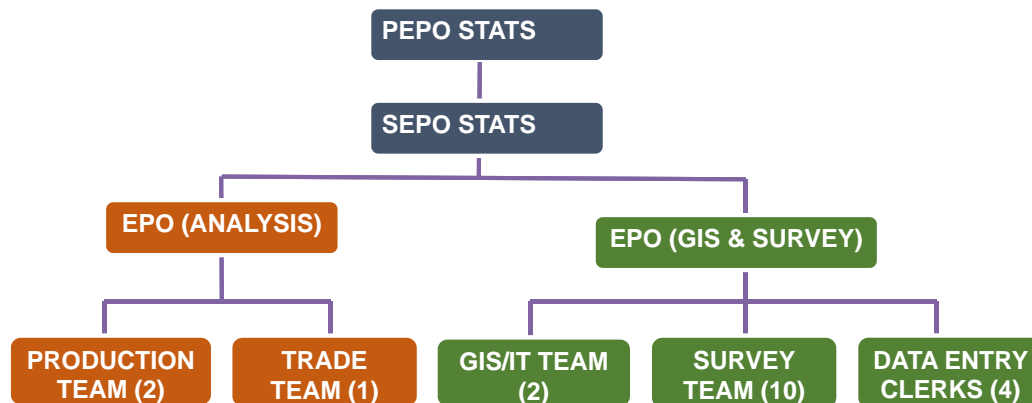
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## OBJECTIVES

- ✦ Provision of good quality Agriculture & Rural Statistics through the conduct of Agriculture Census and ad-hoc surveys to strengthen the Ministry's reporting system.
- ✦ **Preparation for 2019 Agriculture Census; Infrastructure, Listing Frame, Data Collection Methodology and Design and Capacity Building**
- ✦ **Improvement of collation and reporting of Agriculture production statistics- Finalization of Data Collection Methodology and Survey Design**
- ✦ Establishment of GIS and Data Output System to ensure quality and timely presentation and dissemination of Agriculture Statistics
- ✦ Enhance close collaboration with all stakeholders (Local & International) on Agriculture Statistics System
- ✦ Improve ongoing market survey methodology and dissemination process
- ✦ Ensure continuous statistical training for the Ministry

