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Agriculture Census of Nepal 2011/12

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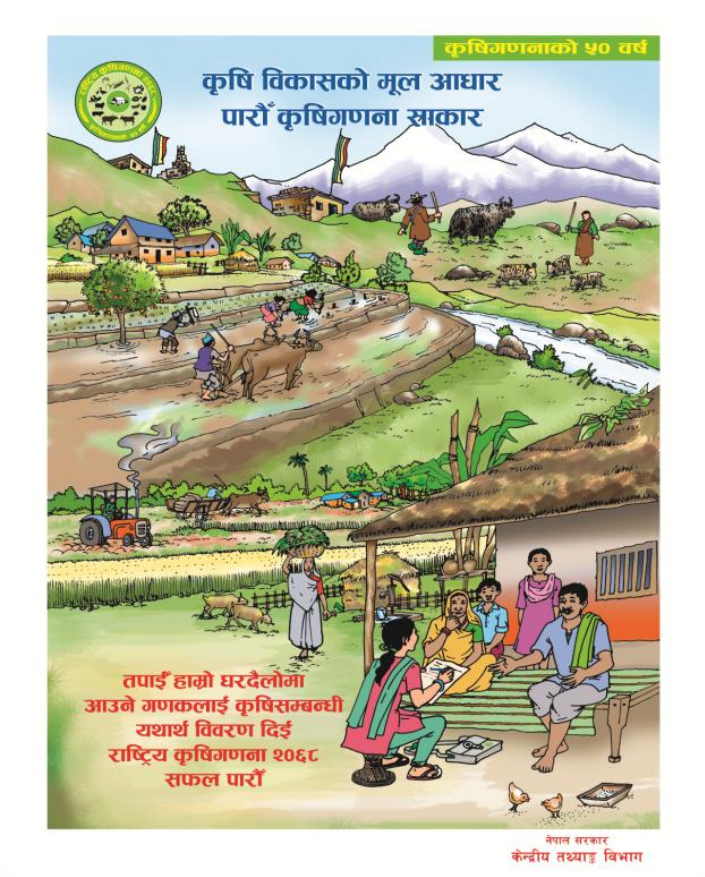


Introduction

- Area of Nepal: 147,181 square kilometers
- Three belts : Mountain, Hill and Tarai
- Highest peak, the Mount Everest (8,848 meters)
- Administratively Nepal : 75 districts
- 3914 VDCs(Rural) and 58 municipalities (urban)
- Each VDC comprises 9 wards, number of wards of a municipality varies from 9 to 35,
- Contribution of Agriculture sector: more than one third of total GDP

Present scenario of agricultural statistics

- First National Agriculture census in 1961/62 as per the guideline of the World Census of Agriculture (WCA)/FAO
- N AC: Every ten years
- Latest; Sixth (2011/12) : finished field work
- Remaining works : editing, consistency check and data processing underway
- Non-household farming: not incorporate in census; listing work underway
- Other surveys : fisheries, vegetable, orange, apple, milk and livestock at ad hoc basis

Agriculture census 2011/12

- Pilot survey of NAC: conducted in five districts of three ecological belts in 2009/10
- NCA Followed the broad guideline of FAO document for WCA 2010.
- Survey tools: questionnaires(listing, selected holdings, HHs, community, census progress forms) & Manuals
- HHs Questionnaire: Agri. labour by type & sex, livestock by type, age & sex. (inventory no. of livestock type in Pop census)
- Introduce first time : production statistics of 27 major crops to compare production by different methodology(field reports of MoAD)
- Census enumeration : Two phases, from January to June 2012
- Reference period: January to December 2011

Sampling Design NAC 2011/12

- Technical assistance received from FAO for sampling design review
- Sampling design : stratified two stage sampling with district as strata,
- PSUs: Individual ward or a sub-ward or a group of contiguous wards
- USUs: Agricultural holdings as the ultimate sampling units
- Self weighted sampling design within each district, provided same number of households in every EA at the time of listing and as recorded in population census.

Sources of Sampling Frames

Frame for PSUs: list of enumeration areas (EAs) for PSUs from the 2011 Population Census

Combination of small wards :

- Ward contained less than 25 holdings

Segmentation of large wards :

- Very large wards subjected to segment for making sizable PSUs
- Block maps prepared during the 2011 population census

Frame for holdings: listing of wards and blocks, along with the number agricultural households (holdings).

