



Food and Agriculture
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SUSTAINABLE
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GOALS



APCAS/24/C3.1

ASIA AND PACIFIC COMMISSION ON AGRICULTURAL STATISTICS

30TH SESSION

19–24 May 2024
Kathmandu (Nepal)



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ENVIRONMENT**



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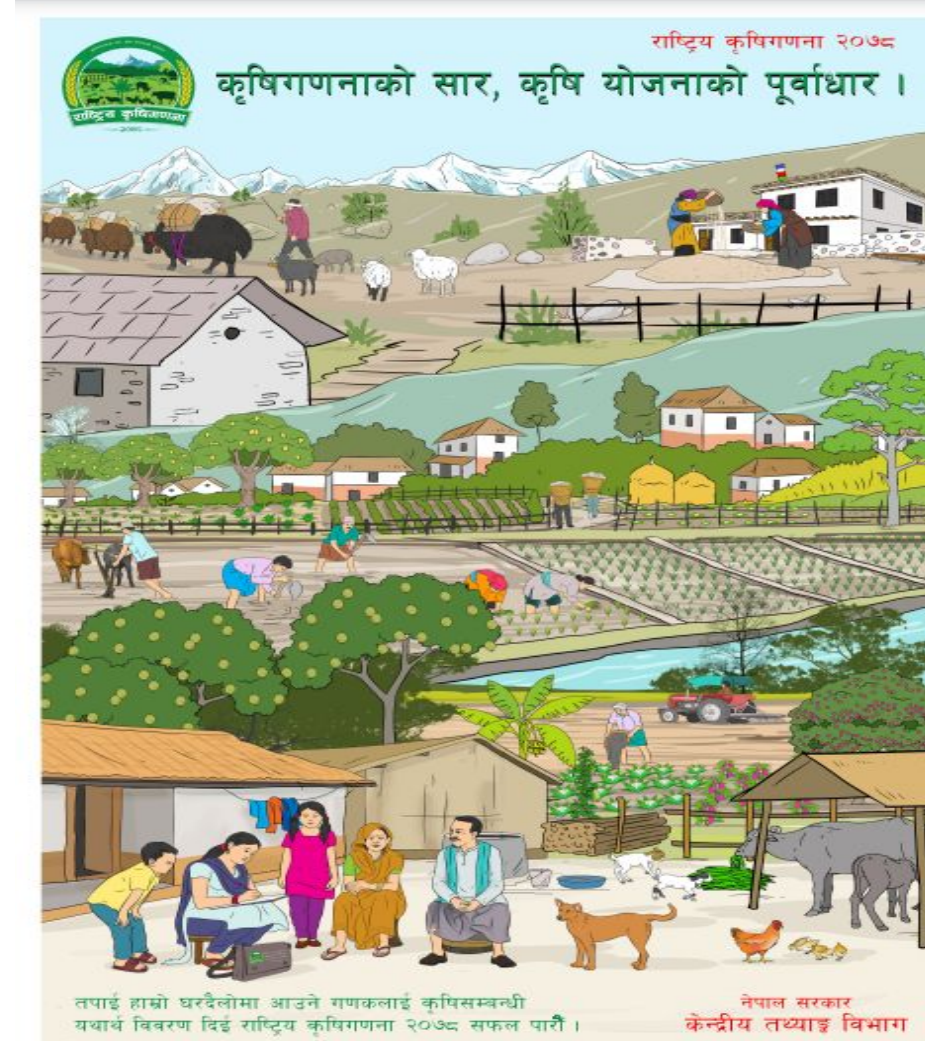


SIDE EVENT C:

C2.1: Nepal's Experiences with Planning & Implementing Agricultural Censuses

Country Experience on National Sample Census of Agriculture (NSCA) 2021/22

Presenter : Badri Kumar Karki
Director, NSO Nepal



Presentation outline

- 👉 A snapshot of NSCA 2021/22
- 👉 Use of Technology in NSCA 2021/22
- 👉 Major Departure in NSCA 2021/22
- 👉 WCA 2020 recommendations and adjustment in NSCA 2021/22
- 👉 Recommendations for WCA 2030
- 👉 Dissemination Strategy and Meta-data of NSCA 2021/22

Agriculture Census in Nepal

Agriculture Census of Nepal provides basic information on structure of agriculture (slow changing information: land use, land tenure, parcel size, number of holdings...) at lowest administrative level.

