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*International recommendations/standards, contemporary technologies and regional cooperation*

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**PART 4b: THEMATIC USE / APPLICATIONS OF CENSUS DATA - AGRICULTURE**

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1. **AGRICULTURE INFORMATION COLLECTION IN POPULATION AND HOUSING CENSUS**

Agriculture production is hugely important to Pacific livelihoods and nutrition, with more than 90% of households in many countries having some dependence on subsistence production.

Emerging data requirements are not only to support policy decisions about the linkage of agriculture to poverty and the environment, but also to monitor how a decision in one area affects the other areas. Agriculture data collected in the population census can be analysed with other variables to help answer these questions. In addition the use of the population census as a sampling frame allows more detailed data to be linked back to census data to understand more complex questions.

1. **DATA USES**

Even minimal agriculture data collected in a population census can provide a basis for policy analysis and planning. However a consistent theme in analysis is the need for more consistent and reliable data. There is a strong need for a range of agriculture related information, based on standardised topics and questions (with appropriate national variation where country needs differ).

* 1. **General policy analysis**

The availability of other socio-economic variables in a population and housing census means that their relationship with agricultural activity can be studied, and multivariate relationships understood. Some examples of where agriculture data is used include:

* Demographic analysis - the agricultural status of a household can help explain fertility differentials. In agricultural households, high fertility is often associated with less poverty, while in non-agricultural households the opposite tends to be the case. These fertility differentials are typically associated with the productive role of family members (children) as unpaid family workers.
* Vulnerability and poverty analysis – how does subsistence agriculture contribute to poverty reduction? What is the relationship between agriculture production and other socioeconomic variables?
* Gender analysis – A range of questions to evaluate the role of women within the agricultural household can be looked at. Questions may include looking at the differences for agricultural households compared to non-agricultural households for:
  + The incidence of unpaid family work by women, boys and girls, by age and gender?
  + The school attendance of boys and girls, by age?

Analysis on these topics is often presented by international agencies using indirect sources; inclusion of the appropriate questions in a census, and in-depth analysis of the source data can avoid incorrect assumptions.

* 1. **Development planning**

Development planning for Pacific countries needs to include an assessment of the contribution of subsistence agriculture and how that can be developed. With the limited range of other agriculture information available census data provides at least a benchmark for the extent of subsistence production, and can help provide information on the distribution and types of subsistence agriculture. Many development plans use the census agriculture information, such as the FSM Strategic Development Plan 2004-2023. Inclusion of the appropriate agriculture questions in the population census allows monitoring of indicators such as “Increased level of subsistence agriculture moving towards semi commercial status” from the Samoa Development Strategy 2012-2016.

* 1. **Household listings for sample frames**

Probably the widest use of agriculture data from the population census is as a frame for further agriculture censuses or surveys. Either the listing of households, and enumeration areas can provide a basis for the frame. Some examples include:

* The 2009 Fiji Agriculture Census used a Multiple Sample frame with a list frame combined with a stratification according to estimated agricultural intensity in the Fiji Islands Bureau of Statistics (FIBOS) Enumeration Areas (EAs) as used in the Population Census of 2007.
* The Samoa 2015 Agriculture Survey has been designed using the 2011 Population Census. Large livestock holdings were sampled directly based on number of cattle and number of pigs from the census. The remaining households were the sampled from the population census frame.
* The Cook Islands 2011 Census of Agriculture was carried out jointly with the Census of Population and Dwellings. Both censuses used the statistical Enumeration Area for the allocation of households and work areas. In each Census District, the Census of Population and Dwellings was first conducted. The list of households engaged in agriculture and fishing in each Enumeration Area was then passed to the Census of Agriculture team which then visited these households.

Updating of listings carried out in an agriculture census or survey should assist in updating the Census household listing.

1. **PREPARING FOR THE NEXT POPULATION AND HOUSING CENSUS**

Many Pacific countries have included agriculture (and fisheries) – related items in previous censuses. In that case, the aim for the next census is to assess whether they need to be improved and whether there is scope for extension of the coverage of agriculture.

* 1. **FAO Recommendations for Basic Agriculture data in Population and Housing Censuses**

It is recommended to merely identify whether the household is a farm household in the population and housing census, but not to collect holding details. The minimum agricultural module for including in the population and housing census, at the household level, has to provide information with which to construct an effective and up-to-date frame for agricultural censuses and surveys, as follows:

* Item A1. Whether the household is engaged in any form of own-account agricultural production (including livestock, fishery, aquaculture or forestry).
* Item A2. The area of land (or number of plots) used for agricultural purposes[[1]](#footnote-1).

Wording questions to collect this information depends on what the respondents will be able to answer.

* 1. **Extended Agricultural data**

There are different approaches a country can take to select items for an extended agricultural module to collect data in the population and housing census (PHC):

* collection of basic identifiers;
* limited selection of extended items;
* a full list of extended items.

