

United Republic of Tanzania



**AGRICULTURAL SECTOR DEVELOPMENT PROGRAM
(ASDP)**

**AGRICULTURAL ROUTINE DATA SYSTEM
(ARDS)**

OPERATION GUIDE (DRAFT)
(Ver. 05)

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ASDP M&E THEMATIC WORKING GROUP

ARDS Operation Guide

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5. Training Guide for District Officers on Data Consolidation, Analysis and Feedback in Agricultural Routine Data System (ARDS)
6. LGMD2i Operating Manual
7. LGMD2i Technical Manual
8. ARDS Operation Status Matrix (Blank Form)

ACRONYM

ACBG	Agricultural Capacity Building Grant
AEBG	Agricultural Extension Block Grant
ARDS	Agricultural Routine Data System
ASDP	Agricultural Sector Development Programme
ASDS	Agricultural Sector Development Strategy
ASLMs	Agricultural Sector Lead Ministries (MAFC, MLFD, MIT and PMO-RALG)
ASSP	Agricultural Statistics Strategic Plan
BFSC	Basket Fund Steering Committee
DADG	District Agricultural Development Grant
DADP	District Agricultural Development Plan
DAICO	District Agriculture, Irrigation and Cooperative Officer
DALDO	District Agricultural and Livestock Development Officer
DC	District Council
DC	District Commissioner
DED	District Executive Director
DLFDO	District Livestock and Fishery Development Officer
DMEO	District Monitoring and Evaluation Officer
DPLO	District Planning Officer
DPP	Department / Director of Policy and Planning
DP	Development Partner
DS	District Statistician
FAO	Food and Agriculture Organization
FY	Fiscal Year
GoT	Government of Tanzania
IT	Information Technology
IDCF	Integrated Data Collection Format
IDCJ	International Development Center of Japan
JICA	Japan International Cooperation Agency
LGA	Local Government Authority
LGMD	Local Government Monitoring Database
MAFC	Ministry of Agriculture, Food Security and Cooperatives
M&E	Monitoring and Evaluation
MC	Municipal Council
MIT	Ministry of Industry and Trade
MKUKUTA	Mkakati wa Kukuza Uchumi na Kupunguza Umasikini Tanzania (National Strategy for Growth and Reduction of Poverty)
NBS	National Bureau of Statistics
NPS	National Panel Survey
NSCA	National Sample Census of Agriculture
NSGRP	National Strategy for Growth and Reduction of Poverty
PDM	Project Design Matrix
PMO-RALG	Prime Minister's Office - Regional Administration and Local Government
RAA	Regional Agriculture Advisor
RAS	Regional Administrative Secretary
RLA	Regional Livestock Advisor
RS	Regional Secretariat
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
TAFSIP	Tanzania Agriculture and Food Security Investment Plan

TOR	Terms of Reference
TOT	Training of Trainers
TSMP	Tanzania Statistical Master Plan
TWG	Thematic Working Group
UCC	University Computing Centre
VADP	Village Agricultural Development Plan
VAEO	Village Agricultural Extension Officer
WAO	Ward Agricultural Extension Officer
WB	World Bank

CHAPTER I

1. Introduction

1.1 Purpose of the ARDS Operation Guide

The ARDS Operation Guide is an official guidance document for the operation of the ARDS which is formally authorized for the agricultural data collection at LGA level by the government letter _____ issued from PM-RALG on mm/dd/yy. The purpose of this Guide is to provide guidance and direction on how to operate and use ARDS in practical terms. The ARDS operation must follow and be ruled by this document.

1.2 Scope of the ARDS Operation Guide

This Guide specifies every important aspects of the ARDS operation. The areas and subjects covered by this document are as follows.

No.	Area/Subject
1	Purpose of ARDS
2	Composition of ARDS
3	Institutional requirements for ARDS
4	Data flow of ARDS
5	Data to be collected and transmitted
6	Operation components of ARDS
7	Operation cycle of ARDS
8	Tasks of major actors
9	Communications and consultations among stakeholders
10	Attachment

This Guide is intended mainly for LGA officers (DALDO (or equivalent officer), District M&E officer (DMEO), District Agricultural Statistician (DS), District Subject Matter Specialists in agriculture, and any other district officers who support field extension officers in terms of agricultural data collection). However, this Guide must also be referred to by Regional officers and the National level actors, i.e. the M&E TWG, the IT Section and the Statistics Units of ASLMs, whenever they engage in the ARDS operation. This Guide will be routinely reviewed and revised as needs arise.