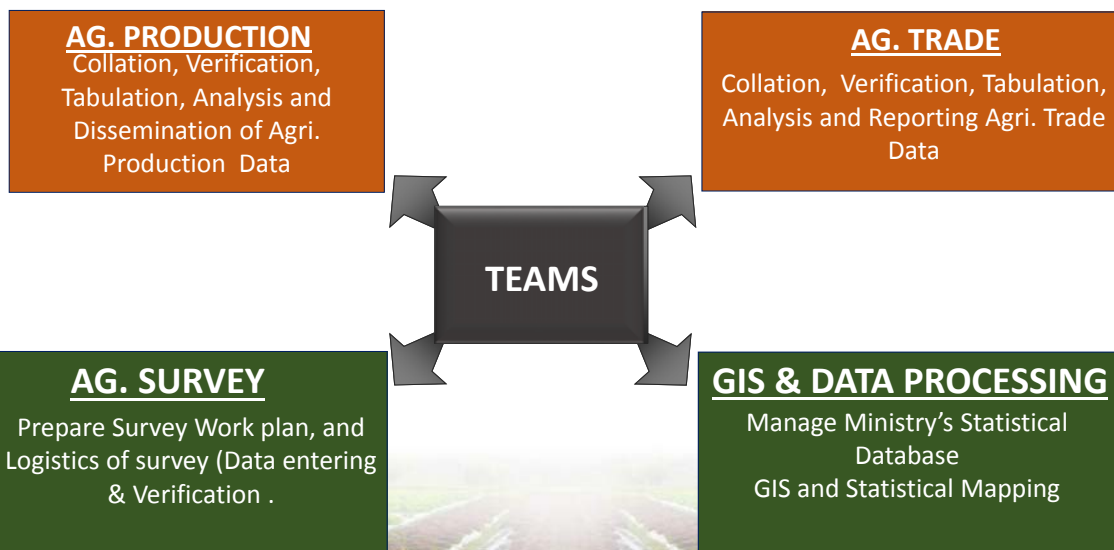


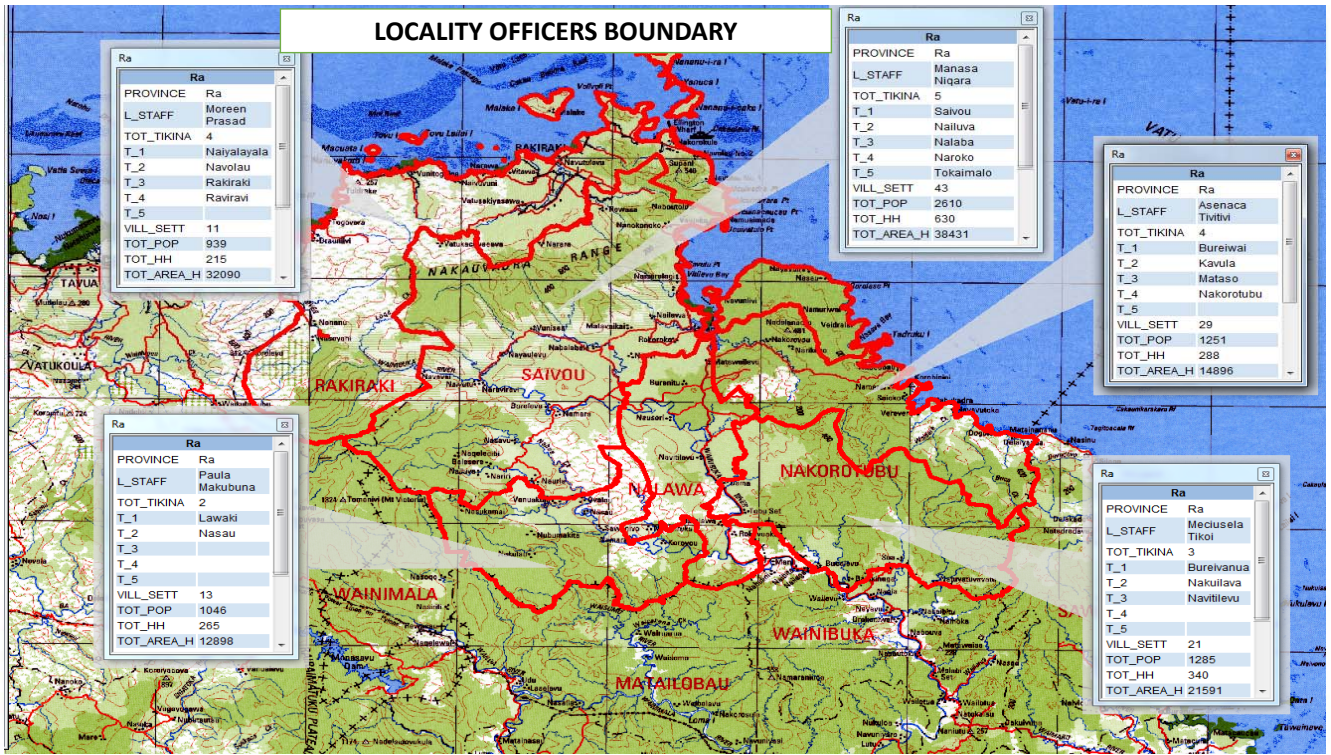
## FIJI AGRICULTURE & RURAL STATISTICS UNIT ORGANISATION STRUCTURE



✦ TOTAL OF 22 AGRICULTURE STATISTICS OFFICERS  
✦ TOTAL ANNUAL BUDGET: \$0.5 million

## TEAM FUNCTIONS







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# 3.0 CURRENT DATA COLLECTION METHODOLOGY