The choice of which approach to adopt will depend on whether a country has the possibility to conduct a full agricultural census following the population and housing census. In most Pacific countries there is little capacity for an extensive programme of surveys and censuses dedicated to agriculture, but there are occasional agriculture censuses or surveys in many countries. Integration at some level is therefore important to provide a base of consistent data. A set of extended items and appropriate questions could be developed for the Pacific.

* 1. **Integrated Census Options**

The extent of integration of agricultural and population and housing censuses can vary and depends on several factors:

* existing burden on population census;
* possibility of the country to conduct an agricultural census following the PHC;
* previous experience collecting agricultural items in the PHC;
* funding availability for the agricultural census; and
* structure of the agriculture sector.

Carrying out a full agriculture census at the same time as a population and housing census may save time and costs overall, but is a costly exercise at the time. Cook Islands experience may provide a guide as to whether it is feasible for other countries.

An extended set of items allows for both a minimum amount of data to be collected and more use of the population census to be used as a frame for other agriculture surveys, reducing their costs. Consistent reporting of the same questions across surveys provides more time series points for monitoring change.

Attached to this paper is a list of the FAO World Census of Agriculture recommended items and comments on which items are suitable for inclusion in a population census (from the FAO e-learning course material). A subset of these may be most relevant in the Pacific context.

A Pacific regional strategy for agriculture statistics, supporting the Ten-Year Pacific Statistics Strategy, is also a possibility.

1. **RESOURCES**

FAO Guidelines for linking population and housing censuses with agricultural censuses, 2012 <http://www.fao.org/docrep/015/i2680e/i2680e.pdf>

FAO e-learning course released May 2015

<http://www.fao.org/elearning/#/elc/en/course/STAT>

**APPENDIX: LINKING POPULATION AND HOUSING CENSUSES WITH AGRICULTURAL CENSUSES (Source: e-learning course)**

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| **Agricultural Census frame items (WCA Recommendations)** | **Items for an Extended agricultural module in the Population and Housing Census** | **Notes** |
| Identification and location of holding | Item 1: Not recommended for collection in PHC. The farm household’s location should be identified | In many cases this is, nevertheless, often the same. |
| Main purpose of production of the holding. Number of land parcels | Item 2: Main purpose of production |  |
| Other economic activities of the holding enterprise | Not recommended for collection. | Sometimes an agricultural holding may be engaged in production activities in addition to agricultural production. The focus in the PHC should be on the agricultural activities as data is already collected in the PHC on the work activities of the household. |
| Main purpose of production from the holding. Number of land parcels | Item 3: Main purpose of production |  |
| Total area of the holding | A measure of farm size is one of the recommended basic items. |  |
| Presence of irrigation on the holding | Item 4: Presence of irrigation |  |
| Types of temporary crops on the holding | Item 5: Types of temporary crops grown | The main crops listed should not be too numerous (usually no more than 6). |
| Types of permanent crops on the holding and whether in compact plantations | Item 6:Types of permanent crops grown and whether in compact plantations | The main crops listed should not be too numerous (usually no more than 6). |

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| Presence of nurseries | Not recommended for collection | The WCA 2020 has introduced new frame items which can be collected by countries conducting the modular approach to the agricultural census. For some countries frame items have been collected as part of the PHC rather than collecting a separate core module of the agricultural census.  These items are more generally relevant to larger commercial farms and are intended to provide a frame for specialized supplementary surveys. As such they have not been identified for collection in the PHC. |
| Presence of cropped land under protective cover | Not recommended for collection |
| Number of animals (for each livestock type) | Item 7: Number of animals for each livestock type |  |
| Use of genetically modified crops | Not recommended for collection | These frame items are primarily of interest for agro- environmental purposes. As such this is considered to be too specialized for collection during the PHC. |
| Presence of aquaculture on the holding | Item 08: Presence of aquaculture | According to ISIC 4.0, agriculture and aquaculture are separate economic activities, and aquaculture falls outside the scope of agriculture. However, they may be closely related as many holdings conduct both agricultural and aquacultural activities. Countries have therefore collected aquacultural data on the holding as part of the agricultural census or have conducted a joint agricultural and aquacultural census. This idea is elaborated further in the WCA 2020. |
| Presence of woodland on the holding | Item 09: Presence of forest and other wooded land |  |
| Presence of agro-forestry | Not recommended for collection |  |
| Engagement in own-account capture fisheries | Item 10: Engagement in own- account capture fisheries | Under ISIC 4.0 definition of agriculture, capture fisheries is not part of the definition of agriculture. However, this item is relevant for countries where small scale capture fisheries at household level is important, who may conduct an agriculture census with a wider scope. |

1. These two Items are the basic items, as outlined in the 2015 e-learning course. The recommended items in the 2012 Guidelines publication include whether livestock is kept and whether Fishing or aquaculture is carried out. [↑](#footnote-ref-1)