2. Outline of ARDS

2.1 Purpose of ARDS

The present ARDS to which this Guide specifies the operation is an improved version of the previously existing one. The present ARDS brought improvement to the old by introducing the following:

- Standardized formats of data collection with clear definitions of data to be collected
- Clear instruction on the method and channels of data collection, compilation and transmissions.

Data collection and reporting are an integral part of Monitoring and Evaluation (M&E) for an agricultural development policy and planning. Without systematic and timely provision of necessary data, a proper M&E cannot be conducted. Furthermore, in order for M&E to be effective, the data collected must be accurate, up to date, and accessible. The ARDS has been re-activated with improvement for this purpose.

The purposes of this improved ARDS can be summarized as follows.

- ❑ To provide agricultural data on a timely manner for district officers for their reporting, planning, monitoring and evaluation of the agricultural sector.
- ❑ To provide agricultural data for regional and national government officers for their overall monitoring and planning of the agricultural sector.
- ❑ To provide information so that national and regional level estimates of annual sample surveys are broken down to district estimates.
- ❑ To improve resource utilization (money, manpower and time) by having a uniform and comprehensive data collection system in the agricultural sector.
- ❑ To help stakeholders make proper decisions at all administrative levels from village up to national level.

2.2 Composition of ARDS

The ARDS is composed of:

- ❑ The VAEO/WAEO Format (for the data collection at Mtaa/Village/Ward levels),
- ❑ The District Integrated Report (compiles data at District level), and
- ❑ The Local Government Monitoring Database 2i (LGMD2i), a software for data transmission

2.3 Institutional Requirements for ARDS

The recent ARDS requires following sets of institutional arrangements (offices and officers with duties) described in an ascending order of the administrative structure. Details of their duties are described in Section 3.3.

Village: There must be a village agricultural extension officer (VAEO) (or village executive officer) who collects data from village level. Village registry is a good source of data, and to be updated regularly.

Ward: There must be a ward agricultural extension officer (WAEO) who is responsible for receiving data from VAEO and consolidates them to ward level data.

District (LGA): There must be DALDO (District Agricultural and Livestock Development Officer). If the office is split, there must be DAICO (District Agriculture, Irrigation and Cooperative Officer) and DLFDO (District Livestock and Fishery Development Officer). The office must have both DMEO (District M&E Officer) and DS (District Statistician). DALDO (or equivalent offices) must be staffed with sufficient number of officers who can guide and supervise field extension officers as well as process the data at district office. It is desirable for the district to have IT officers who can provide reliable technical support to the ARDS operation.

DALDO (or any equivalent office) assumes entire responsibility for the ARDS operation including its budgeting, data collection, data entry, analysis, reporting and transmission to the region and the national level in a timely manner.

Region: There must be a regional officer responsible for the ARDS operation. The officer can be either RAA (Regional Agricultural Advisor) or RLA (Regional Livestock Advisor). He/she is responsible for monitoring and guiding LGAs in all aspects of the ARDS operation. He/she is also tasked to approve (or give comments on) the ARDS report

submitted by LGAs to the region.

National level: The ASDP M&E TWG together with ASLMs' statistics units and IT units is responsible for overall management, maintenance, revisions, guidance, data utilization and promotion of the ARDS including the operation. This assembly of groups, which may be called the ARDS Management Body (ARDS MB) must be fully functional any time with a sufficient number and expertise of staff for the on-going operation of the ARDS.

2.4 Data Flow of ARDS

Data flow in the improved ARDS is shown in Figure 1 next page.

2.5 Data to be Collected and Transmitted

The present ARDS collects categories of data as shown below. Details of the data within the category should be referred to in the VAEO/WAEO format.

VAEO/WAEO Monthly Report	VAEO/WAEO Quarterly Report	VAEO/WAEO Annual Report
1. Introduction (weather condition, activity summary)	1. Village Food Situation	1. Introduction (Population and number of households)
2. Crop: Planted Area, Yield, Production and Prices	2. Farmers Groups/ SACCOS	2. Contract Farming
3. Plant Health Services	3. Extension Services	3. Irrigation (water source, area, IO members, etc.)
4. Livestock Slaughtered	4. Biological Control Measures	4. Agricultural, Livestock and Fishery Machines
5. Meat Inspection	5. Irrigation (planted area, production, etc.)	5. Extension Services (FFS)
6. Livestock Products	6. Soil Erosion	6. Input Use
7. Livestock Health	7. Area Cultivated and Means of Cultivation	7. Livestock Population
8. Achievements and Challenges		8. Livestock Infrastructure
9. Visitors		9. Rangeland
		10. Pasture
		11. Area covered by TV, Radio and Telecommunication

