

Agriculture Statistics & Sampling in Vanuatu



SAMPLING WORKSHOP, KADAVU HOUSE, SUVA, FIJI

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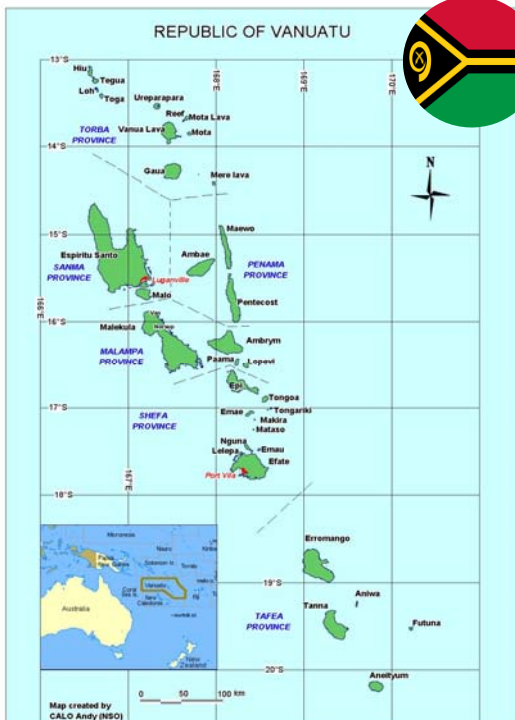
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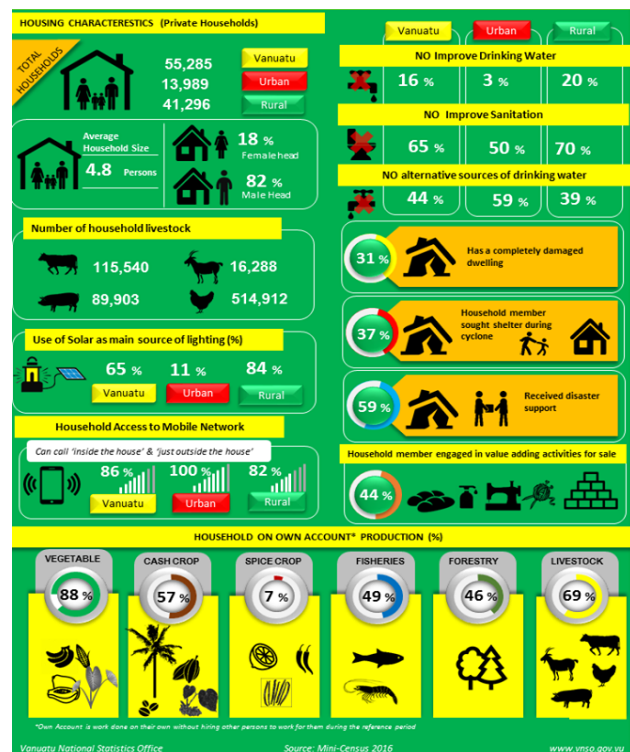
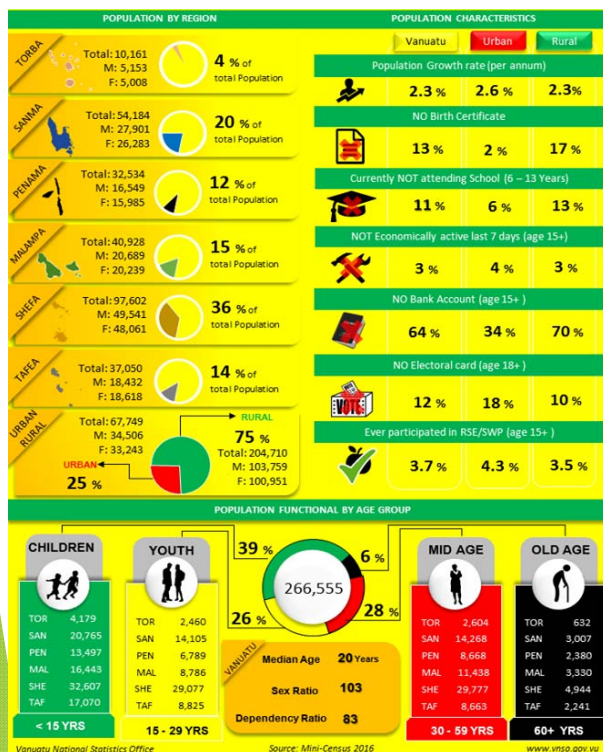


