Statistical Web-based Monitoring of the Philippine Livestock Program[*]

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Abstract

Livestock Program is one of the banner programs of the Department in the Agriculture and the livestock sector in the Philippines to ensure food security, alleviate poverty, enhance incomes and profitability, and achieve global competitiveness for the livestock and poultry sector. Since it started, statistical reports submitted by implementers at the national and sub-national entities suffers from lack of flexibility, timeliness, double counting and weaknesses in report output formats. To address these, a web-based monitoring system was developed. Inherent to the development is the introduction of a systemic and more homogenous classification of the Programs, Projects and Activities (PPAs), redesigning of monitoring forms, establishment of a user-friendly electronic-based system of recording the physical targets and accomplishments and fund utilization, and construction of accessible database for ready use for e-report generation, analysis and basis for decision-making of top management. This presentation will discuss challenges in the development of the system, activities done towards attainment of the objectives and the institutionalization efforts in order to adopt the system.

Keywords: e-monitoring system, e-report generation, physical outputs, fund utilization

1. Introduction

The Livestock Program of the Department of Agriculture (DA-LP) also calledAgri-Pinoy Livestock Program is one of the banner programs of the Department in the Agriculture and the livestock sector of the country to ensure food security, alleviate poverty, enhance incomes and profitability and achieve global competitiveness for the livestock and poultry sector. As coordinated by the Livestock Development Council (LDC), its implementation is shared by various DA's offices. Because of the devolution of the DA's services, the local government units provide the front line services for the projects under the various components of the Livestock Program.

Monitoring of the implementation of the projects and activities under the Program is done by LDC. It has no field staff but relies on DA livestock coordinators of regional field offices (RFOs) to report the physical and financial accomplishments of the Program. Quarterly meetings of livestock coordinators provide the venue for validation of these reports. The RFOs submit monthly and quarterly reports in MS Excel spreadsheets. The quarterly reports are mere consolidation of the three consecutive monthly reports. These spreadsheets are designed in such a way that all monthly or quarterly entries are included in one sheet, making them appear to be very long worksheet. The target is only a quantification of the total physical output that could be accomplished in a year based on the budget allocation approved by the Department of Budget and Management (DBM) for the calendar year. It is akin to a moving annual target, not the conventional project targets, which are usually set during project formulation and firmed up before the project

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takes off for implementation. The monthly or quarterly targets on the other hand, merely represent what the field units envisaged to be accomplished or doable for the reference period. It is a simple monthly or quarterly disaggregation of the annual target. The monthly or quarterly target breakdown is reviewed, and requires prior approval by LDC at the commencement of the calendar year.

2. Problems encountered

It was noted that while the reports are submitted in MS Excel spreadsheet format, no dedicated or customized program is uniformly used by the RFOs to fill in the spreadsheets. The computers merely serve as "electronic typewriters" to facilitate preparing the monthly or quarterly reports. In addition, activity or project level reports are consolidated and summarized into regional reports in the RFOs. LDC only accepts these summarized regional reports. Thus, if LDC needs to get municipal, provincial (or congressional) project level details, it has to revert back to concerned region and requests its regional Report Officer to provide the needed disaggregated information. This may take many days before a request for a simple geographic disaggregation of regional reports is provided.

The components, programs, projects and activities of the agriculture and fisheries development program are identified in the DA's translation of the DBM's major final output (MFO) categories using a combination of numeric and alphabetic identifiers. The problem with the track taken to identify the elements of the agriculture and fishery program is the fact that these identifiers are not unique and mutually exclusive with each other. The method is not supportive of a "touch and go" option for reordering and reclassification of programs, projects and activities. Even the use for example, of keywords or phrases cannot be automatically executed in the electronic generated spreadsheets because of the non-uniqueness of the identifiers.

3. Improving the Monitoring of the Program

The Livestock Program is a dynamic and live process which may be changed, modified or restructured to be responsive to the changing environment and needs of its target beneficiaries and stakeholders. The LDC is sensitive to this development pressures and is taking actions to remain relevant. Among others, it felt the need to improve the responsiveness of the Livestock Program monitoring system to address immediate and urgent needs of the DA and other livestock stakeholders. Pursuant to this vision, it has sought the assistance of the Statistical Research Training (SRTC) to institute appropriate measures to enhance the user-friendliness of the Livestock Program monitoring system. After an analysis of the Program monitoring system in place, courses of action have been decided to be the focus of the SRTC intervention. These are: (i) Develop a database for the Agri-Pinoy Livestock Program which will be fully managed by the LDC; (ii) Introduce a numeric coding system for the Program components and the associated programs, projects and activities; (iii) Improve the format of the periodic monitoring reports for an easier understanding and analysis of the Program's outputs and accomplishments; and (iv) Implement capacity building to fully institutionalize the e-database or information system.

Thus, the agreed deliverables are: (i) a systemic classification system of the Agri-Pinoy's MFO, Program Components, Projects, Activities; (ii) an e-database system for the financial utilization and physical outputs of the Program; and (iii) an e-report generation module.

