

THE IMPORTANCE, COMPONENTS, AND METHODS OF COLLECTING COMMUNITY LEVEL STATISTICS

OH HEUNG-KEUN*

I. The Importance of Community Level Statistics

1. Definition of Community Level Statistics

Community Level Statistics (CLS) refers to the data base of information pertaining to the livelihood of the members of a particular village or locality. This information is systematically gathered by members of the community, usually through the use of questionnaires. It is to be differentiated from National Level Statistics (NLS) which is conducted by government institutions at the macro level.

2. Basic Objective of CLS

The ultimate aim of CLS is to attain overall socio-economic development in a developing country. The more immediate objective is the improvement of the quality of life at the community level by systematically increasing the opportunities of the people for productive employment and for meaningful participation in the economic and social decisions that affect their lives. It is assumed that the collection and analysis of CLS data is necessary for formulating development plans for the improvement of living standards of all people at the village or locality level, in particular, the rural poor. Provisions are also made for the monitoring and evaluation of development projects and programs.

3. The Philosophy Underlying the Gathering of CLS

The goal of national development may be approached in two different ways. The "top-down" approach allows the government and other national bodies to plan and institute development projects. The benefit arising from these projects is then believed to trickle down to the local community level resulting in complete national development.

On the other hand, the "bottom-up" approach is the exact opposite. The planning, execution and monitoring of development projects occur

* FAO Regional Statistician for Asia and Pacific, Bangkok, Thailand.

at the community level. With development occurring at this level, the nation benefits as a whole.

Decades of experience of the developing countries has shown that the top-down approach alone cannot achieve all the desired goals leading to national development. However, exclusive adoption of a bottom up approach may not necessarily take into account national priorities and constraints on the availability of resources. A combination of the two should provide a reasonable answer to the problems of development planning of a developing country. It should be of most benefit to particularly disadvantaged groups, such as the rural poor who may have little influence on national policy.

CLS is basically a bottom-up approach. An essential ingredient in this method is the involvement of the people at the village or locality level in the collection, compilation and analysis of statistical information which would be of use in improving the lot of the rural poor. People at the grass-roots level will also participate in project planning, formulation and implementation as well as in the monitoring and evaluation.

CLS focuses on the plight of the rural poor by identifying disadvantaged groups of people, examining the available resources in relation to the felt needs of these people, and designing policies and programmes to alleviate their conditions. The community as a whole becomes aware of the needs and problems of these people.

It is important that the community level statistics be available to the people supposed to undertake the planning exercises. Otherwise, there is the danger that project planning may become dominated by vested or powerful interests at higher levels.

4. The Importance of CLS

Several important functions are fulfilled by CLS and its use in community development. Although some of these are inter-related, six specific functions are listed below:

1) CLS serves as an integrating factor within the community.

This happens because of the involvement of members of the community in data collection and project execution. The people see for themselves the results of development efforts in agricultural infrastructure, education, health and the fulfillment of basic needs. The community effort serves as an impetus for local cooperation and development.

2) Some of the emphasis on urban development is channelled to the rural areas.

Because it is a "bottom-up" approach, some of the bias towards urban development may be corrected by drawing attention to the needs of rural communities. Thus, people in the countryside may receive the development efforts they deserve.

3) CLS serves as a medium for community feedback.

A vital function of CLS is to see to it that information on the people's aspirations, needs and grievances reaches the proper authorities. Because this feedback occurs at the local level, it is also immediate and less likely to become outdated as in the case of NLS. CLS thus serves as a feedback system aiding optimal development.

4) People are trained in understanding their own problems.

CLS increases the community's knowledge about itself. The people at the grassroots level are involved in the formulation, development and monitoring of development plans.

The collection and analysis of statistics by the people themselves would lead to the proper understanding of the socio-economic structure of their community. This would immediately indicate weak spots and households or persons most disadvantaged. Thus, if credit is to be provided to cottage industries, the community would be able to judge the credit requirements of individual cottage industry establishments in a satisfactory manner. This would lead to a more equitable distribution of credit than if performed by an outside agency.

