

PROJECT	: DEVELOPMENT OF SAMPLING FRAME FOR THE 2002 CENSUS OF AGRICULTURE AND FISHERIES (CAF)
STARTING DATE	: FEBRUARY 2002
TERMINAL DATE	: OCTOBER 2002
LEAD AGENCY	: NATIONAL STATISTICS OFFICE
COOPERATING AGENCIES	: BUREAU OF AGRICULTURAL STATISTICS : STATISTICAL RESEARCH AND TRAINING CENTER
BUDGET	: P641,000.00

BRIEF DESCRIPTION:

This project is geared towards the development of a sampling frame for the 2002 Census of Agriculture and Fisheries (CAF). It shall entail the validation of the various information that are available for the construction of a sampling frame.

BACKGROUND/RATIONALE:

The CAF is a large-scale government undertaking geared towards the collection and compilation of statistics on the nation's agriculture and fisheries sectors. As the usual practice for agricultural censuses, the CAF 2002 shall adopt a sample census rather than a complete enumeration. This means that quality agricultural sampling frame must be available to be able to conduct the CAF.

For CAF 2002, the possible sources of available information for the construction of an agricultural census frame are listed below:

- Statistical data of previous agricultural censuses.
- Cartographic materials from the Bureau of Soil and Water Management on which the land to be included can be visualized. These include Strategic Agricultural and Fisheries Development Zone (SAFDZ) maps by municipality and barangay, slope and land use maps by municipality. These maps give a detailed and up-to-date picture of the land and can provide useful information on land use. More specifically, the SAFDZ maps can be used to identify the agricultural lands and fishing areas while the land use maps show the actual and possible uses of land, including agricultural areas, grassland/shrubland, woodland areas, wetland areas and miscellaneous areas.
- The Barangay Screening Survey (BSS) of the Bureau of Agricultural Statistics (BAS) which may be able to provide the estimated number of farm and fishing households, farm area and number of livestock and poultry in each barangay, among others.
- List of Establishments, maintained by the Industry and Trade Statistics Department, which include agricultural holdings that are not directly associated with the holders' households, such as large plantations and cooperatives as well as commercial fishing establishments.
- The 1997 Listing of Aquafarms conducted by BAS, which is a listing of operators of brackishwater fishponds, freshwater fishponds, freshwater

fishpens, freshwater fishcages, marine fishpens, marine fishcages, oyster farms, mussel farms and hatcheries.

- Lists of Commercial Fish Landing Centers and Municipal Fish Landing Centers by province that were last updated by BAS in September 2000.
- Registers and other administrative data such as list of land area of barangays devoted to agriculture, list of coastal barangays, list of fishpond lease agreements duly issued by the Department of Agriculture, list of fishpond/fishpen/ fishcage operators and list of persons/entities issued license for boats. These include holders' addresses or location of fishpond/fishpen/ fishcage.

The information contained in each of these sources should be evaluated to be able to come up with an appropriate sampling frame, one that covers all holdings and fishing operators and allow for providing suitable sampling units.

For instance, the quality of data from the BSS should be evaluated. Considering that the respondents for this survey are key informants, and not farm household operators, it is important to determine which of the data are accurate and useful. It should also be noted that highly urbanized barangays are pre-excluded in the BSS and that reference period and questionnaire varies from one region to another. The latter resulted from the BSS being conducted on a staggered basis. In the same manner, data are in Lotus spreadsheets and datafile structures are not uniform across provinces.

To determine the extent of the usefulness of the BSS data, these shall be validated with CPH, CAF and other available data.

OBJECTIVE:

The study is envisioned to come up with a reliable sampling frame for the CAF 2002 by evaluating available sources of information.

ACTIVITY	MILESTONE	TIMETABLE
A. PRELIMINARY ACTIVITIES <ul style="list-style-type: none"> • Organization of the project staff • Meeting for the preliminary activities • Review of BSS questionnaire • Identification of limitations of data (data structure and reference period not uniform across provinces, etc.) • Comparison of concepts used in BSS with other data • Gathering of related data as possible sources of CAF Sampling Frame (listing of landing centers, listing of aquafarms, FLAs, etc.) 	<ul style="list-style-type: none"> • Office Order • Terms of Reference • Report on limitations of data and concepts used • Data for the frame 	Feb – March
B. PROCESSING OF BARANGAY SCREENING SURVEY (BSS) <ul style="list-style-type: none"> • Processing of BSS data for the six (6) pilot provinces (Nueva Ecija, Benguet, Antique, Southern Leyte, Davao del Norte and Zamboanga del Norte) • Processing of BSS data for the rest of the provinces 	<ul style="list-style-type: none"> • Processed BSS data 	Mar – April
C. VALIDATION <ul style="list-style-type: none"> • Validation of selected areas (6 pilot provinces) <ul style="list-style-type: none"> ➢ Generation of tables of selected CPH and CAF data ➢ Evaluation • Validation of the rest of the provinces <ul style="list-style-type: none"> ➢ Generation of tables of selected CPH and CAF data ➢ Evaluation • Comparison with other data sources like maps (GIS/aerial/parcelary maps, etc.); total farm area from LGUs; list of coastal barangays; listing of landing 	<ul style="list-style-type: none"> • Framework for the validation • Report on evaluation 	Mar – July