Vanuatu:

- ✓ Consists of 83 islands, of which around 65 are inhabited.
- ✓ There are 6 main provinces which make-up Vanuatu: **Malampa, Shefa, Penama, Tafea, Sanma & Torba**
- ✓ These 6 provinces, along with the urban centres of Port Vila & Luganville generally form the basis of 8 stratum.

Challenges:

- ✓ High cost of transportation due to very remote areas. E.g. Similar cost of travel from Vanuatu to New Caledonia than to go to Santo and Tanna.
- ✓ Financial support & constraints
- ✓ Bureaucracy (eg. DHS)
- ✓ Managing multiple donor partners
- ✓ Vulnerability - Disasters, weather, climate change
- ✓ Budget a determinant in Sampling design
- ✓ Political will



Overview of Sample Surveys in Vanuatu

Survey Type	Year	Domain Type	Stratification	Sample size	Sampling approach
Health Survey (DHS/MICS)	2013	3 - Urban, Rural1 & Rural2	Urban, Rural1 & Rural2	2200 HH	Two stage - PPS&SYS
Income & Expenditure (HIES)	2018	6 province & 2 urban	6 province & 2 urban	3680 HH	Two stage - PPS&SYS
Agriculture	2007	6 province	Small, Medium & Large islands	Small - all, Medium - 33%, Large - 33%	Two stage - SRS&SYS

Overview of Sample Surveys in Vanuatu CONT.

Survey/Census	Year	Cost VT	Cost Aus \$
Health Survey (DHS/MICS)	2013	50 million	609,238
Income & Expenditure (HIES)	2010	65 million	791,937
	2018	89 million	1 million
Agriculture Census	2006	190 million	2.3 million
Population Census	2009	209 million	2.5 million
	2010	60 million	730,912

Note: Source (<https://www.xe.com/currencyconverter/>) & Estimates

2018 NSDP Baseline Survey - (Expanded HIES)

- Driven by the Country Development Plan (National Sustainable Development Plan)
- As suggested previously, the standard 8 stratum will be adopted
- Two stage sampling will be applied within each stratum
 - ✓ Stage 1: Selection of Enumeration Areas
 - ✓ Stage 2: Selection of Households
 - ▶ Number of households per EA will differ in each stratum
- 32 rounds over a 12 month period
 - ✓ Addresses seasonal fluctuation
 - ✓ Field staff become more skilled as field work progresses
- Roughly sampling 3,680 HH from 55,015 HH

2006 Agriculture Census

- ▶ 1993 Approach/Methodology
 - ▶ **Phase 1 - Listing of all households** including data on gender, type of crop grown, livestock raised, fishing, forestry and logging activities conducted.
 - ✓ Master Sampling Frame for Agriculture Survey - (Sampling frame of households engaged in agriculture, livestock, forestry and fisheries).
 - ✓ One month listing exercise undertaken.
 - ▶ **Phase 2 - Agriculture Survey**, a series of sample surveys were conducted in 2007 on selected agriculture crops (coconut, cocoa, coffee, kava, vanilla, pepper) and livestock, forestry and fisheries.
 - ✓ Cluster of 65 islands into 18 major islands
 - ✓ Stratification based on Small (<500hh), Medium (>500<2000 hh) & Large (>2000hh) islands
 - ✓ Partial Two stage sampling:
 - ❖ Stage one: 1/3 of EA selected, random selection (except for small strata as all HH interviewed)
 - ❖ Stage two: 1/3 of HH selected for ONLY Large islands using systematic sampling (all medium selected EA had a complete enumeration)
 - ✓ Two month data collection (field work)
 - ✓ Due to high cost to implement multiple surveys, one round of data collection was implemented with all Surveys being carried out at once!