People are thus trained to understand their own problems as a community. They may learn from the experiences of other communities. If certain mistakes are made, they should also be able to hold the concerned government agencies accountable.

People within the community should develop the capability for generating CLS on a sustained basis and be trained in the proper use of these statistics in development projects.

5) CLS can complement the NLS.

Statistics gathered at the community level can complement those gathered at the national level. The advantage of NLS is that it is professionally managed and caters to the requirements of national policies and goals of development. However, the concern of NLS is planning at the national or regional level without the much-needed consideration of the village or locality level.

There are four specific ways NLS can benefit from CLS:

a) NLS is gathered using censuses conducted at long intervals. The information is not easily updated within the period required for specific projects. In countries characterized by rapid changes in economic patterns partly due to conscious efforts of the government or by other external factors, outdated statistics are not very useful. CLS provides more current information of more immediate use.

b) CLS is probably more accurate. Because the statistics are gathered by people within the community, they are more likely to detect errors in the data that outsiders would not. CLS can correct these errors for use at higher levels.

c) CLS may be incorporated into NLS. The CLS system can collect vast amounts of information which, although not directly useful to the

community itself, can also be made available to the NLS. The CLS can, in due time, actually collect some of the micro-level statistics to be incorporated in the NLS for use by a national organization. Thus, CLS statistics could improve the national statistical agencies by widening their statistical scope. Standardized concepts, formats and definitions will be required in order that statistics of different communities may be comparable.

d) CLS can influence the NLS organizations in determining proper priorities in the collection of statistics most relevant to the economy. An overwhelming demand for certain types of statistics arising at the community level may indicate their priority at the national level.

6) CLS is used in the formulation of community development plans.

The CLS is not just a source of basic information at the community level. It is more importantly regarded as a tool for a plan of action from which development projects may be formulated. Projects based on CLS generally aim at the following types of community level activities:

a) the improvement of the community's infrastructure facilities and service delivery system—This includes such facilities as roads, irrigation canals, schools, markets and telephone systems;

b) the creation of employment or the augmentation of income;

c) the conservation of the natural resource base, e.g. by reforestation or by the construction of fish ponds;

d) the integration of the community into major national or sub-national programmes for infrastructural or area development, such as large scale irrigation or livestock development programmes.

5. An Example of the Application of CLS

The potential application of CLS may be illustrated using a hypothetical example. Suppose two communities reported progress in cottage industry activities. One of them (Community A) had outstanding progress, and the other (Community B) had very slow progress. The following information on the two communities was collected:

If we analyze the above example, we can see that availability of raw materials, communication facilities and training facilities are the same in both A and B. Credit facilities are available in B but not in A. Therefore, credit may not be an important factor in the cottage industry. Marketing

	Community A		Community B	
	yes	no	yes	no
1. raw materials available?	×		×	
2. marketing facilities	×			×
3. training facilities	×		×	
4. credit facilities		×	×	
5. communication facilities	×		×	
6. cooperative for cottage industry	×			×

facilities and cooperatives are available in A, but not in B.

On the basis of these observations, we may reasonably conclude that it is the absence of marketing facilities and/or cooperatives that is the reason for the slow progress in Community B.

6. Disadvantages of CLS

Having dealt at length with the advantages arising from the collection and use of CLS, we must turn to some of the problems that may arise. Thus, it is possible to come up with a development plan that may be good for the community but may not be consonant with national policies.

1) The NLS system will play a smaller role. It will be limited to the statistical auditing and tabulation of data at the national level.

2) The awareness of communities, through statistics, of their position in a group of localities might create friction and rivalries in several areas or groups of people.

3) Although it is probably more accurate than the NLS, the CLS will also suffer from inaccuracy or unreliability in its initial stages. Enumerators recruited from villages and localities may not be trained in standardized concepts and definitions. They may be indifferent or may not have effective supervision. The methodology may be somewhat crude. All these will contribute to some degree of inaccuracy and users of CLS must be aware of its limitations.

II. What Statistics to Collect for CLS

1. General Description of Information Required

The information required to form a CLS data base falls into three general categories:

- 1) a description of the geographic environment;
- 2) the population and demography characteristics;
- 3) socio-economic data.