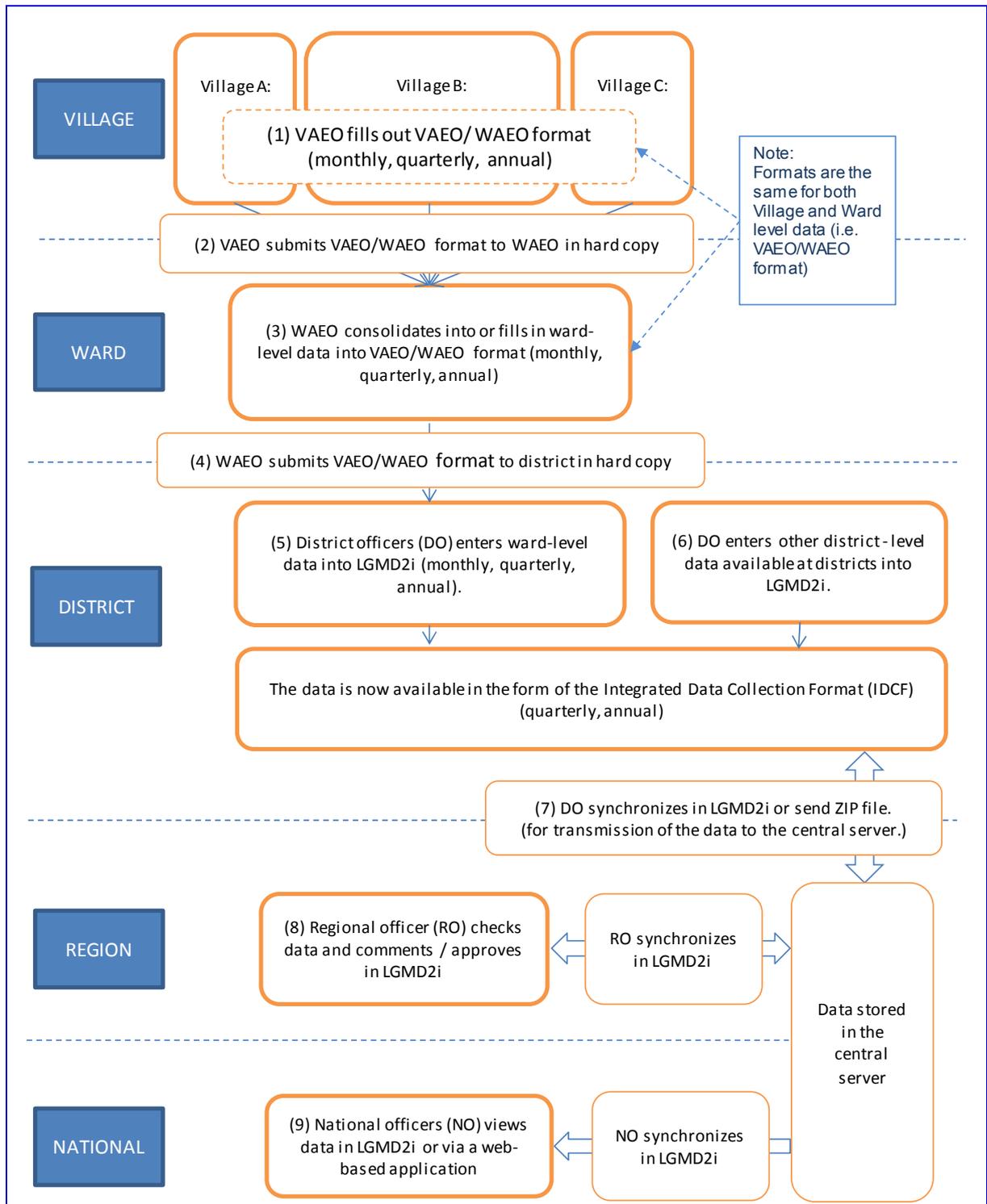


Figure 1: Data flow in the improved ARDS

3. ARDS Operation

3.1 Operation Components

Below are major operational components of ARDS. Many of them are directly concerned with LGAs, but Regions and the National level should also be responsible partially for any of the components. The parties with which the component is mostly concerned are indicated at the section title with following abbreviations:

V/W: VAEO/WAEO, **D:** District level, **R:** Regional level, **N:** National level

(1) Budgeting [D, R, N]

■ District Level

Every activity needs adequate budget, and ARDS is not an exception. Proper budgeting for ARDS is mandatory for districts as instructed by PMO-RALG through the Circular, but it is still possible that the district officers may find it difficult to have adequate budget for ARDS operation due to competition among various activities. Under such circumstances, the key for securing adequate budget is the understanding of the importance of ARDS by high ranking district officials such as DED, DPLO, and DALDO (or equivalent officer). To make them fully aware of the importance of the ARDS, the district officers in charge of ARDS should take the following measures, but not limited to,

- To explain how effectively it stores and manages agricultural data,
- To show the high ranking district officials reports which are prepared based on the data collected through ARDS,
- To explain how the use of data is indispensable for the improvement of district agricultural planning such as the District Agricultural Development Plan (DADP),
- To explain how it can effectively monitor the progress of the DADP projects and other activities, and
- To explain how it can effectively respond to a number of questionnaires sent by national ministries and agencies, regions and district stakeholders including the District Council.