## (Crop & Livestock Sub-sector)



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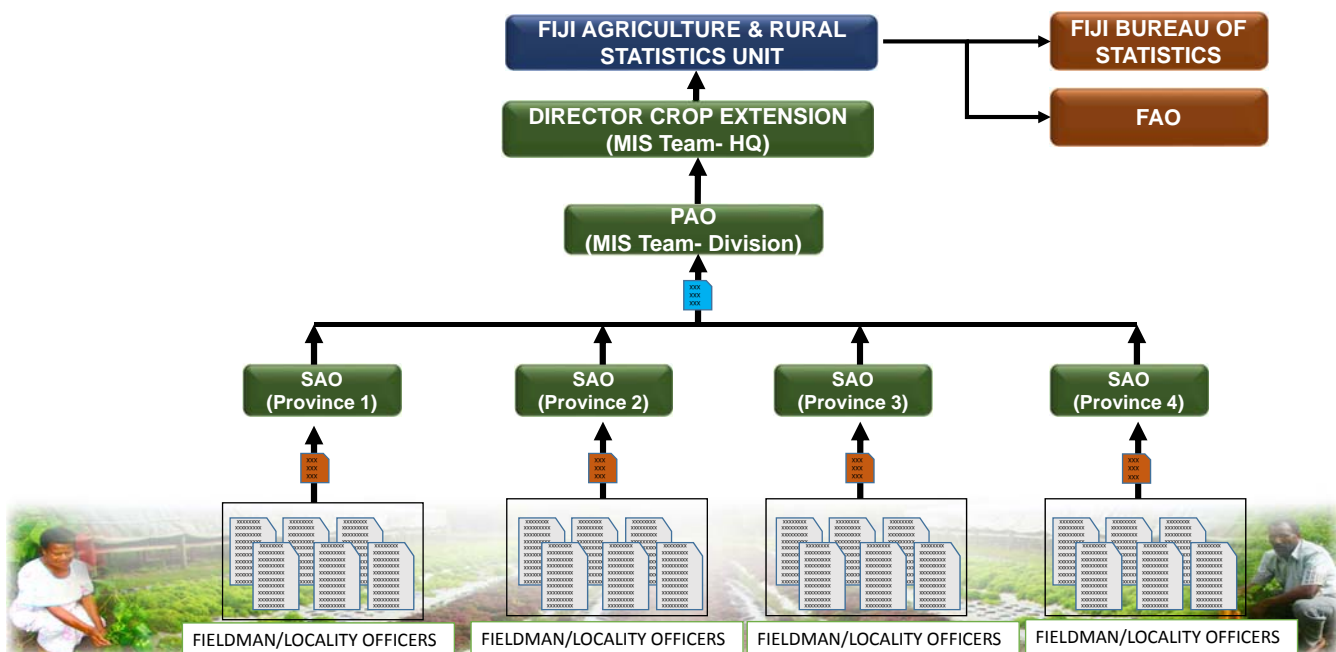
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# DATA COLLECTION TOOLS

- Field Visit & Observation
- Interviews using Questionnaire/Template
- Maps



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## TEMPLATE USED FOR COLLECTING CROP PRODUCTION DATA AT QUARTERLY BASIS

**FIELD VISIT PURPOSE FORM**  
This must accompany your vehicle request form

**FARM APPROVAL VISIT** 1 | **COURTESY FARM VISIT** 2 | **MANDATORY FARM REVIEW** 3 | **FARM PROSPECTS** 4

**MEETINGS** 5 | **WORKSHOP REQUEST** 6 | **ATTEND TO COMPLAINTS** 7 | **OTHER** 8

Visit Number or Purpose (Circle one)

NO.	FARMERS NAMES/ORGANIZATIONS	PURPOSE	LOCATION	MOB.NO
1				
2				
3				
4				
5				
6				
7				

NAME OF OFFICER: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_

DATE OF REQUEST: \_\_\_\_\_

AUTHORISING OFFICER: \_\_\_\_\_

REPORT OF PREVIOUS FARM VISITS MUST BE SUBMITTED FOR DECISION OR NOTING ERRORS TO THE NEXT TRIP. THE FORMS ARE TO BE SUBMITTED TO SUPERVISORS AT THE END OF EACH WEEK TO COLLATE STATION FIELD VISIT REPORTS. FARM VISIT REPORTS ARE TO BE KEPT ON FARMERS INDIVIDUAL FILES.

**FARM VISIT REPORT** DATE OF VISIT: \_\_\_\_\_

Farm Approval Visit | Courtesy Farm Visit | Mandatory Farm Review | Farm Prospects | Attend to Complaints | Others

**FARMER DETAILS**

NAME:	EDUCATION:
LOCATION:	HOUSE NO/LOT:
ACCESS:	FAREMS PATH/ROAD:
MAIN CROP:	WEATHER/CLIMATE:
CHALLENGES:	

**CROP DETAILS**

CROPS ON THE GROUND	STAGE	PACKAGE	EXPECTED DATE OF MATURITY	EXPECTED YIELD	CROP PROGRAM	EXPECTED PLANTING TIME

OPPORTUNITIES IDENTIFIED & FARMERS NEEDS

OFFICER: \_\_\_\_\_

DATE: \_\_\_\_\_







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# 4.0 PROPOSED DATA COLLECTION SYSTEM

