

# **The role of Agricultural Information in Poverty Monitoring in Malawi**

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## **Abstract**

Agriculture is the main source of economic livelihood for the majority of the Malawi Population, therefore its performance greatly determines the national poverty levels. Hence the need for timely and accurate agricultural information in poverty monitoring programs.

Main sources of agricultural information for poverty monitoring include: National Sample Survey of Agriculture, (NSSA), National Crop Estimates Surveys, Land Resources Surveys, Agricultural Input and Output Market Prices (Domestic and International), various researchers and donor agencies (e.g. VAM reports prepared by FEWS) and Projects Progress Reports and Management Information Systems.

The Poverty Monitoring System (PMS) was established to monitor the implementation of Poverty Alleviation Programs (PAP) in terms of impact, effectiveness and efficiency. The PMS is coordinated by a Technical Working Committee (TWC) which comprises Producers and users of Poverty relate information. The indicators of Poverty, which have been developed by PMS on agriculture, include agriculture and food production, Food Security and nutrition and household purchasing power.

While coverage and relevance of the data has been satisfactory, a number of weaknesses have been identified as follows:

- Inadequate or lack of coordination in the planning, design, and implementation of agricultural data collection, analysis and dissemination
- Weakness in the methodologies used
- Inadequate supervision in of data collection.
- Inexistence of mechanism for wider dissemination of agricultural information
- Lack of appreciation of the importance of management information and data by managers
- Over-reliance on the use of traditional statistical methods of data collection as opposed to participatory approaches
- Inadequate budgetary resources

To improve quality of agricultural data and information generated for use in poverty monitoring, it is imperative that the producers and users of information keep in constant contact. This will ensure that appropriate data and information is generated and used. Training in data generation, analysis, presentation and dissemination is therefore a Prerequisite. Institutions dealing with data and information generation and use need strengthening in all areas of data and information generation, use and management.

## **1. Introduction**

Agriculture is the main source of economic livelihood especially for the majority poor. It has been emphasized as the main activity for the pro poor growth in the Poverty Reduction Strategy Paper (PRSP). The current poverty reduction philosophy of empowering the poor to be their own sources of economic growth can not be best done if it is not through improving agricultural productivity. According to the PRSP, a wider consultation of the rural poor has so far highlighted a number of agricultural information bottlenecks, which has resulted in low productivity and contributed to the deepening poverty in Malawi. Lack of information in areas of agricultural extension and produce marketing were the main issues.

To support government's effort in this, a need to closely monitor the impact, effectiveness and efficiency of the development activities has been realized. In this respect, a Poverty Monitoring System (PMS) will have to be strengthened to monitor the progress of new poverty oriented policies, programmes and projects. Activities of the PMS are co-ordinated and regulated by a Technical Working Committee (TWC) which has a number of supporting institutions in its membership who are producers and users of poverty related data. The National Economic Council acts as a Secretariat of the TWC.

## **2. Objectives of Poverty Monitoring System**

The PMS is intended to act as means of monitoring changes in the living standards of the people, especially those in poverty. The system is also supposed to capture groups that are moving out and into poverty as a way of assessing effectiveness of various policies and programmes. The information which the PMS generates and disseminates is supposed to guide implementing institutions in designing appropriate interventions for achieving the objectives of PAP by monitoring changes in the indicators that measure poverty over time.

The objectives of PMS can be summarized as follows:

- 2.1 to collect and disseminate information on indicators of poverty over time at Community, district and national levels;
- 2.2 to monitor impacts of policies on poverty
- 2.3 to monitor the implementation and evaluation of projects targeted at groups in Poverty;
- 2.4 to monitor administrative/management practices in policy implementation

## **3. Information needs for Agricultural Development**

The current and future agricultural data and information needs in Malawi are broad and at all levels of reporting system. Some of the information needs include the following:

- (i) Sustainable agricultural production and environmental technologies
- (ii) Weather forecasts

- (iii) Input and output market prices and demand (domestic and international)
- (iv) Crop production estimates
- (v) Animal population estimates
- (vi) Pest and disease updates
- (vii) Land surveys and land husbandry updates
- (viii) Irrigation development updates
- (ix) Gender balance in agriculture
- (x) National food balance sheet
- (xi) Privatisation of government assets (ADMARC depots, etc)
- (xii) Agricultural credit updates
- (xiii) Agricultural produce transportation
- (xiv) Household food security and Vulnerability Assessment
- (xv) Nutrition monitoring
- (xvi) Organisational development issues

The various levels where data and information requirements are greatest include the following:

- (i) Smallholder farmers and estates/commercial
- (ii) Agricultural produce traders
- (iii) Village development committees
- (iv) Smallholder associations and cooperatives.
- (v) Extension (field) assistants
- (vi) NGOs
- (vii) District assemblies
- (viii) National planners
- (ix) Policy makers
- (x) Researchers
- (xi) Donors
- (xii) Private sector agribusiness companies and other institutions.
- (xiii) Learning institutions dealing with agriculture.