Sample size

- Sample size: around 130,000 agricultural households (holdings)
- 5,200 PSUs across the entire country.
- No. of PSUs per district : determined on the basis of the total area under 9 major crops in the district (X_d)
- No. of PSUs (n_d) : based on “compromise power” allocation:

$$n_d \propto \left(X_d\right)^{0.4}$$

Sample Selection

Selection of Primary Sampling Units (PSUs):

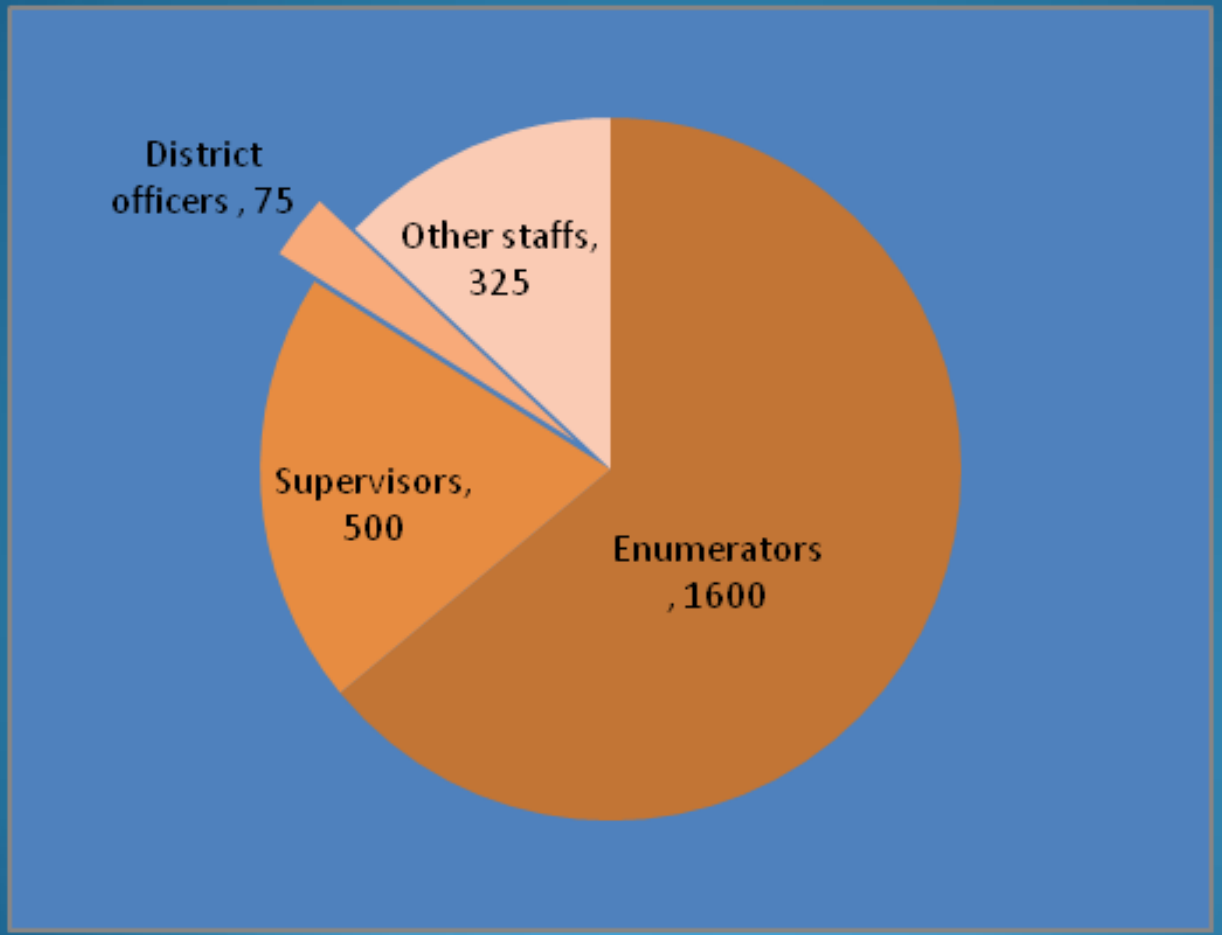
- PSUs arranged VDC-wise alternately in ascending and descending order according to no. of holdings
- Selection of PSU by using PPS systematic sampling.
- Ensures implicit stratification and increases the efficiency of PPS

Selection of Ultimate Sampling Units (USUs):