(Crop & Livestock Sub-sector)



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## Brief

- Conducted two Trial on the New Proposed Tools & Methodology
  - Naitasiri Province
  - Rewa Province
- Duration of 2 Weeks
- Number of Staff : 25
- 1 Week Questionnaire Designing & Training
- This was the first Pilot! A test....
- Carried out over November 2017
  - Sample survey
- Data relates to three months before the interview
  - Production for a quarter, not whole year
- Data used in analysis – 637 interviews, not all checked





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## SURVEY PROCESS

- a) SURVEY OBJECTIVES
- b) DATA NEEDS AND DATA COLLECTION INSTRUMENT
- c) SAMPLING FRAME
- d) SAMPLE SIZE
- e) SAMPLE SELECTION
- f) PRODUCING ESTIMATES AND OUTPUTS
- g) DISSEMINATION OF PRODUCTION DATA



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## OBJECTIVES

(AGRICULTURE QUARTERLY PRODUCTION SURVEY)

“Agricultural information is a key to development”  
Policy and operational areas need to know things like..

- To identify the number of farmers in Fiji – Quarterly Revision of Farmers Listing
- To compile the Production of key crops and livestock at district level- (Primary Unit: Farming Household)- Production, Areas, Number of Plants
- To identify the income of farmers in Fiji- Agriculture Economics (Price, Income, Labour, etc)
- To gather Social data about the rural population
- To identify the main problems farmers face

.....to decide what assistance farmers may need, where and how to deliver it





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## QUESTIONS

### • 4 SECTIONS

1. DEMOGRAPHIC
2. TYPE OF FARMING
3. CROP/LIVESTOCK DETAILS
4. OTHERS



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### DEMOGRAPHIC ITEMS

- Name Of Respondent
- Name Of People Involved In Farming
- Age
- Disability
- Relationship To Hh
- Division
- Province
- District
- Locality

### TYPE OF FARMING

- Crops/Livestock
- Name of Crops & Variety
- Major Commodity
- Type of Livestock
- Size of Farm





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### CROP DETAILS

- Received any assistance
- Total Farming Area
- Method of Planting
- Type of Machinery
- When did you plant?
- Source of Material
- Total Area Harvested
- Area Remaining
- How much harvested
- Volume harvested
  - Sold – Market, Price
  - Consume
  - Given
  - Loss

### LIVESTOCK DETAILS

- Eg. DAIRY
- Type of Dairy Cows
- Number of Wet Cows today
- Volume of Milk
  - Sold
  - Consume
  - Given
  - Loss

### OTHERS

- Type of Cost
- Total Cost
- Land Tenure
- Type of Problems
- GPS
- Photo



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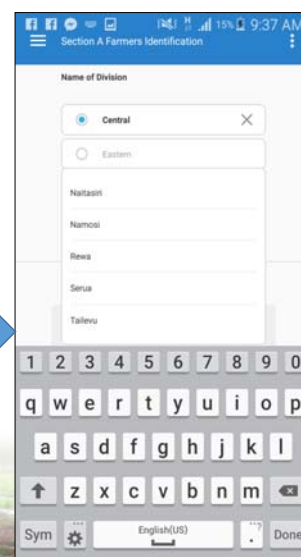
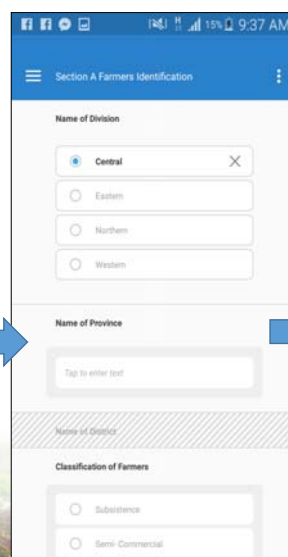
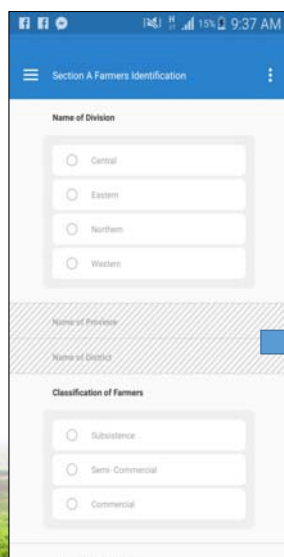