This information is extensive and ranges from crop area and production, agricultural holdings, livestock and poultry production, fisheries, non-agricultural productive activities, health and nutrition, family planning, education, housing and the standard of living as revealed by prices, wages, assets and liabilities.

Non-recorded information such as money lending by private individuals, black marketing, smuggling or the trading of contraband goods may also be of paramount importance. Information of this nature is more easily obtained at the locality rather than regional or national levels.

2. Use of CLS Statistics

It must be stressed again that the CLS information system can have two important functions. It may be used in the formulation of projects or in the monitoring and evaluation of those projects. The nature of the data will be the same, but they will serve two distinct functions. Data on project formulation will serve to indicate the bench mark or base line situation of the community prior to the implementation of the development project. Data gathered during the monitoring and evaluation phase must measure changes induced by the implementation of the project. This data will not only help in maintaining a satisfactory rate of progress, but may also be used in adjusting or re-defining project targets in the light of problems incurred during its implementation. The data system should be sensitive enough to reflect imbalances in different segments of the project so prompt and appropriate corrective action may be taken.

3. Variations in the Data Required

Data requirements may vary from country to country and even between different parts within a country. The ability of the community people to collect the statistics themselves would differ from area to area depending on their motivation and such factors as poverty or literacy. A complete set of standardized formats may not be possible for use in all countries. It is, however, possible to suggest standard types of information which could have universal application following slight modifications.

4. Household versus Community Statistics

The actual statistical information to be gathered may be classified into two general groups: that pertaining to the individual household within the village, and that on the village or locality as a whole. The household statistics will focus on such factors as family size and employment. Those relevant to the locality as a whole will be concerned with such factors as the availability of health and educational establishments within the community. Some of the information gathered at the household level may be accumulated for relevant locality statistics.

5. Household Statistics

A. General Information

- 1) name of head of the household
- 2) father's/husband's name
- 3) household size
 - a) adult (i.e. over 18) males
 - b) adult females
 - c) other male children

- d) other female children

B. Characteristics of Members

Each member of the household should be characterized as follows:

- 1) name
- 2) sex
- 3) age
- 4) relation to the head (including in-laws, domestic help, etc.)
- 5) marital status
- 6) literate or illiterate
- 7) educational attainment
- 8) occupation
 - a) main occupation
 - b) secondary occupation
- 9) other forms of livelihood (e.g. rent collection)

C. Characteristics of Housing and Sanitary Facilities

- 1) area of the house
- 2) owned/rented
- 3) roof
 - a) thatched
 - b) galvanized/tin
 - c) bricks
- 4) floor
 - a) mud
 - b) bamboo/wood
 - c) concrete
- 5) walls
 - a) mud
 - b) thatched
 - c) bamboo/wood
 - d) concrete
- 6) electricity supply
- 7) drinking water
 - a) tubewell
 - b) tank
 - c) river or spring
 - d) average distance to water source
- 8) latrine
 - a) none
 - b) pit or open type
 - c) watersealed

D. Land Owned and Area Cultivated

- 1) total area including the homestead owned
- 2) owned area given to others on any basis
- 3) owned area self-operated
- 4) area rented to others
 - a) for an agreed amount of money/produce
 - b) for a share of produce
 - c) in exchange for services
- 5) area operated on squatter basis

E. Land Utilization (by area)

- 1) arable land
 - a) area under temporary crops—this includes all land used for crops with a growing cycle of under one year and crops grown in rotation before ploughing;
 - b) area under temporary meadows or pastures—this is land temporarily cultivated with herbaceous forage crops for mowing or pasture;
 - c) area temporarily fallow—this is land being allowed to replenish its nutrients prior to cultivation again;
 - d) all other arable land—this includes land not in use because of such circumstances as flood damage.
- 2) land under permanent crops—this signifies land cultivated with crops which occupy it for a long period of time and which does not have to be planted for several years after each harvest.
- 3) land under permanent meadows and pastures—this means land used permanently (i.e. for 5 or more years) for herbaceous forage crops, seeded and cared for, or growing naturally (wild prairie or grazing land).
- 4) wood and forest land—this includes all wood lots or tracts or timber, natural or planted for the purpose of wood, timber or other forest products.
- 5) all other land—this includes all other land not specified elsewhere, whether potentially productive or not. Some countries may wish to subdivide this class into potentially cultivable and uncultivable land.