#### **4. Main sources of Agricultural Data and Information**

There are a number of sources of agricultural data and information in Malawi. This is so because of the multiplication of institutions interested or linked with the agricultural sector. Even more so it is widely accepted that no institution has either the mandate or the capacity to collect and provide all the data and information that is required by all stockholders in a country. For these reasons there continues to be a proliferation of data producers in the country. The multiplicity of data producers and users makes it difficult to come with a typology of data sources.

##### **4.1 The National Sample Survey of Agriculture (NSSA)**

The PMS also uses data collected through the National Sample Surveys of Agriculture to come up with indicators for the Household Purchasing Power, Household Food Security and Nutrition and Agriculture and food production modules.

The last National Sample Survey of Agriculture (NSSA) was conducted in 1992. The NSSA provides data on smallholder agriculture relating to a number of issues. Using the NSSA data, the PMS has come up with a number of agriculture related indicators which were incorporated in the statistical summary of “Indicators of Poverty and Living Conditions 1990-1995” some of the indicators used include—average cultivated area by smallholder and by gender of household head, proportion of smallholder using purchased inputs and other nutrition related data.

The NSSA is a census of agriculture, which is carried out at an interval of 10 years by the National Statistical Office in collaboration with the Ministry of Agriculture. Because it takes a long time before another survey is conducted, the indicators used for the PMS are based on old data. For instance, following some economic policy changes like the phasing out of fertiliser subsidy, one would expect some changes in the smallholder subsection (e.g. number of farming families using fertilizer and hybrid seed should obviously decline). The PMS would like to get this type of data continuously for monitoring purposes.

The survey aims at collecting socio-economic data of the Smallholder sub-sector of the agricultural economy in the country. The first NSSA was conducted in 1992/93.

The NSSA consists of a number of major components:

- i. household composition survey providing various details concerning the characteristics of smallholder farmers
- ii. a plot survey under which cropping patterns and crop yields are recorded, and which also provides details on crop husbandry practices;
- iii. an operator survey recording extension participation adoption of recommended;

- iv. household food security and Nutrition Survey recording the household food security status and nutritional and health status;
- v. Livestock survey providing information on livestock ownership and practices.

The NSSA data collection is based on a randomly selected two-state stratified sample with probability proportional to size (PPS). The 1987 Population Census Enumeration Areas constitute the Primary Sampling Units (PSU) while the fanning household constitutes the Secondary Sampling Units (SSU). The survey was administered by 600 enumerators and 100 supervisors about half of which were provided by the Ministry of Agriculture and the rest by the NSO.

While the NSSA has provided agricultural data for planning purposes at the national level and the ADD level, this has been less so at the Project or District level. This has been so because it was primarily designed with a view to provide sufficient and reliable data for use at the national levels and not relevant for project monitoring purposes. Attempts to address this flow through improved stratification at the RDP proved unsatisfactory prompting the need to develop a more effective methodology in providing monitoring and evaluation data for projects. Unsatisfactory planning and supervision of the survey further compromise the reliability of the NSSA data. Whilst there was adequate collaboration between NGO and MAI in the planning and execution of the NSSA in the past, this has been less so during the 1992/93 NSSA. There is need therefore to ensure adequate collaboration at all stages of conducting the survey. Attempts should still be made to provide enough data at lower levels of the community where poverty monitoring is targeted.

#### **4.2 Annual Survey of Agriculture (ASA)**

Another source of agricultural data and information are Annual Surveys of Agriculture (ASAs). These followed the 1980/81 NSSA and came out of a need for annual agricultural statistics to be used for monitoring of projects and programmes under the National Rural Development Programme. NGO carried out this survey in collaboration with the Ministry of Agriculture up to 1987/88 when they were discontinued due to lack of funds and problems of reliability and delays in the provision of required information.

#### **4.3 The Crop Estimates Survey (CES)**

The crop estimates survey is implemented by the Ministry of Agriculture and provides forecasts and estimates of crop areas and production in the smallholder sub-sector of agriculture in the country on a timely basis. Since the smallholder sub-sector contributes most of the food production for the country, 90%, the CES provides an invaluable input in the National Early Warning System for food security. The Crop Production Estimates was developed with technical assistance from FAO/SADC Regional Early Warning Unit for Food

Security in Harare and implemented in all ADDs in 1990/91 crop season after pilot testing for two years.