FUTURE SURVEY PLANS

- ▶ 2018 HIES Qs

Module 14: PRODUCTIVE SECTOR ACTIVITY.....

[A] ACTIVITY : LIVESTOCK & AQUACULTURE

[B] ACTIVITY : FISHING, SEAFOOD COLLECTION & HUNTING

[C] ACTIVITY : AGRICULTURE

- ▶ 2020 Population & Housing Census

- ▶ **Having an Agriculture module**

- ▶ Agriculture Census/Surveys - 2025

PART 2

Crop Gardening

Total number of crop gardens	97,888
Total area of crop gardens (ha)	7,511
Average area per crop garden (m ²)	767.3
Total number of households with at least one garden	33,570
Average number of gardens per household	3
Percentage of area of crop gardens owned	77.1
Percentage of area of crop gardens rented	0.8
Percentage of area of crop gardens custom used	5.1
Percentage of area of crop gardens used free	17.0
Percentage of crop gardens on flat land	62.2
Percentage of crop gardens on slightly hilly	30.3
Percentage of crop gardens on steep slope	7.3
Percentage of area of gardens river-fed	3.9
Percentage of area of gardens with piped water	0.3



Percentage of area of gardens rain-fed	53.9
Percentage of crop gardens with crops on census day	87.7
Percentage of crop gardens lying fallow on census day	11.0
Percentage of gardens less than 15 minutes walk away	52.6
Percentage of gardens more than 1 hour walk away	47.4
Percentage of new gardens	17.7
Percentage of gardens used for less than 2 years	18.7
Percentage of gardens used for more than 10 years	18.7
Total number of households that sold temporary crops in the last 12 months	10,788
Total value of temporary crops sold in last sale (in 1000 vatu)	93,483

Kava



Total number of households with kava plant sub-holdings	20,013
Total number of parcels	47,629
Average number of parcels per sub-holding	2
Total kava plants currently in the sub-holdings ('000)	18,441
Percentage of kava plants according to age:	
Less than 4 years	85
5 – 9 years	13
10 years and over	2
Number of kava plants ready for harvest ('000)	4,557
Average number of kava plants per sub-holding	921
Average number of kava plants per parcel	387
Percentage of sub-holdings that sold kava plants in the last 12 months	54
Total value of kava plants sold in the last sale ('000 vatu)	341,131

Coconut

Total area of coconut tree sub-holdings (ha)	119,384
Total number of households with coconut trees sub-holdings	23,660
Average area of coconut tree sub-holdings (ha)	5
Total number of parcels	39,348
Average area per parcel (ha)	3
Total coconut trees currently in the sub-holdings ('000)	9,737
Number of trees bearing coconuts ('000)	8,797
Percentage of coconut trees, according to age:	
Less than 5 years	2
5 – 19years	22
20 – 49 years	58
50 years and over	18



Average number of bearing coconut trees per sub-holding	371
Average number of bearing coconut trees per parcel	223
Average number of bearing coconut trees per hectare	74
Percentage of households regularly using coconuts for drinking and/or cooking and/or feeding animals	58
Percentage of households that sold copra in the last 12 months	44
Total number of bags of copra sold in the last sale ('000)	167
Total value of bags of copra sold in the last sale ('000 vatu)	195,210

Cocoa

Total area of cocoa tree sub-holdings (ha)	22,153
Total number of households with cocoa tree sub-holdings	8,484
Average area of cocoa tree sub-holdings (ha)	2.6
Total number of parcels	11,300
Average area per parcel (ha)	2
Total cocoa trees currently in the sub-holdings ('000)	3,042
Percentage of cocoa trees according to age:	
Less than 3 years	3
3 – 19years	42
20 – 49 years	51
50 years and over	4
Average number of cocoa trees per sub-holding	359
Average number of trees per parcel	269
Average number of cocoa trees per hectare	137