F. For Agricultural Households

- 1) use and amount of fertilizers and pesticides per unit area
- 2) number of livestock and poultry
- 3) number of agricultural machinery and equipment and transport facilities
- 4) crops grown

G. Expenditure on Important Consumer Items

- 1) food
 - a) cereals and starches

- b) pulses
- c) meat, fish and eggs
- d) oils and fats
- e) dairy products
- f) fruit and vegetables
- g) drinks and stimulants
- 2) fuel and light
- 3) clothing
- 4) medical expenses
- 5) religious and social activities

H. Miscellaneous Information

- 1) family planning practices
- 2) membership in cooperatives
- 3) household debt (if any)

6. Community Statistics

Some of the statistics pertaining to the community can be obtained from compiling the relevant household level statistics. Explanations to some of these statistics will be given when required as well as suggested tabular presentations where appropriate.

A. Demographic and Social Particulars of the Population and Special Features of the Village or Locality

TABLE 1 DEMOGRAPHY AND SOCIAL PARTICULARS OF THE VILLAGE OR LOCALITY

- 1) situation
- 2) area of the village
- 3) number of housing units
- 4) number of households

Agricultural households	Non-agricultural households	Total
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(An agricultural household is defined as one where at least one member is operating a holding, i.e. managing land for livestock and agricultural purposes, or where the main income earner is economically active in agriculture.)

- 5) demographic and social particulars

Sex			Literacy		
Males	Females	Total	Males	Females	Total

(Literacy is defined as the ability of a person to both read and write, with understanding, a simple statement on his everyday life; the language or languages used being irrelevant.)

- 6) accessibility of the town—(whether the town is easily accessible throughout the year or for parts of the year only.)

- 7) whether the locality is prone to:
 - a) floods or tidal waves
 - b) drought
 - c) typhoons or hurricanes
 - d) earthquakes
- 8) special programmes implemented (e.g.):
 - a) integrated rural development programme
 - b) small farmers development programme
 - c) marginal farmers and agricultural labourers development programme

B. Facilities Available in the Village or Locality

TABLE 2 FACILITIES AVAILABLE

Type of facility	Availability YES/NO
1) administrative headquarters for:	
a) sub-district administration	
b) extension workers	
2) education	
a) primary school	
b) middle school	
d) adult literacy centre	
d) vocational training centre	
3) health	
a) dispensary clinic	
b) family planning centre	
c) veterinary dispensary clinic	
4) transportation and communication	
a) animal drawn/pedal driven transport	
b) bus station	
c) railway station	
d) post office	
e) telegraph office	
f) main road	
g) approach road	
5) marketing and trading centres	
a) weekly market	
b) warehouse	
c) seed distribution	
d) fertilizer distribution	
e) pesticide distribution	
f) others	
— grocery	
— cloth	
— pharmacy	
b) banking and credit	
a) rural bank	
b) cooperative credit society	
c) money lender	
7) others	

- a) electricity (including street lighting)
- b) community radio set
- c) agricultural machinery repair service
- d) drinking water supply
- e) barbershop
- f) community hall
- g) cinema
- h) library or reading room
- i) police station
- j) worship centre (e.g. church, temple or mosque)
- k) playground
- l) women's club
- m) beauty parlour
- n) public latrine
- o) care homes for elderly

C. Agriculture and Land Use

TABLE 3 LAND UTILIZATION BY VILLAGE OR LOCALITY

Land use	Total area
1. arable land	
a. area under temporary crops	
b. area under temporary meadows and pastures	
c. area under temporary fallow	
d. area under all other arable land	
2. land under permanent crops	
3. land under permanent meadows and pastures	
4. area of wood and forest land	
5. area of all other land	
Total area under all uses	

(The explanations for these land uses are given under Part V-E in the collection of Household Statistics.)