ACTIVITY	MILESTONE	TIMETABLE
centers, aquafarms, FLAs, etc.		
D. DEVELOPMENT OF SAMPLING FRAME <ul style="list-style-type: none"> Development of sampling frame for CA Development of sampling frame for CF 	<ul style="list-style-type: none"> Different options for sampling frame Recommendations of the project 	May – August
E. REPORT WRITING	Final report	Aug – Oct

In order to provide the over-all direction on the project activities, the Project Review Committee (PRC) was created. To assist the PRC on its decisions, the Project Management Committee (PMC) was likewise organized. The PMC also undertook data gathering, processing, and preliminary evaluation of results needed in the development of sampling frame.

PROJECT REVIEW COMMITTEE

Chairperson: Carmelita N. Ericta, NSO
Vice-Chairperson: Romeo S. Recide, BAS
Members: Paula Monina G. Collado, NSO
Jose Ramon G. Albert, SRTC
Arturo Y. Pacificador, Jr., UPLB
Josie B. Perez, NSO
Mercedita E. Tia, NSO
Magdalena T. Serqueña, NSO
Consultants: Isidro P. David
Nelia R. Marquez

PROJECT TEAM

Project Leader: Paula Monina G. Collado, NSO
Assist. Project Leader: Mercedita E. Tia, NSO
Senior Statistician: Magdalena T. Serqueña, NSO
Statisticians: Vincent Olaivar, NSO
Gerardo O. Taguibolos, NSO
Guillermo M. Lipio, Jr., NSO
Winifredo Amandy, BAS
Minda Mangabat, BAS
Nenita Yanson, BAS
Cynthia Vallesteros, BAS
Research Assistant: Percival A. Salting, NSO
Administrative Support: Flor Candelaria Rizalina Aguilar
Jeaneth Alcaraz Socorro Constantino
Lily Elegue

Frame 6.1 Composition of the Project Review Committee and the Project Team

HIGHLIGHTS OF THE PROJECT REVIEW COMMITTEE MEETINGS

A. FIRST PRC MEETING

The first PRC meeting was held on May 8, 2002 with the following accomplishments:

- a. Discussion of the Terms of Reference;
- b. Presentation and discussion of inventory of data sources for the sampling frame;
- c. Presentation of the status of the sampling frame; and
- d. Presentation and discussion on the sampling design options.

The highlights of the meeting were as follows:

- Physical inventory of the maps (i.e., Strategic Agricultural and Fisheries Development Zones – SAFDZ) of the Bureau of Soil and Water Management as source of information was made;
- Inquiries on agricultural data from banks (Bank of Philippines Islands, Land Bank of the Philippines, etc.) were also made but data inquired were either confidential or not available;
- Inquiries on the land use data from the National Mapping and Resource Information Authority and land conversion data from the Department of Environment and Natural Resources and Department of Agrarian Reform were also made but requested data were unavailable;
- Use of barangay farm area and municipal area from Land Management Bureau (LMB) for evaluation of farm area was done;
- The use of 1991 CAF pilot provinces for evaluating different sampling options was considered;
- Determination of total number of operators engaged in fishing based on the 2000 Census of Population and Housing should be done; and
- Preparation of cost estimates for the separate operation of CA and CF should be done.

B. SECOND PRC MEETING

Almost two weeks after the 1st PRC meeting, the 2nd meeting was held on May 21, 2002. Discussed during the meeting were the following:

- a. Highlights of the first meeting;
- b. Dr. Pacificador's frame for agriculture;
- c. Total farm area versus total area by municipality;
- d. Distribution of fishing households for 20 provinces based on the 2000 Census of Population and Housing; and
- e. Sampling options based on the 1st PRC meeting.

The highlights of the meeting were the following:

- The difficulty of using SAFDZ maps and unavailability of agricultural information from banks and other sources were noted;
- It was agreed that using SAFDZ maps to validate BSS data and field office data would be discontinued because the exercise was very subjective and time consuming. Moreover, some of the agricultural areas identified were not the actual but only potential;
- Dr. Pacificador was not able to present his frame for agriculture because the data needed further processing. His study recommended the adoption of different sampling options using the 1991 CAF pilot provinces to generate and evaluate the gain in precision;
- Evaluation of the total farm area (from 1991 CAF, 2001 NSO field update and BSS) and total area by municipality (from the LMB) led to the decision to check the coverage of cadastral survey of LMB;
- Determination of percent of fishing households per municipality per province based on the BSS using 5%, 10% and 15% cut-off would be made;
- Other sampling options such as the one for hard-to-reach barangays were given consideration;
- Choice of domain was raised. Decision for the choice would largely depend on the budget and other factors such as the needs of users; and
- Evaluation of CAF against CA and CF in terms of operation, costs, manpower, sampling frame and design and the adjustments needed to accommodate the separation of CA and CF was made.