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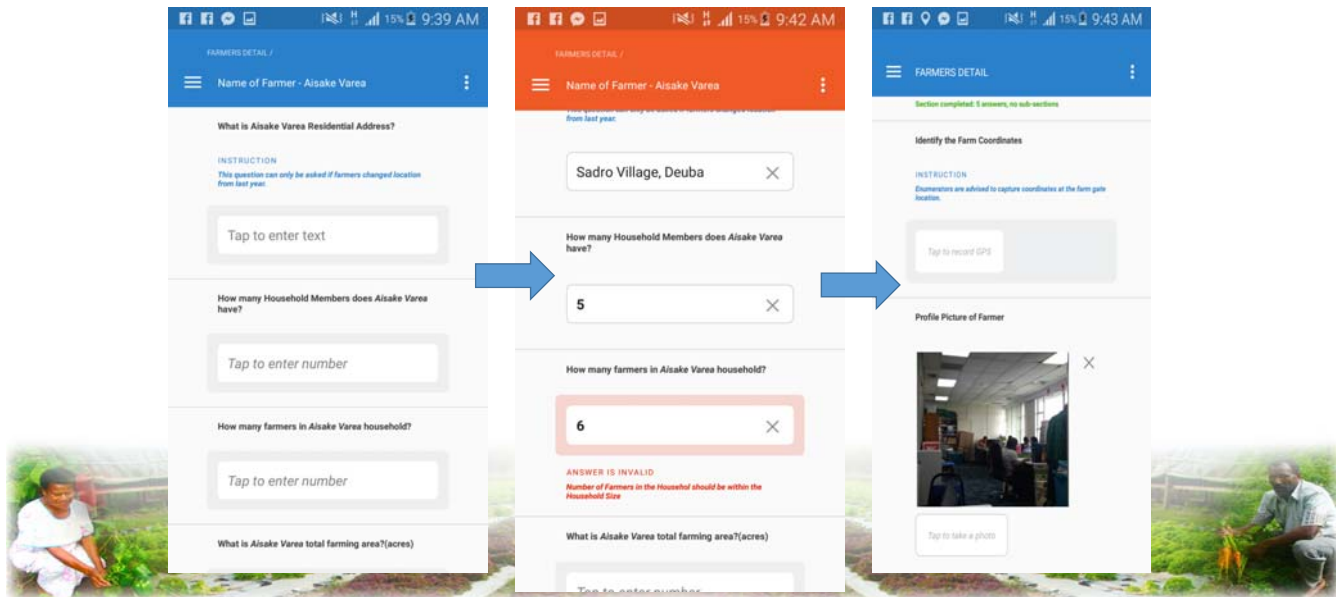


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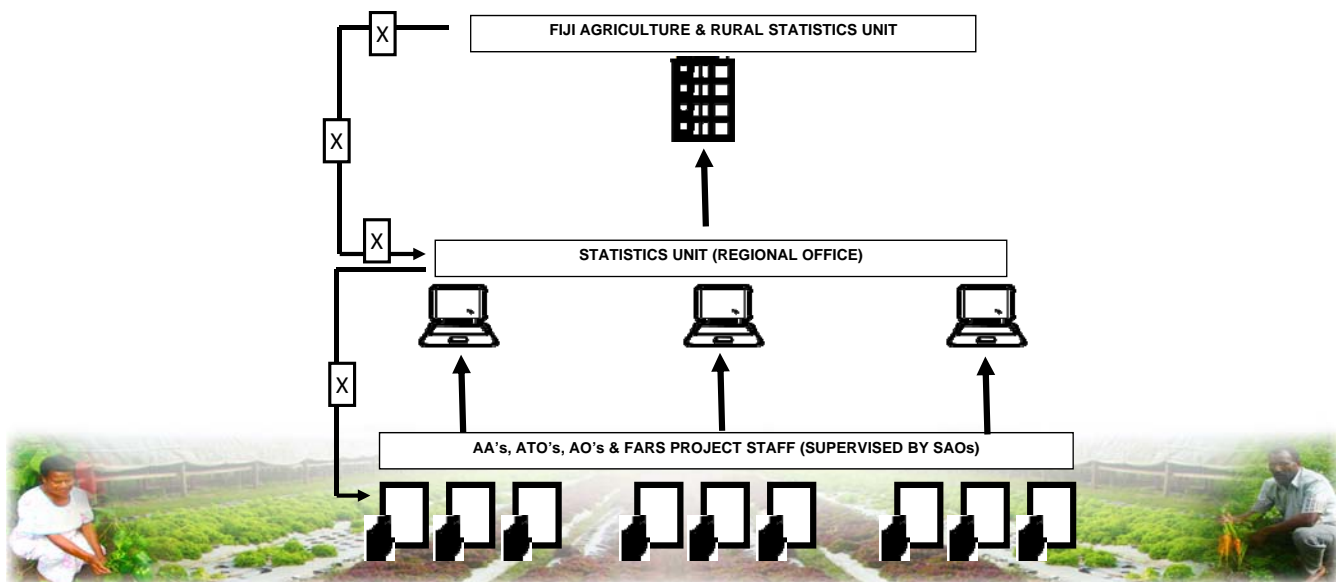
## Interface- Locality Officers/Enumerators Tablet