TABLE 4 AREA OF ARABLE LAND IRRIGATED BY WATER SOURCE IN THE VILLAGE OR LOCALITY

Source of irrigation	Total land area
1. tube wells or bore wells	
2. other wells with pumps or irrigation wheels	
3. gravitational flow	
4. other irrigation sources	
Total area irrigated	

TABLE 5 NUMBER AND AREA OF AGRICULTURAL HOLDINGS IN THE VILLAGE OR LOCALITY

Size class	Number of holdings	Total area
1. below 0.5 ha		
2. between 0.5 and 1.0 ha		
3. between 1.0 and 2.0 ha		
4. between 2.0 and 3.0 ha		
5. between 3.0 and 4.0 ha		
6. between 4.0 and 5.0 ha		

7. 5.0 ha and above

Total area of holdings

TABLE 6 CROP AREA AND AVERAGE YIELDS PER HECTARE OF IMPORTANT CROPS OF THE VILLAGE OR LOCALITY

Name of crop	Total area	Average yield per ha	Area under high yielding varieties
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TABLE 7 NUMBER OF LIVESTOCK AND POULTRY OF THE VILLAGE OR LOCALITY

Item	Total number
1. livestock	
a. cattle	
b. buffaloes	
c. sheep	
d. goats	
e. pigs	
f. horses	
g. others	
2. poultry	

TABLE 8 NUMBER OF AGRICULTURAL MACHINERY, EQUIPMENT AND TRANSPORT FACILITIES

Item	Total number
1. agricultural machinery and equipment	
a. tractors	
b. reapers, mowers, binders	
c. combines (harvesting and threshing)	
d. threshing equipment	
2. transport facilities	
(specify)	

D. Education

TABLE 9 NUMBER OF TEACHERS AND STUDENTS IN THE VILLAGE OR LOCALITY

Educational institution	Number of teachers			Number of students		
	Male	Female	Total	Male	Female	Total
1. primary school						
2. middle school						
3. adult literacy centre						
4. vocational training school						
5. others (specify)						
Total (for all institutions)						

E. Health Facilities

TABLE 10 NUMBER OF DOCTORS, NURSES AND MIDWIVES IN VILLAGE OR LOCALITY

Health establishment	Number of doctors	Number of nurses	Number of midwives
1. dispensary/clinic			
2. primary health centre			

(Only recognized medical practitioners are to be considered. Those practicing "folk medicine" and untrained midwives are excluded.)

F. Village Industries and Rural Artisans

TABLE 11 NUMBER AND TYPE OF VILLAGE INDUSTRIES AND RURAL ARTISANS OF THE VILLAGE OR LOCALITY

Item	Number of workers
1. village industries	
a. hand loom	
— cotton	
— silk	
— wool	
b. coir or rope making	
c. handicrafts	
d. others (specify)	
2. rural artisans	
a. carpenters	
b. cobblers	
c. blacksmiths	
d. goldsmiths	
e. potters	
f. tailors	
g. barbers	
h. beauticians	
i. mechanics	

G. Miscellaneous Information

TABLE 12 MISCELLANEOUS INFORMATION ABOUT THE VILLAGE OR LOCALITY

Item	Number
1. houses with electricity	
2. industrial establishments using electricity (if any)	
3. shareholders of cooperative credit societies	
4. shareholders of consumer cooperative societies	
5. shareholders of producer cooperative societies	

III. How to Collect Community Level Statistics

1. The Data-gathering Hierarchy

A. Components of the Collection System

Most of the CLS data will be gathered by enumerators comprised of teachers or educated youths of the community through the use of questionnaires and interviews. These "barefoot statisticians" form the primary level of CLS and usually work on a voluntary basis.

Supervision of the enumerators is essential for successful data collection, and a supervisor is designated for this purpose. At the start of the

field work, the supervisor should be present at several interviews. By listening to and observing interviews, he may detect faults and correct them. The supervisor should also review the finished work to ensure that all the community households were accounted for and the questionnaires properly completed.

It is also possible that a Steering Committee be formed of elected or selected community people to be responsible for undertaking development plans in the community. This Steering Committee should normally consist of people representing different social and economic groups. The responsibility for the collection and maintenance of CLS should rest on this representative body and its secretariat.