Nepal has a long history of agriculture census taking.

Agriculture Census	Year
First Agriculture Census	1961/62
Second Agriculture Census	1971/72
Third Agriculture Census	1981/82
Forth Agriculture Census	1991/92
Fifth Agriculture Census	2001/02
Sixth Agriculture Census	2011/12
Seventh Agriculture Census	2021/22

NSCA 2021/22 Nepal

Statistical Units : The agriculture holdings

A holding was considered to be an agriculture holding satisfying any one of the following conditions:

- Having area under crops greater than or equal to 0.01272 hectare in the hill or mountain district, or greater than or equal to 0.01355 hectare in the Terai; or
- keeping one or more head of cattle or buffaloes; or
- keeping five or more head of sheep or goats; or
- keeping 20 or more poultry.

Coverage : The whole country

Domain : Municipality (753)

Reference Periods:

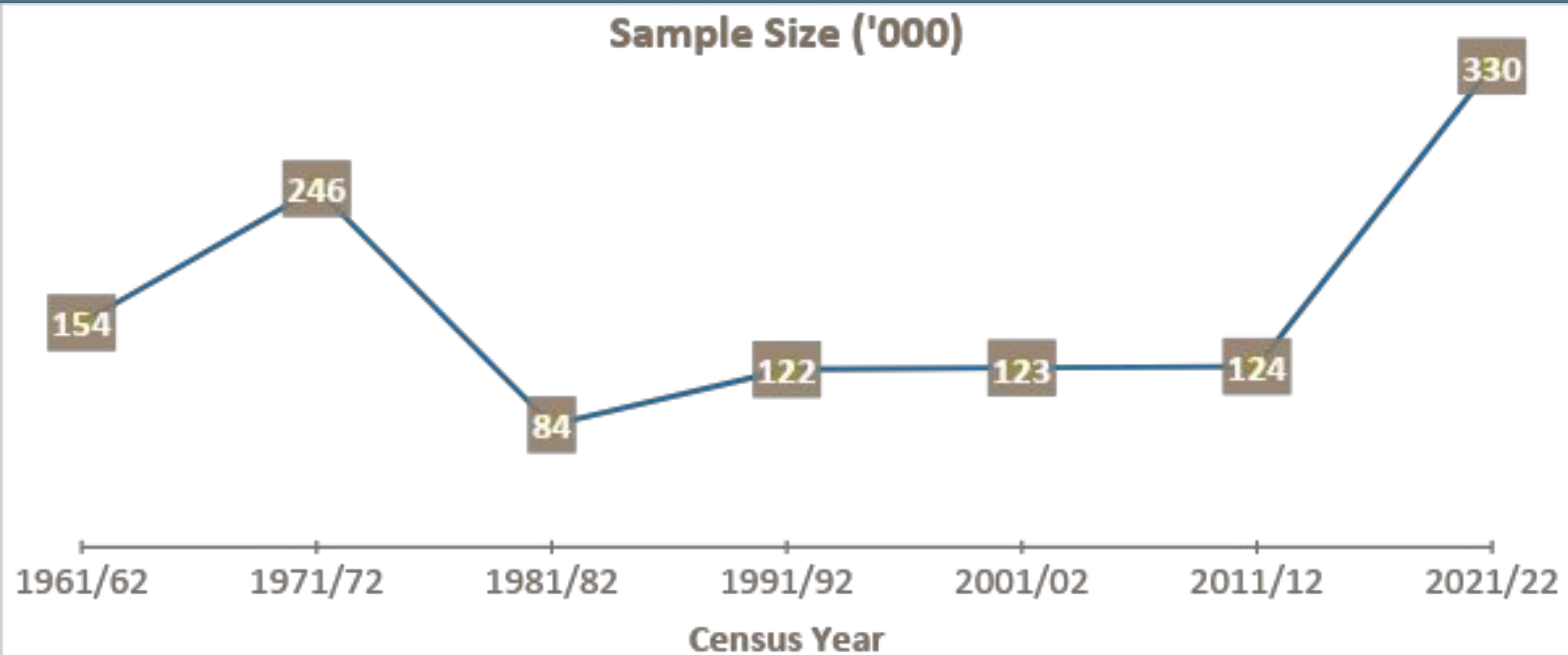
- Calender Year 2021
- The day of Enumeration