The Crop Estimates Survey was designed to be simple and provide timely reliable data for crop production forecasting and estimation in a more cost effective manner. The survey was managed to achieve this objective a large extent. This is evidenced by the provision of production data at the Extension Planning Area (EPA) level and the timely provision of crop forecasts.

There is however one major weakness in the methodology which poses problem. The use of Extension Field Assistants in data collection tends to overload FAs with additional work and detract them their principal duty of organizing and training farmers. Secondly, as a result of reduced financial there has been inadequate training and field supervision of the survey by Evaluation officers, Project Officers and Development Officers. The first problem of using FAs could be resolved by using independent enumerators but again the costs associated with these are prohibitive and may not be able to achieve the desired coverage. Improvement in the survey relies on ensuring effective field supervision a staff training to ensure quality control in data collection.

#### **4.4 Vulnerability Assessment and Mapping**

The Vulnerability Assessment and Mapping (VAM) is an exercise that assesses household vulnerability to poverty, and food insecurity at national and sub-national levels using statistical analysis. Vulnerability of households is assessed in terms of poverty, food insecurity and malnutrition at the Extension Planning Area (EPA) level in every Rural Development Project (RDP).

VAM also tries to identify where the vulnerable are located, the degree of their vulnerability, the causes of their vulnerability and the potential means to reduce or eradicate the causes. However, the exercise is not institutionalized in the Poverty Monitoring Unit of the National Economic Council and other PMS actors. The VAM data is analysed by the Famine and Early Warning System (FEWS).

Within the implementation of poverty alleviation programme, VAM data has been used for targeting both relief and development interventions such as food work and construction of rural roads.

The Malawi Social Action Fund (MASAF) Public Works Program (PWP) uses the VAM results to target the EPAs that require support.

The last VAM baseline report was produced in 1996 and there has been no update. This has made it difficult to utilize the same data for targeting some areas because certain changes



might have occurred in those areas. Poverty monitoring using VAM data would be suitable if the results were updated every year in order to monitor the changes in vulnerability as well as the impacts of the intervention programs. In certain EPAs which have been targeted for MASAF work, DDC members in some areas, have questioned the validity of the results. This may be due to the fact that the data is now out of date in relation to prevailing circumstances, or simply they can not interpret the results. The VAM report has been said to be too technical in certain cases and therefore limiting its use. It may be useful to have a summarized version of the report and some instructions on how the tool can be utilized.

The target level for collecting VAM data is the EPA. However, within the PMS, it has been realized that various institutions use various reporting levels. This makes it difficult to make comparisons across sectors. A PMS Committee on data harmonization recommended that a standard reporting level be adopted for all the sectors. In this case, a district was considered an ideal reporting level, which should aggregate from community level. However, for PMS purposes district would be the smallest reporting level.

#### **4.5 Land Resources Survey**

The land Resources Survey are conducted by the Land Resources Department of the Ministry of Agriculture and produce maps and information on various aspects of land resources in the country. The Department uses aerial photographs satellite and ground checks to produce the required information. Recently, the Department has conducted the following surveys:

The Land Resources Evaluation Survey (1991), produced maps and reports at a scale of 1,250,000 on land resources, agricultural and meteorological records covering a period of 30 years for different zones of the country.

The Customary Land Use Study, which provides information on the extent, intensity and efficiency of utilization. Various in the methods for estimating land resources area have resulted in wide differences in estimates of cultivated area. For example the 1995/96 GFA survey estimated cultivated area be four times compared to the one from the 1992/93 NSSA and about twice that estimated by the crop estimates survey.

#### **4.6 Management Reports**

Management Reports are an important source of agricultural information. Under this group of information sources are Project Progress Reports and Monthly Field Reports. These reports provide valuable information for monitoring progress made in implementing project and programme activities including financial expenditures. These progress reports are prepared on either quarterly basis or half yearly largely according to reporting requirements of donor agencies financing various projects.

Despite the recognized importance of progress reports a tool of projects and programme management the reports have not yet been effective in providing such information. The reports have been prepared late for them to be useful for management purposes. This is partly because the Quarterly and Half Yearly Reports were viewed by Field Managers as a required by donors and not for their use. This has led them to put more emphasis on Monthly Report. These, need to be monitored of at least reported on monthly basis. Despite all these flows, the project progress reports provide valuable information for monitoring and evaluating agricultural projects and programmes.

Efforts should be made therefore to streamline project reporting requirements to ensure that they remain relevant for monitoring programme activities.