B. The Lead Agency

For the CLS system to succeed, a definite procedure will have to be laid down for supplying the statistics collected by the central government agencies to the community concerned. For this purpose, it is necessary to name an organization within the government as the Lead Agency. It would be the function and responsibility of the Lead Agency to ensure the prompt and effective supply of national statistics to the communities and generally to coordinate the statistical activities of the communities.

In a country with a centralized statistical system, the National Statistical Office will be the logical choice as the Lead Agency. In a decentralized system, the agency in-charge of rural development may be selected to act as the Lead Agency. However, the choice of the Lead Agency will be specific to each country and will depend on national priorities, institutional infrastructure available and other specific circumstances.

Amongst the more important functions of the Lead Agency are the following:

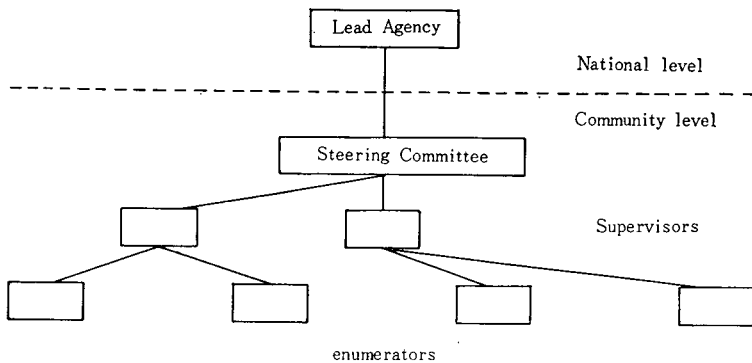
- 1) developing a suitable geographic coding system to identify each community uniquely;
- 2) establishing a CLS data bank which will be available to other organizations;
- 3) identifying data gaps; and
- 4) training enumerators.

Lead Agencies often prepare lists of all the communities in the country and classify them into relatively homogenous groups. This allows inter-community comparisons and gives a broader picture of the progress of the community development.

C. Diagrammatic Presentation of CLS Components

The various components of the CLS system are illustrated in Fig. 1. The enumerators comprise the supervisors. The community's Steering Committee formulates development projects based on the CLS. The overall

FIGURE 1 THE CLS DATA-GATHERING SYSTEM



management of the CLS data bank is performed national level by the Lead Agency.

2. Collecting the Data

The first step in the collection of CLS data is to decide on the priorities of information required. The priorities are best decided by the Steering Committee. In the absence of one, the national government or the Lead Agency may decide on the priorities specific to the community in question.

Having decided the nature of the CLS data required, there are two sources of this information. The first is the government statistical agencies and the second is the community itself. The government agencies perform censuses and collect many statistics relevant to the CLS. Very rarely are these statistics made available to the people or even government agencies at the community level. Moreover, all the statistics required by the community for planning development projects are never fully covered by the government institutions. A great portion of government socio-economic statistics are also drawn using only representative community samples. One of the main functions of the Lead Agency is to make these relevant National Level Statistics available to the community to form part of the CLS.

A. Methods for Data Collection

There are seven methods available for gathering CLS data. These shall be enumerated and discussed briefly.

1) Community Level Map

These maps should cover the boundaries of the community and preferably be updated every 2 to 3 years. There are four main types of maps:

a) cadastral map: a large scale map showing the households, waterways, roads, paths etc.;

b) land use map: showing the broad land use patterns in the community;

c) human settlement map: showing only the households, each identified by a serial number;

d) socio-economic map; divides the community by occupation of the inhabitants.

2) Household Card

Each household is furnished with this card to be completed and updated quarterly by a literate member of that household. It will require such information as names of all individuals in the household, their dates of birth, marital status, relationships to the head of the household and school attendance or occupation.

3) Community register

The register lists the assets and properties of the community, infrastructure, water bodies etc. The information gathered from the register may be incorporated into the community map.

4) Community statistical profile

This contains basic information on the inventory of physical, human and financial resources of the community.

5) Household survey questionnaire

This questionnaire forms the basic instrument for collecting information on household production, income, consumption, marketing, assets and liabilities.