C. THIRD PRC MEETING

The following were discussed during the third PRC meeting held on June 3, 2002.

- a. Highlights of the 2nd PRC meeting;
- b. Dr. Pacificador's frame for agriculture;
- c. Distribution of fishing households per municipality based on BSS;
- d. Status of BSS data processing; and
- e. Budget for CA and CF

Important highlights of the meeting were as follows:

- It was noted that cadastral surveys may cover titled lands only;
- Reiteration on the agreement to discontinue using SAFDZ maps to validate BSS data and field office data because the exercise was very subjective and time consuming;
- Important findings of Dr. Pacificador's frame for agriculture such as the correlation of the total farm area to population for selected provinces (Bukidnon and Marinduque) led to the decision that the 1991 CAF non-sample barangays would use population as ordering variable;
- Finalization of sampling design for agriculture will be done by Dr. Pacificador;

- Conduct of pretest to try the new listing procedure of CA should be made;
- Preparation of the complete listing of barangays with at least one fishing household for all provinces was completed for 21 provinces and on-going for the rest of the provinces;
- Problems of BSS data such as those needing further processing were identified;
- Adjustment in the budget for CA and CF based on the revised percentage of barangays with at least one fishing household will be made; and
- It was decided that hard-to-reach barangays will not form a separate stratum. This would mean that these barangays will be listed with the rest of the barangays with the same probability of selection;

D. FOURTH PRC MEETING

The 4th PRC meeting was held on July 17, 2002 with the following agenda:

- a. Highlights of the 3rd PRC meeting;
- b. Finalization of sampling design for CA by Dr. Pacificador;
- c. Sample barangays for agriculture;
- d. Definition of concepts used in CAF;
- e. Distribution of fishing households per municipality based on BSS;
- f. Sample barangays for fisheries;
- g. BSS data; and
- h. Budget for CA and CF.

Highlights of the meeting were as follows:

- Comments were elicited on the worksheet for the selection of sample barangays for agriculture. It was recommended to try other approach for consideration, i.e., appropriate treatment for highly urbanized areas and for very small provinces;
- Drawing of sample barangays for CA (at 50% sample size) was done for all provinces;
- Comparative table of definition of census concepts used by NSO, BAS and other agencies should be prepared;
- Finalization of data items for CA and CF and preparation of list of data items *vis-à-vis* their uses and agency requesting/users should also be made;
- Final decision to separate the conduct of CA and CF was made;
- Sampling design for CA and CF should be finalized; and
- Evaluation of budget for CAF 2002 in comparison with 1991 CAF should be made.

E. FIFTH PRC MEETING

Discussed in the 5th PRC meeting held on August 20, 2002 were the following:

- a. Highlights of the 4th PRC meeting;
- b. Budget of CA and CF by options;
- c. Data items for CA and CF;
- d. Comparison of census concepts and definitions used by NSO, BAS and other agencies;
- e. Status of BSS data processing; and
- f. Selected farm characteristics based on 1991 CAF and past censuses.

Significant highlights of the meeting were as follows:

- Evaluation of budget of CA and CF *vis-à-vis* the activities and corresponding costs was made;
- Redrawing of sample barangays for CA (at 25% sample size) was done in consonance with the reduction in the total CAF budget from P1.307 billion to P777.591 million;
- Preparation of the complete listing of barangays with at least one fishing household for all provinces was completed for 51 provinces and on-going for the rest of the provinces;
- Data items included in CA and CF were finalized;
- Findings in the comparison of census concepts and definitions used by NSO, BAS and other agencies were noted;
- Close coordination and follow-up of NSO with BAS regarding BSS data processing was made; and
- Sampling design for CA and CF should be finalized.

F. SIXTH PRC MEETING

The following matters were discussed in the 6th PRC meeting held on October 7, 2002:

- a. Highlights of the 5th PRC meeting;
- b. CA sampling design and distribution of CA sample barangays;
- c. CF sampling procedures;
- d. Status of drawing sample barangays for CF;
- e. Final census forms; and
- f. Timetable of activities

Major highlights of the meeting were as follows:

- Sampling design for CA was finalized and different options for CF were considered;
- Agreement on the listing operation for CF sample barangays to be done simultaneously with the listing and enumeration for CA sample barangays; and
- Census data items were finalized.