3.1 Introducing a classification system for the Program

A good classification and coding system for all the items in the envisaged e-based database system is needed to support the flexible character contemplated to be an attribute of the system. This is important to enhance the user-friendliness of the Agri-Pinoy Livestock Program monitoring system *vis-a-vis* the expressed desired outputs to be realized at the end of the study. The Livestock Program classification system adopts a 13-digit numeric coding system. The coding scheme is divided into three partitions.

- The first four-digit consists of:
  - First one-digit refers to the MFO classification number (1, 2, 3)
  - Second one-digit refers to the MFO Component
  - Third one-digit refers to the Program within the MFO Component
  - Fourth one-digit refers to the DA-LP project
- The next three-digits refer to a specific activity under the Agri-Pinoy Livestock Program project
- The last 6-digits refer to the geographic location the project is being implemented (region, province, municipality/city). This geographic identifier adopts the latest Philippine Standard Geographic Classification System (PSGCS) of coding:
  - The first two-digit refer to the region
  - The next two-digit refer to the province
  - The last two-digit refer to the municipality/city

Schematically, the DA-LP classification format will follow this structure:
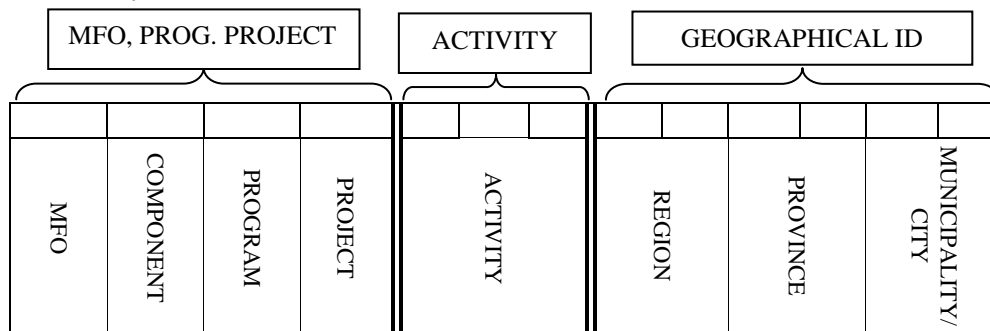

Figure 1. Logging in the Restricted Site

On the other hand, a summary of the 2-digit coding structure of the MFO- Agri-Pinoy Livestock Program is shown below:

MFO/ Sub-MFO	Program	MFO COMPONENT, PROGRAM, PROJECT, ACTIVITY
1		**MFO 1: MODERNIZED AND SOCIALLY EQUITABLE AGRICULTURE AND FISHERY SUPPORT SERVICES DELIVERED**
A		PRODUCTION SUPPORT
	11	*Farms and Pasture Development*
	12	*Genetic Improvement*
	13	*Quick Response Services*
B	14	*Market Development*
C	15	*Credit facilitation*
E	16	*Postharvest and Other Infrastructure Development*
F	17	*Research and Development*
G		EDUCATION AND TRAINING AND EXTENSION SUPPORT
	18	*Extension Support*

MFO/ Sub-MFO	Program	MFO COMPONENT, PROGRAM, PROJECT, ACTIVITY
	19	*Education and Training*
2		**MFO 2: APPROPRIATE AND COMPREHENSIVE REGULATION DEVELOPED, IMPLEMENTED, MONITORED AND ENFORCED**
H	21	*Regulatory Services*
	22	*Animal Health, Disease Control and Prevention Services*
	23	*Drugs and Biologics Development and Distribution*
3		**MFO 3: PLANS AND POLICIES DEVELOPED, IMPLEMENTED, MONITORED AND EVALUATED**
I	31	*Information Support Services*
J	32	*Policy and Plan Formulation*

The e-database system likewise requires an orderly categorization of the output items to facilitate data encoding and the generation of reports. After a review of the Agri-Pinoy Livestock Program's accomplishment reports, it turned out that in general, the outputs may be grouped into categories, namely: (i) Beneficiaries; (ii) Farms and pasture; (iii) Animals; (iv) Infrastructure; and (v) Services.

3.2 Improving the Monitoring Forms

In the process of developing improved design of monitoring forms, a conscious effort was taken into consideration that the final output of the Project is a dynamic e-based system for monitoring of the projects under the Livestock Program. In the process, three sets of well-designed forms evolved: (i) Project Initiation Form; (ii) Annual and Monthly Project Targeting Forms; and (iii) Monthly Project Monitoring Forms. A further review of the programs and projects of the current Livestock Programs highlighted the necessity of revising the original nine groupings of the Program and categorizing the activities into 13 more homogenous groups: Farms and Pasture, Genetic Improvement, Quick Response Service, Market Development, Credit Facilitation, Postharvest and Other Infrastructure, Research and Development, Extension Support, Education and Training, Regulatory Services, Animal Health, Information Support, and Plans and Policy. These groups served as the principal guide in crafting 13 different annual and monthly targets and monthly monitoring schedules. These schedules in turn, were used as main references in the development of the e-based monitoring system.