6) Modular questionnaire

This questionnaire will supplement the household questionnaire. It is directed to target households in the community, e.g. those belonging to a certain occupation or those living entirely on charity.

7) Crisis management questionnaire

This is of use primarily in communities prone to natural calamities. They are performed when a significant portion of the community is affected by a common crisis such as flood or drought. Its purpose is to assess quickly and accurately the extent of loss or inconvenience suffered by the community as a whole, and by individual households. The information may be used to initiate rehabilitation plans and ensure prompt and accurate reporting for government level relief and assistance.

B. Important Points in Conducting Questionnaires

Because the bulk of CLS data is collected through the use of questionnaires, this topic shall be covered more fully.

1) training enumerators and supervisors

The accuracy of the data will depend on the skill of the enumerators in gathering them. In cases where only counting is involved (e.g. head of cattle), reasonably educated person with a little training should be able to collect the correct information. However, in cases requiring more soph-

isticated measurement, as in estimation of crop areas and rates of production, more training and knowledge will be required of the enumerator. In this initial stages of CLS collection, efforts should be made to adopt simple and easily verifiable methods of data gathering.

Enumerators should receive formal training in the following:

- a) importance of CLS
- b) how to conduct an interview
- c) how to construct data tables

The supervisors should also be trained in the following:

- a) the importance of CLS
 - b) responsibilities of supervisors
 - c) how to recruit enumerators
 - d) preparation of the list of community households
 - e) training of enumerators
 - f) preparation of data tables
 - g) how to sample
 - h) how to use community level maps
- 2) the need for publicity

People of the community must be made to realize the potential benefits offered by CLS collection and its use. If their active cooperation is ensured, both the recruiting of enumerators and the giving of information by the community members are facilitated.

Some of the items of information collected in CLS, such as land tenure, family planning measures and indebtedness are of a sensitive nature. People will generally be reluctant to answer such questions truthfully unless they are convinced that the information they supply will be used only for the formulation and implementation of welfare programmes benefitting them. Informing the public about CLS and its objectives cannot be over stressed as inadequately informed citizens may jeopardize the project. The most effective publicity means will vary from country to country. In many countries, the daily and weekly press, cinema, radio, television and posters could be used. In others, the cooperation of religious leaders, heads of business associations, labour groups and public service organizations could be effective.

- 3) the need for pre-tests

The diversity of the data to be collected and the initial inexperience of the enumerators will require the conduct of pre-tests. The pre-tests will give the enumerators experience in data gathering. They will also serve to test the effectiveness of the questionnaires and will help identify parts that are needed or parts that should be deleted.

3. Processing the Data

- 1) data quality control

Data errors may arise for a variety of reasons: there may be ambi-

guity in the questionnaires, the instruction manuals may not be clear, or the selection and training of the enumerators and supervisors may not be adequate. Much of the burden of controlling data quality will fall on the Lead Agency. It must try to maintain high standards of personnel training, clarity and accuracy of the training manuals used and uniformity of data collection methodology. It must also continuously check the data for consistency.

2) computers in data processing

CLS data are voluminous, diverse and extensive. Unless they are classified, condensed and summarized, they are incomprehensible and cannot be used properly. Data processing entails:

- a) checking the data for completeness—the questionnaires and cards must be fully completed and all households accounted for;
- b) coding, entering and verifying the data;
- c) maintaining useful questionnaires.

These tasks are best accomplished through the use of computer facilities which should be available to the Lead Agency.

Data processing is a lengthy operation requiring many months, perhaps more than a year before all the tables are completed. Steps should be taken to obtain more urgently needed data before all the results are available.

The CLS data are to be used at different levels and by different agencies. Therefore, these statistics should be maintained in such a way that all users will have easy access to them. Moreover, the basic objective of collecting such comprehensive statistics at the community level is for the formulation and evaluation of micro-level development projects. To achieve this objective, it is necessary to establish the CLS data bank at the Lead Agency, or even at regional statistical centres. Modern computer facilities should make the task of data storage and retrieval relatively easy.

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發行兼編輯人 金 榮 鎮 發行處 韓國農村經濟研究院

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