# Interface- Locality Officers/Enumerators Tablet



## REPORTING SYSTEM





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## SURVEY FRAME (AGRICULTURE QUARTERLY PRODUCTION SURVEY)

### • FARMERS LISTING : Naitasiri (Pilot Trial)

Variables	Numbers
<b>TOTAL NUMBER OF NAITASIRI FARMERS</b>	<b>4,664</b>
<b>TOTAL NUMBER OF COMMERCIAL FARMERS</b>	<b>338</b>
Total Commercial Farmers- Crops	127
Total Commercial Farmers- Livestock	28
Total Commercial Farmers- Crops/Livestock	183
<b>TOTAL NUMBER OF SEMI- COMMERCIAL FARMERS</b>	<b>745</b>
Total Semi-Commercial Farmers- Crops	298
Total Semi-Commercial Farmers- Livestock	21
Total Semi-Commercial Farmers- Crops & Livestock	426
<b>TOTAL NUMBER OF SUBSISTENCE FARMERS</b>	<b>3,581</b>
Total Subsistence Farmers- Crops	1,884
Total Subsistence Farmers- Livestock	45
Total Subsistence Farmers- Crops & Livestock	1,652



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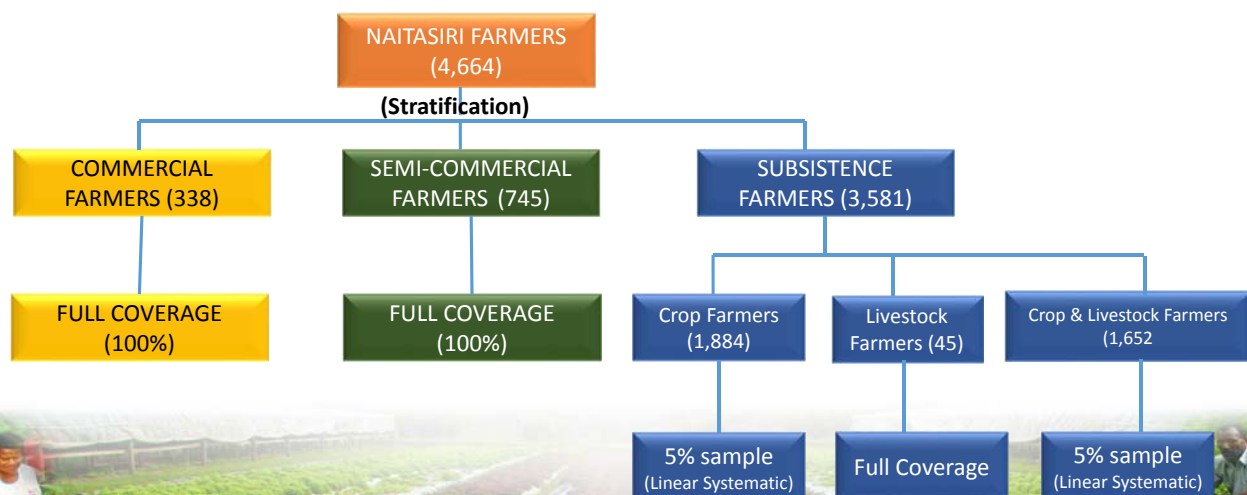
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## SURVEY METHODOLOGY

