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Metadata in Agriculture

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by

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I.   Concept & Definition

Metadata briefly is data about data. It generally consists of information that characterizes data and is used to provide documentation for data products. In essence, metadata answer **who**, **what**, **when**, **where**, **why**, and **how** about every facet of the data sets that are being documented.

Metadata in agriculture is about defining, shaping, administering, organizing, and planning to capture, edit and disseminate general information and data on various facets of agriculture and livestock. It helps publicize and support the data which has been collated and produced by an individual or an organization. Agricultural Metadata is indeed a corner stone for statistical procedures and based on general standards, constitute the basis for producing national agricultural information, statistical and data system.

II.   Goal and Purpose

The main purpose of Metadata is to facilitate rational and evidence based decision making; and enhance better use and management of statistical resources. Thus, metadata benefits the users of statistics e.g., policy and decision makers, managers etc., who access and utilize the data; the professionals and statistical organizations who collect, process, compile, and disseminate the data; and ultimately the target groups which are the beneficiaries of the related decision outcomes.

III.   Scope

Metadata should generally cover three dimensions:

- National Agricultural Statistics System: It should (a) provide information about legal framework and statistical advisory bodies; structure and organization of major agricultural statistical agencies; outputs and dissemination of agricultural statistics;

- (b) facilitate dialogue with data users and co-operation with international organizations; and (c) help develop strategic framework.
- Major Domains and Selected Indicators: It should present: (a) a list of major domains and selected indicators of agricultural statistics; (b) Metadata for each of the major domains; (c) the concepts, definitions, and classifications; coverage and availability; (d) data source and collection methodology; data processing, estimation, and revision methodology and other reference information.
- Data Sources: It should (a) enlist major agricultural censuses, surveys, and registers; Metadata for each of the major censuses and surveys; (b) provide overview of the survey and census design; (c) spell out conduct, operations, data quality control and (d) ensure Metadata for each of the major administrative registers

IV. Managing Metadata

Metadata generally derives from agricultural census, crop and livestock production surveys, input costs and cost of production estimates and surveys, land use survey, labor force employment estimates, and agricultural stocks survey. However, for producing robust Metadata, the data managers must either be technically-qualified professionals or scientifically-literate computer specialists who need to know grasp the scientific information behind the data in order to properly document them. Ideally, robust Metadata management entails assignment of specific roles and responsibilities which includes: (i) the theme administrator: responsible for thematic area, for example, climate change, water, gender, crops, horticulture, livestock etc. ; (ii) the interested stakeholders, mainly users and their specific needs e.g., policy and decision makers, managers etc.; (iii) the suppliers who provide the Metadata; (iv) the owner of Metadata who is the repository and authority of the data ownership e.g., Ministry/Department of Agriculture or its designated subsidiary, national/provincial statistical bureau; (v) distributor who disseminates and organizes distribution and accessibility of Metadata; (vi) the editor who is responsible that output Metadata conforms to the required textual standards; and (vii) the coordinator who initiates the Metadata production and collation, management, distribution and quality assurance and coordinates the processes involved.

The major constraints in producing and managing Metadata is the lack of availability of coordinators or subject specialists to cover all thematic areas. At times, Departments do not feel responsible enough to contribute to data collection or production. Moreover, the labor intensive process which Metadata entails is one of the major impediments that has to be adequately addressed.

V.   Conclusion

The basic rationale of establishing Metadata in agriculture is that it enables the decision and policy makers to streamline and maximize the agriculture ***Production Functions*** through National system of agricultural statistics; focusing both on ***Outputs*** i.e., products of agricultural statistics; *and **Inputs*** i.e., the major data sources for agricultural statistics.

It Metadata framework provides a useful guideline for country to produce most essential and useful information for users and producers of national agricultural statistics though the framework itself cannot guarantee good quality metadata. It must as such be supplemented by a process and mechanism to check and provide feedbacks.

A system of periodic reviews, analyses of the details and aspects of the metadata and benefiting from the international experience and good practices could improve the quality of Metadata.