Methodology : Classical Approach as recommended in WCA 2020

NSCA 2021/22 Nepal

- 👉 Sample Design : Stratified two-stage sampling
- 👉 Total Sample Size : 330,112
- 👉 Sampling Frame : Listing from Population Census 2021
- 👉 Time for data Collection: 19 April to 2 June, 2022 (45 days)
Enumerators – 5126; Supervisors – 1337 (Agriculture University student)
- 👉 CAPI (3 districts); PAPI (74 districts)
- 👉 Coding/Editing : 50 Coders/Editors (2 & half months to complete)
- 👉 Data Entry : 100 Laptops – 100 Entry Operators (2 & half months to complete)
- 👉 Data Cleaning, Analysis & Report writing – 4 months to complete
 - 16 Reports published in 2023 including Community Report (National/Province/District/Municipal Levels)

Sample Size of Agriculture Censuses



Human Resources in NSCA Nepal

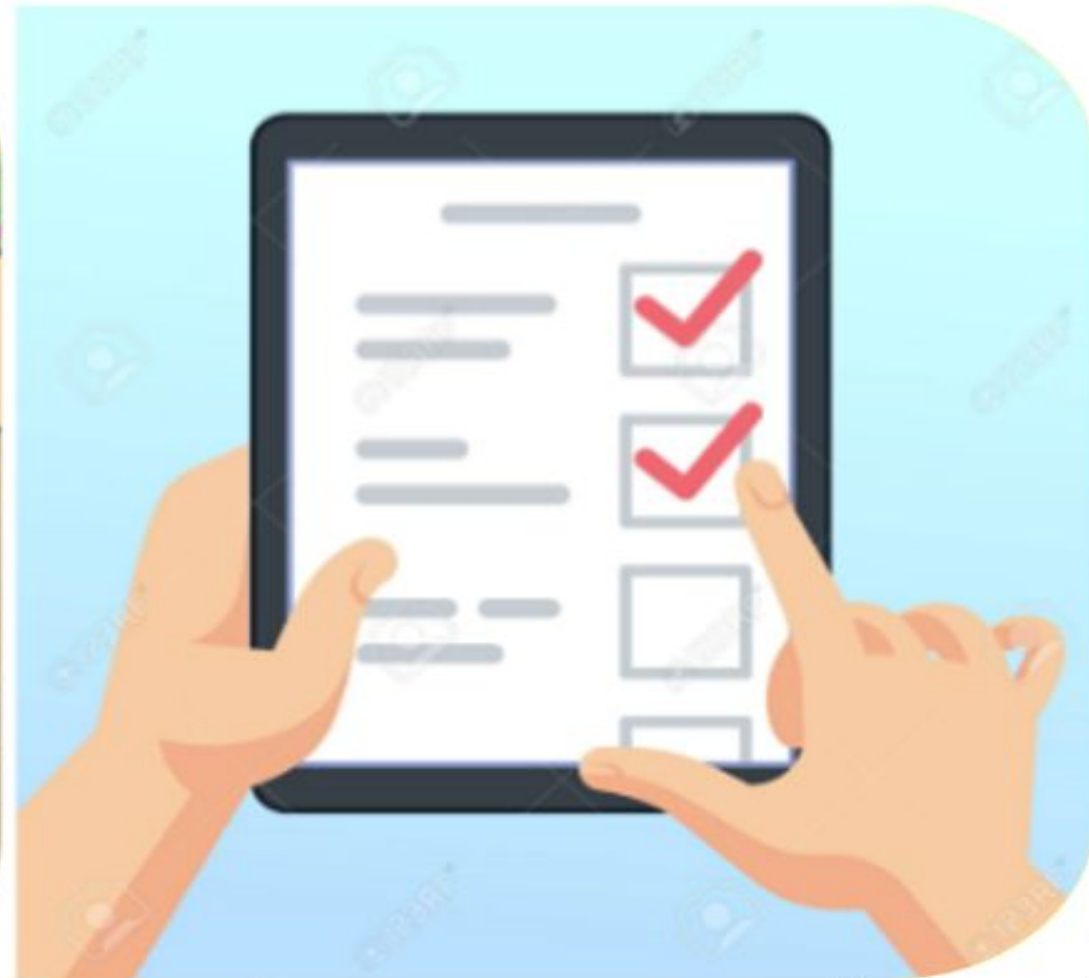
Human Resources in Agriculture Census 1991/92-2021/22