(AGRICULTURE QUARTERLY PRODUCTION SURVEY)





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# PROPOSED SURVEY SCHEDULE

ACTIVITY	QRT 1			QRT 2			QRT 3			QRT 4		
	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
REVISION OF FARMERS LISTING												
DATA COLLECTION	1ST 2 WEEKS			1ST 2 WEEKS				1ST 2 WEEKS		1ST 2 WEEKS		
DATA PROCESSING	LAST 2 WEEKS			LAST 2 WEEKS			LAST 2 WEEKS			LAST 2 WEEKS		
DATA DISSEMINATION		1ST WEEK			1ST WEEK			1ST WEEK			1ST WEEK	

**ONLY 2 WEEKS EVERY QUARTER FOR DATA COLLECTION AND THE REST OF THE WEEKS FOR AGRICULTURE EXTENSION SERVICES**



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## 5.0 OUTCOME OF THE PILOT TRIAL

(Crop & Livestock Sub-sector)







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Sample selection, achieved sample and weighting

- This was the number of farms in the baseline survey

	Commercial	Semi Commercial	Subsistence	Grand Total
<b>Crop &amp; Livestock</b>	183	425	1,652	2,260
<b>Crops</b>	127	298	1,884	2,309
<b>Livestock</b>	28	21	45	94
<b>Grand Total</b>	338	744	3,581	4,663

- This was the number selected

	Commercial	Semi Commercial	Subsistence	Grand Total
<b>Crop &amp; Livestock</b>	183	425	82	690
<b>Crops</b>	127	298	94	519
<b>Livestock</b>	28	21	45	94
<b>Grand Total</b>	338	744	221	1303



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## Sampling

- The commercial and semi commercial firms were all selected (full coverage)
- All the subsistence live stock only farms were selected
  - But only two of those interviewed only had livestock in the pilot, so combined all subsistence farmers
- Five percent of all other subsistence farmers were selected systematically
  - Every 20<sup>th</sup> farmer on the list
  - How the list is sorted can affect the sample – eg. by province then main commodity?



### Achieved sample and weighting

- This was the number actually achieved (for analysis)

	Semi		Subsistence	Grand Total
	Commercial	Commercial		
Crop & Livestock	53	223	43	319
Crops	48	202	48	298
Livestock	10	9	1	20
<b>Grand Total</b>	<b>111</b>	<b>434</b>	<b>92</b>	<b>637</b>

- Which meant that each farm in the sample represents

	Commercial	Semi Commercial	Subsistence
<b>Grand Total</b>	<b>3.05</b>	<b>1.71</b>	<b>38.92</b>

- and there will be sample error ....
- and likely mistakes in this quick analysis



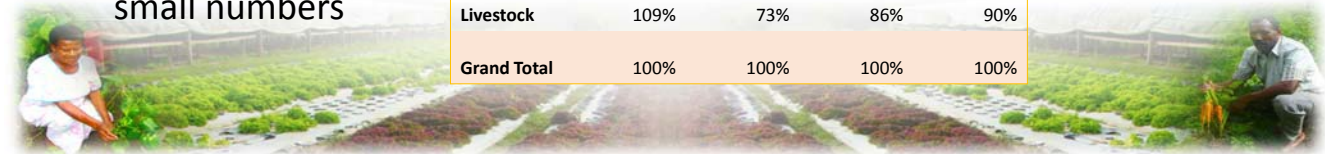
Caution: Pilot survey data should not be quoted or used

### Estimated number of Farms in Naitasiri

- The numbers are estimated from the sample
- Totals are from the baseline farmers listing (2015/6) – the master frame
- Be careful with small numbers

Estimated Nov 2017:	Semi		Subsistence	Grand Total
	Commercial	Commercial		
Crop & Livestock	161	382	1,674	2,217
Crops	146	346	1,868	2,361
Livestock	30	15	39	85
<b>Grand Total</b>	<b>338</b>	<b>744</b>	<b>3,581</b>	<b>4,663</b>

Compared to baseline population				
Crop & Livestock	88%	90%	101%	98%
Crops	115%	116%	99%	102%
Livestock	109%	73%	86%	90%
<b>Grand Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>





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## LESSON LEARNT FROM 1 WEEK TRAINING

- SAMPLE SIZE
- SELECTION OF SAMPLING DESIGN
- GOOD FRAME



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## THANK YOU