Figure 2. Home Page in Public Site

4. The e- system for the DA Livestock Program

The e-system supports the LDC's needs for an on time monitoring of the DA-LP projects responsive to management's decision-making needs. The system includes an electronic data inputting mechanism, data archiving and database mechanism and a report generation module that initially contain statistical tables which facilitate analysis of the utilization financial resources *vis-a-vis* achievement of project's objectives and milestones. When the e-system gets implemented, the LDC starts to get and accumulates project-level monthly reports instead of the conventional regionally aggregated reports. The regional field

offices on the other hand are no longer required to consolidate project- and activity-specific reports. The e-database system has a customized data entry subsystem which has the capability to transmit to the LDC virtual server the project records immediately after they are entered onto the system. This feature facilitates the need of LDC to prepare real time and more disaggregated and detailed reports that may be requested by DA and other concerned stakeholders. It maintains database on contents of regular reports from the field with central hub at LDC and has the facility to recalibrate targets. The system can also help reduce work and errors in recording and reporting the accomplishments of the Program. The system also contains definition of terms used in the forms as well as internet terms.

 The homepage of the DA Livestock Program is located at www.livestockphil.com. The Public Home Page is the initial or main page in the public site. It is designed to provide general interesting information and highlights of the development of the Program. There is another Home Page, in the restricted site, where it provides the authorized user the information on the ten most recent transactions of the user who logged in the system. Authorized users are given corresponding access rights to the system.

4.1 Hierarchy of users

The Agri-Pinoy Livestock Program Website has two modules namely: (a) Content Management System (CMS) and (b) Project Management System (PMS). These modules are available only to the authorized users of the System, These are:

Figure 3. The Project Management System Users Flow

a. Report Officer whose access right in the system is limited to data encoding of his or her regional livestock program data.

b. Livestock Coordinator has the same access rights as that of the Report Officer with the additional responsibility to approve and submit the report officer's encoded report

c. Web Content Assistant has the authority to upload and edit the data for viewing of the general public. These may include the news article, downloads, contact details and others.

d. System Administrator has full rights to access all windows of the System including the authority to approve, edit, delete and update all features of the CMS. He/she also has the full control to access, approve, edit, delete and update contents of the PMS module. Moreover, he exercises the right to view the reports of all regions, other livestock agencies and even the other DA and other agencies authorized to go to the Restricted Site.
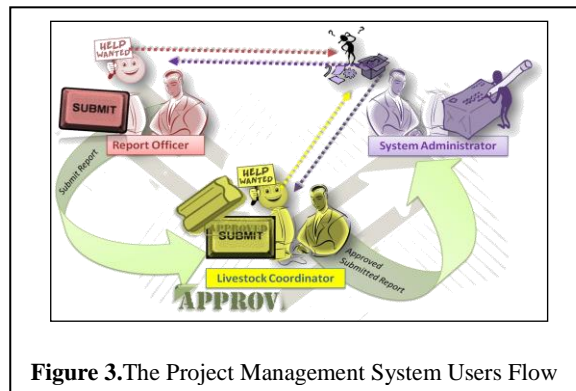
4.2 Project Monitoring System Module

The most important module of the e-System is the Project Monitoring System site. This is the part of the System where the Agri-Pinoy Livestock Progam's targets, monthly monitoring reports are entered and stored. This module translates into easy-to-use electronic forms the 13 sets of target and monitoring schedules. Detailed instructions on how to operate this part of the System are discussed in the three-volume Users' Manual prepared as part of the SRTC's commitment to LDC.

4.3 E-report Generation Module

The accomplishment reports reviewed by the study team show a simple enumeration of the outputs measured according to the Program's 'performance indicators'. The output formats limit the application of many statistical analytical tools to measure the efficiency, effectiveness and true achievements of the Program. Even a simple correlation analysis cannot be performed in the absence of a two-way or cross-tabulation of outputs.

A menu of possible output tables was derived from the accomplishment report. This is not an exhaustive listing as many more two-way or multi-level cross tabulations can be generated. Because of the limitless possibilities on the manner the physical outputs of the Program could be presented, a key feature of the e-system also includes a report generation and analysis sub-module.

5. Conclusion

As a closing activity of the Project, a series of cluster trainings were conducted for all the officers and personnel of the DA who are involved in the implementation of the e-System of Monitoring of the Agri-Pinoy Livestock Program. The participants feedback that the the product of the Project will provide them a very useful tool in improving the quality of the monitoring of the Program. The e-System is indeed a very useful friendly one. They also appreciated the initiative taken by LDC in reducing their work as well as reporting errors in recording the monthly accomplishment reports of the Program. While many comments and suggestions were raised in the initial version of the e-System, most of these however, were within manageable limits and will not reduce the value of the computerized monitoring system.

6. Recommendations

As future direction of the e-monitoring system, it is recommended that a follow up project be conducted in order to assess the quality of reports being submitted. Livestock agencies, especially LDC staff, livestock coordinators, report officers and other livestock program implementers should undergo capacity building on data analysis and indicators development for more meaningful livestock program monitoring and evaluation system. The users of the e-system have to be expanded to include project implementors at sub-regional offices. Finally, target and accomplishments forms has to be reviewed to see parts that are usually not filled in by report officers, hence for trimming down in order to minimize lag time of reporting.

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