Use of Technology in NSCA 2021/22 Nepal



PAPI in 74 Districts



CAPI in 3 Districts


Use of Technology in NSCA 2021/22: Some Implications in Nepal

CAPI VS PAPI			
Topic	CAPI	PAPI	Remarks
Time Dimension			
Questionnaire Fill-up	56 minute	90 minutes	
Coding/Editing	0	2 and half months	
Entry	0	3 months	
Validation	0	1 months	
Cost Dimension			
Form printing	Rs.5000	Rs.60,00,000	Rs100,000 saved
Tablet Purches (50)	Rs. 9,00,000	0	Old 200 tab used
Coding/Editing	0	Rs.52,00,000	Rs.85,000 saved
Entry	0	Rs.83,00,000	Rs.1,45,000 saved
Validation	0	Rs.2,50,000	Rs.5000 saved
Form Storing + Transport	0	Rs.48,00,000	Rs.1,10,000 saved
Dashboard Monitoring/Field Monitoring	0	Rs.20,00,000	Rs.40,000 saved
Quality Dimension			
Consistency Check	Auto check	2 months manually	Improve quality in CAPI than in PAPI
Questionnaire Completeness	All Completed	Few incomplete required revisit	
Out layers	Instant corrected	Revisit or recall	
Suppervision	32%	15%	
Coding/Editing Error	None (Pre-coded)	Few chances	
Entry Error	None	Few chances	

Use of Technology in NSCA 2021/22

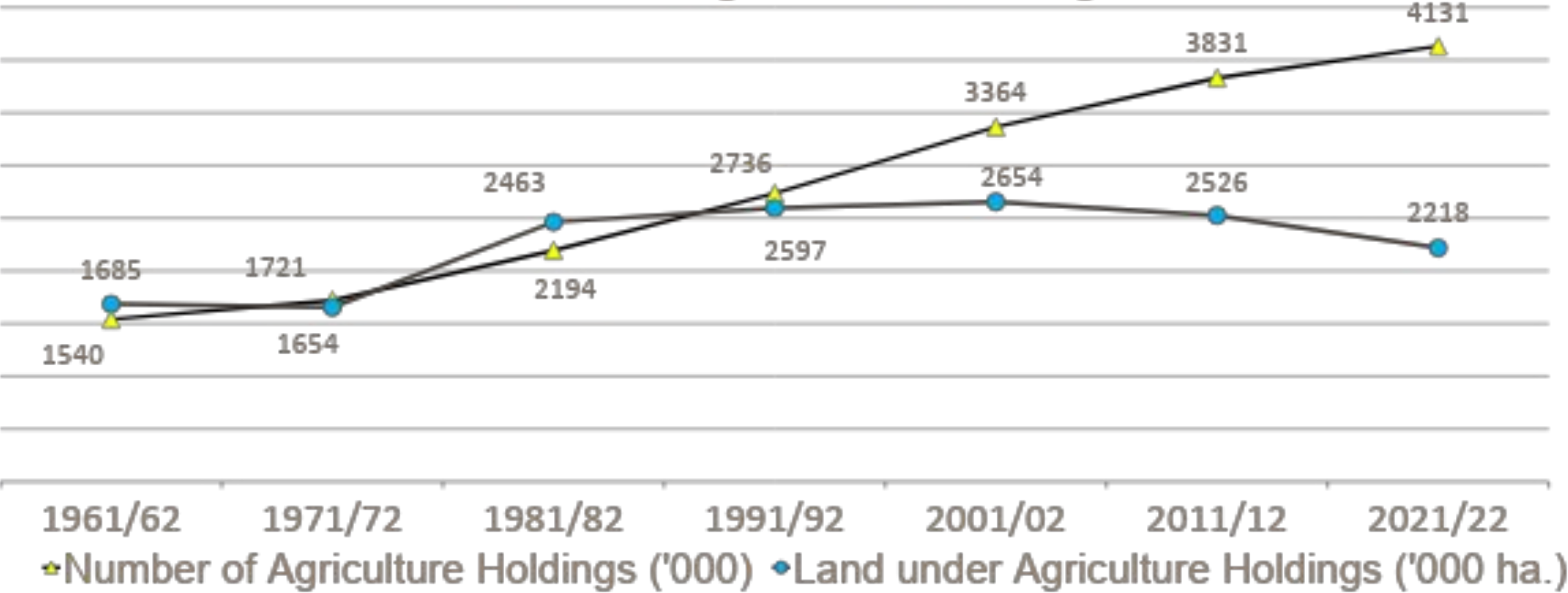
Major Challenges for using CAPI in Nepal