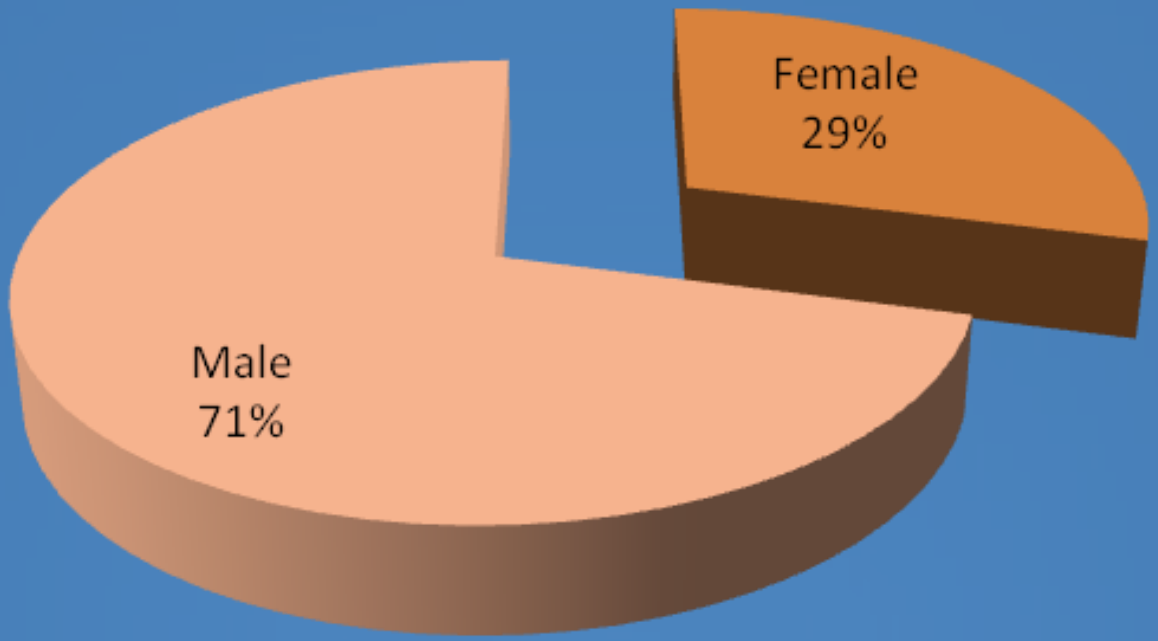
- Prior selection: implicit stratification for Tarai and Hill/Mountain into four strata .
- Equal probability linear systematic sampling

Human Resource

- Main staffs : regular staff of CBS
- Other : short term contract basis recruitment.
- Altogether around 2500 manpower employed



Total Human Resource by Gender



Media Campaigning

- To aware the importance of agricultural census
- Ensure confidentiality
- Media : AM/FM Radio, Television, Newspapers
- Others : Poster, Pamphlet, Leaflet, Folder, Banner, Miking, etc

Quality Control

- **Training Programmes:**
- Master Trainers,
- District Census Officers,
- Supervisors,
- Enumerators,
- Other Trainings: coding, editing and consistency check, Data entry
- **Supervision** : District and central level
- **Consistency Check:** CBS core staffs
- **Data Entry/ Processing:** Direct under the CBS (purposed)

Estimation

- Non-response adjustment
- Average & total
- Estimation of Error

Community questionnaire

- "New element" recommended by the WCA 2010
- Information: socio-economic conditions, community infrastructure and services, development projects
- Community questionnaire at ward (PSU) level

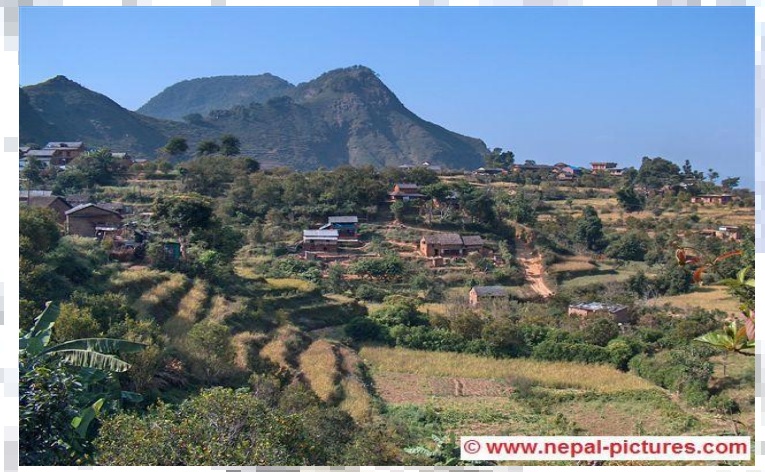
Publication/Dissemination

- Published as per schedule by May 2013 with explanatory text
- Monograph of agriculture
- Report on reliability of data
- Result distribution: hard copy, CDs and websites

Weaknesses/Problems

- Complex and more technical questionnaire
- Lack of qualified manpower - Mountain region
- Coincided Enumeration period and Agriculture farming season
- Long and complicate questionnaire- reluctant to required time
- Unaware and scared of Respondent to provide real data due to tax and government policy.

Way forward

- Enumerator training period - increased and more extensive field test, discussion and exchange of experience from field test.
- Either same time or long Time gap between the population census and agriculture census
- Census field operation : single phase, preferably in April to June.
- Coding, editing and consistency check by core staff (CBS) to maintain the quality of data.
- Associated cost reduced by using existing logistics: Computers, Server, Furniture, and Generator etc from recently completed Population census.

Thank you !