#### **4.7 Commissioned Surveys and Studies**

Surveys and Studies Commissioned by various institutions on the agricultural sector form an important source of agricultural data and information. These range from small scale studies on topical issues in agriculture to sector wide studies. The main ones, which have been carried out in the recent past, include the following:

- The 1994 Agricultural Sector Strategy and Action Plan produced by the Ministry of Agriculture;
- The 1992 Agricultural Sector Study by CODA and Partners commissioned by the Ministry of Agriculture;
- The core surveys carried out by the Planning Division including the Extension Monitoring Surveys, Policy Impact Surveys;
- Project Completion Reports and Mid-Term Evaluation Reports;
- The Food Security Bulletin and Market Price Information.

#### **4.8 Research and Policy Studies**

The PMS has commissioned a number of studies in order to fill gaps in information requirements. Most of the data that is produced through surveys require further analysis to target certain policy decisions to be made. So far the PMS has undertaken a number of studies, some of which are the following four policy studies.

- i. Smallholder output response to agricultural policy changes,
- ii. The Socio-economic effects of structural Adjustment Programs,
- iii. The determinants of transition into and out of poverty
- iv. Developing. a research policy and an operational definition of poverty in Malawi.

The first three studies have used the 1992/93 NSSA as the main source of secondary data on size of cultivated land and number of smallholder families. This data is old and may need to be updated in order to get a more current picture.

The preliminary results for the first study reveal that farm input prices was one of the policy variables that was cited as affecting agricultural production of smallholder farmers. The study on the “Determinants of transition into and out of Poverty “ found that household’s cultivated area is the most influential determinant of the transition process.

Thus the PMS is able to utilize agricultural data that has already been generated for further analysis in order to come up with appropriate policy recommendations. Reservations on producer prices, especially maize have been made. Since the liberalization of marketing of agricultural produce, private traders have operated in competition with ADMARC in maize purchases. However, maize purchase statistics from the private traders is not included in the maize official statistics system. The producer price for maize has therefore been based on ADMARC purchases only. There is still need to capture the volume and value of crops that are channelled through the private trader purchase as it may have some policy implications.

## **5. *Weaknesses in Data Collection and Dissemination***

While coverage and relevance of the data has been satisfactory, a number of weaknesses have been identified as follows:

- Inadequate or lack of coordination in the planning, design, and implementation of agricultural data collection, analysis and dissemination
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- Inadequate budgetary resources

## **6. *The way forward***

Evidently, the PMS recognizes agricultural data and information as crucial to its activities considering that the majority of the Malawian populations are farmers. The data, which the system has so far utilized, has been generated through the routine surveys, which the PMS undertakes. There is need to strengthen the collaboration between production and dissemination of the agricultural date and information and the PMS. This collaboration will

ensure that any data gaps, which may be identified within the PMS, can be incorporated within its existing system of generating the information. Through our various channels of information dissemination, like the PMS newsletter, the PMS would be an ideal channel for disseminating all poverty related agricultural data for use by all interested parties.

The PMS has embarked on the construction of a central poverty data bank to form a resource that can be used to analyse trends in socio-economic conditions in the country as representative at the district level and will be shared with all interested parties. Through this process, the PMS will be able to identify other requirements, which currently may not be addressed sufficiently. Data Producers will be required to channel their results to the system, while users will clarify on their data needs.

## **6.1 Recommendations for Improved Agricultural Data Collection and Dissemination**

6.1.1 Coordination amongst institutions involved in producing agricultural data is important to avoid duplication of effort and working at cross-purpose. Also this would ensure consistency and comparability of data collection. To ensure this, it is proposed that a National Steering Committee be established to prepare work programmes for major agricultural surveys.

6.1.2. The wide differences in the estimates of cultivated area from the NSSA and the Customary Land use survey are a manifestation of a lack of coordinated planning of the surveys. To avoid these problems in future it would be instructive that consultations between the Ministry of Agriculture and NSO should start now on the proposed Area sampling Frame.

6.1.3 Most of the reports produced are kept by the institutions, themselves and have limited distribution. In some cases these have been distributed and effective to have a central documentation Center for all important studies conducted in the agricultural sector.

6.1.4 To ensure relevance of agricultural data there is need for increased coordination between data producers and users. Planning meetings of data procedures and major data users will allow a common understanding of policy issues and related data requirements. It will also enhance dissemination of agricultural data.

6.1.5 Institutional strengthening is required to ensure effective design and implementation of agricultural surveys including data processing and analysis. This is both in terms of increased staffing of the Statistical Unit of the Ministry of Agriculture and Staff training in data collection, processing, analysis and Management.

6.1.6 To facilitate wider dissemination and access to agricultural data it is proposed to establish an electronic data bank to serve as a one-stop-center.

6.1.7 There is need to improve methodologies used in data collection in the following areas:

- the National Crop Estimates Survey;
- the National Sampling Frame;
- the use of Participatory Approaches in data collection