- (a) Budgetary Constraints
- (b) Required enough Technology friendly Enumerator
- (c) Resistance to change
- (d) Required intensive training
- (e) Infrastructure instability

 CAPI involves an initial investment in technology and training, but over time, it can streamline survey processes, reduce errors, and increase efficiency, ultimately becoming cost-effective.

Agriculture Censuses of Nepal : Major Findings

Number & Area of Agriculture Holdings



Major Departure in Agriculture Census of Nepal 2021/22

- A. The NSCA 2021/22 is the first agriculture census after the new constitution in 2015. Data demand/supply up to the Local Government.
- B. Analytical Domain shifting from District (75) to Municipal (753).
- C. Significant Increase in Sample Size : 1,24,000 (2011/12) to 3,30,112 (2021/22)
- D. Use of CAPI in Kathmandu Valley (3 Districts)
- E. More questions on Environment & Gender related Issues
- F. Enumerators and Supervisors : Young Agriculture University Student
- G. Institutional Agriculture Holding treated separately : Census
- H. Report published based on Community Questionnaire

Recommendations of WCA 2020 & Adjustment in NSCA 2021/22 Nepal

Methodological Approach

Classical Approach used

Using the listing of Population Census as a starting point for the frame for the Agriculture Census

Census Items:

A. Essential Items (23): NSCA 2021/22 adopted almost all (except ID 0503 Number of Female breeding animals) essential items.

B. Frame Items (15): NSCA 2021/22 also adopted almost all (except ID 0401 Engagement of household member in fishing activity) frame items.

Recommendations to WCA 2030

- A. Guidelines for measuring reliability of Census data
- B. Clear guidelines for linking Population Census and Agriculture Census
- C. Guidelines for Master Sampling Frame
- D. Re-emphasizing the use of Technology (CAPI, Geo-referencing, Earth Observation)
- E. Propose of Focus Group Discussion for Community Questionnaire
- F. More explanation of demarcation between agriculture holding in the household sector and agriculture holding in non-household sector

Dissemination Strategy of NSCA 2021/22

A. Hardcopy publication & distribution

B. Dissemination workshops

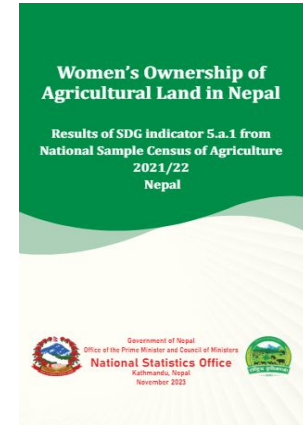
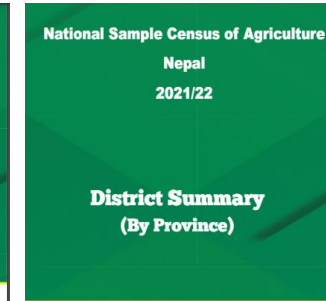
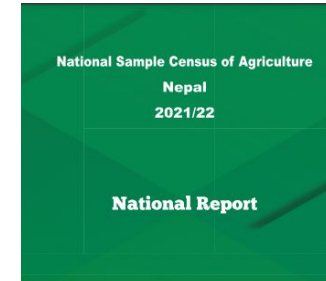
C. Web-dissemination (pdf and excel format)