Average number of trees per parcel	269
Average number of cocoa trees per hectare	137
Percentage of sub-holdings selling cocoa beans of which:	
green and wet	54
dried	11
Percentage of households that sold cocoa beans in the last 12 months	60
Total value of cocoa beans in the last sale ('000 vatu)	58,949

Coffee

Total area of coffee tree sub-holdings (ha)	3,478
Total number of households with coffee tree sub-holdings	1,456
Average area of coffee tree sub-holdings (ha)	2.4
Total number of parcels	1,626
Average area per parcel (ha)	2.1
Total coffee trees currently in the sub-holdings ('000)	587
Percentage of coffee trees according to age:	
less than 4 years	44
4 – 19years	55
20 – 49 years	1



Average number of coffee trees per sub-holding	403
Average number of trees per parcel	361
Average number of coffee trees per hectare	169
Percentage of sub-holdings selling coffee beans of which	
green and wet	8
dried	48
Percentage of households that sold coffee beans in the last 12 months	51
Total value of coffee beans in the last sale ('000 vatu)	11,635

Cattle

Total number of cattle kept as of census day	174,152
Total number of cattle kept in paddocks	124,955
Total number of cattle kept in lands without paddocks	49,197
Total cattle sub-holdings	17,176
Average number of cattle per sub-holding	10
Percentage of kind of cattle by age:	
calves less than 1 year old	16
bulls more than 1 year old	13
steers more than 1 year old	15
heifers less than 2.5 years old	16
cows more than 2.5 years old with a calf	36
cows more than 2.5 years old without a calf	4



Total number of sub-holdings with paddocks	5,921
Total number of paddocks, all rural households	8,586
Total area of paddocks (ha)	53,607
Average area per paddock (ha)	6
Total number of sub-holding with stockyards	1,713
Percentage of sub-holdings with permanent water	22
Percentage of sub-holdings with improved grass	88
Percentage of sub-holdings with fences	95
Percentage of sub-holdings that sold cattle in the last 12 months	24
Total value of cattle heads sold in the last sale (' 000 vatu)	135,424

Other Livestock

Number of households with:	
pigs	17,981
goats	2,099
chickens	23,381
Total number of:	
pigs	86,698
goats	8,792
chickens	368,251
Average number of pigs per household	5
Average number of chickens per household	16

Percentage of household reported disposing of:

pigs	70
chickens	55

Number of pigs disposed:

consumed	10,643
sold alive	7,920
used as gift/in feast	6,603
lost/found dead	5,953

Number of chickens disposed:

consumed	82,602
sold alive	34,476
used as gift/in feast	22,164
lost/found dead	58,688

Fisheries

Number of households engaged in fishing	15,758
Percentage of total rural households engaged in fishing	
mainly for consumption	47
consumption with occasional selling	73
mainly for sale	26
mainly for sale	1
Percentage of households owning fishing boats	
canoes	92
boats (with and without engines)	12
Total number of households owning at least one type of fishing gear	10,486

Percentage of households owning different types of fishing gears

hand line	90
hand reel	5
traditional spear	13
spear gun	32
gill net	17
cast net	5

Weekly average fishing trips

3

Total value of the fishery species sold in the last sale ('000 vatu)

24,022

Forestry

Percentage of total rural households engaged in forestry-related activities:

gathering firewood/fuel wood	95
gathering timber/wood products	24
planting trees for timber	20
gathering sandalwood	8
logging	2
gathering tree seedlings/seeds	13
collecting medicinal plants	8

Average number of trees planted per household	58
Average tree seedlings gathered per household	61
Number of households participating in forest conservation in the last 12 months	2,764
Number of households participating in agri-forestry activities in the last 12 months	4,570
Number of households that sold any forest products in the last 12 months	2,538
Total value of gathered forest products sold in the last sale ('000 vatu)	55, 502

Tank Yu Tumas!