D. Direct Access to Data NSO Nepal Portal/National Data Profile (NDP)

E. Distribution of data/report in USB

F. Report (Softcopy) sending via email Roster

G. Electronic media like TV program, Talk-show program, Display board



Meta-data of NSCA 2021/22

Meta data is the information about the data (Who, what, why, when, how, where)

- A. Description of Variables in the Reports
- B. “Definition of Term used” mentioned in Enumerator Manual
- C. Meta data available in Micro-data Catalog
- D. Reliability of Data in Technical Report
- E. Data Dictionary

Challenges in Agriculture Census and Solution Implemented

Challenge : Funding Constraint for implementation of comprehensive agriculture initiatives

Solution : FAO regional office helped by technical support

Challenge : Reluctant to provide detail and accurate land information

Solution : Conducted extensive awareness program highlighting its objective of the census and important to themselves

Challenge: Conducting agriculture census immediately after a population census overshadows the important of agriculture census

Solution : Employing multiple mode of communication by TV, Radio, E-Paper, SMS and Local government to reach the respondent and maximize its impact

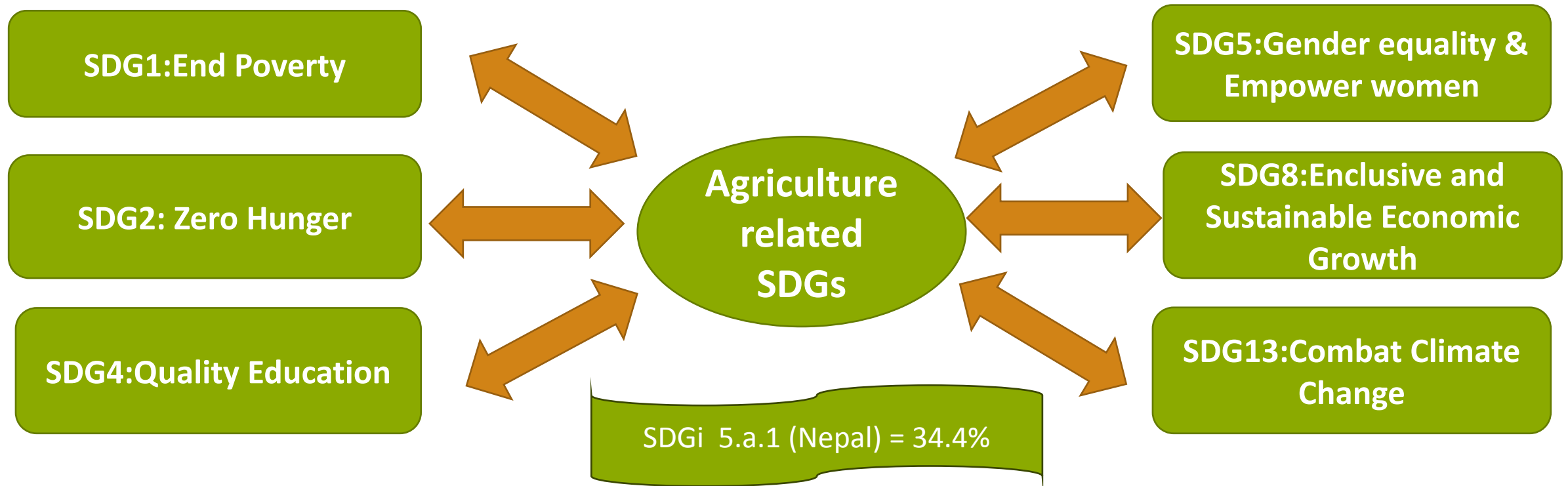
Challenge : Administrative and Management Issues

Solution : National Agriculture Census Operation and Management Order, 2021 approved by the Cabinet of Ministers mandated the establishment of the organizational structure for the Agriculture Census and outlined guidelines for human resource management

The Census of Agriculture and SDGs

The Census of Agriculture is not considered to be a primary source for monitoring the SDGs but has the potential to provide valuable information, particularly in the absence of other data source.

Achieving the agriculture goal is instrumental for achieving several other goals including those concerning absolute poverty, education, health, environment, economic growth and inequality.



Thank you for your attention !

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