The ASDP M&E Thematic Working Group shall also support this effort by

- Explaining the importance of ARDS to high ranking district officials whenever they visit the district, and
- Preparing a leaflet or newsletter which explains the importance and usefulness of the ARDS.

For smooth ARDS operation, the budget should include the following, but not limited to:

[For the minimum requirement of the ARDS Operation]

An indicative budget estimates are shown in Table 1. The items of budget should be adjusted according to the local needs.

- Printing and photocopying (paper, toner, etc.) (Blank formats are only to WAEO.)
- Fuel for WAEO (for the use of motorbikes)
- Bicycle maintenance for VAEO
- Stationary for VAEO/WAEO
- For submission of complete VAEO/WAEO format to district (by bus, etc.)
- Monitoring of VAEO/WAEO by district agricultural M&E officer (DMEO) and/or district agricultural statistician (DS).

- Access to internet (for LGMD2i Synchronization)

[For better and improved ARDS operation]

(Additional enhancement)

An indicative budget estimates are also shown in Table 1. The items should be adjusted according to the local needs.

- Printing and photocopying (paper, toner, etc.) (Additional blank formats to VAEO.)
- Budget for technical support by Regional IT staff in case of computer malfunctioning
- Annual workshop / review for ARDS with the participation of all VAEO / WAEO,
- Refresher/ Training for LGA officers on, for example, Excel

Table 1 shows an example of annual ARDS operation costs (indicative) with an assumption that the LGA has 15 Wards (15 WAEO) and 60 villages (VAEO).

Table (A) shows the minimum budget needed for ARDS operation.

Table (B) shows additional budget needed for improved (enhanced) ARDS operation.

Table 2 is a general form of the cost calculation for both (A) and (B)

To prepare realistic budget, district officers put adequate numbers for ww (number of WAEO), vv (number of VAEO), yy (amount of litres necessary to monitor VAEO/WAEO per month), and mm (number of officers in DALDO's office) and compute.

■ **Regional and National Levels**

While major challenge of budgeting is at the district level, the regional and national level should also make sure that they secure necessary resources for the ARDS operation for their guidance, supervision, facilitation and instruction to the district in the ARDS operation. The budget is also necessary for both the region and the national level for their own data utilization, like report production, analysis and presentation.

Table 1: Indicative Cost Estimate (Example)

Item	Details	Number (WAE0 xx, VAE0 zz)	Page/liter/day		No of Copies/Event	Unit price	Frequency	Cost
			Amount	Unit				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)=(1)x(2)x(4)x(5)x(6)
Printing and Photocopying	Monthly	15	5	page	2	100	12	180,000
	Quarterly	15	4	page	2	100	4	48,000
	Annual	15	11	page	2	100	1	33,000
Fuel for WAE0	Monthly	15	3	liter/month	1	2,200	12	1,188,000
Bicycle maintenance for VAE0	Monthly	60	1	time/month	1	2,000	12	1,440,000
Stationary for VAE0/WAE0	Monthly	75	1	time/month	1	500	12	450,000
Submission of complete VAE0/WAE0 format (by bus, etc.)	Monthly	15	1	time/month	1	500	12	90,000
Monitoring by DMEO	Monthly	1	4	days/month	1	45,000	12	2,160,000
	Fuel	1	10	liter/month	1	2,200	12	264,000
LGMD2 synchronization	Monthly	1	1	time/month	1	500	12	6,000
(A) Total								5,859,000
Assumption: There are 15 WAE0s and 60 VAE0s .								
(B) Additional cost for better and improving operation of ARDS								
Enhancement: (a) Blank format to VAE0s, (b) Bi-annual facilitation by Regional IT, (c) Annual refresher workshop to WAE0s/VAE0s, (d) Refresher/Training to LGA officers.								
Item	Details	Number (WAE0 xx, VAE0 zz)	Page/liter/day		No of Copies/Event	Unit price	Frequency	Cost
			Amount	Unit				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)=(1)x(2)x(4)x(5)x(6)
Printing and Photocopying	Monthly	60	5	page	1	100	12	360,000
	Quarterly	60	4	page	1	100	4	96,000
	Annual	60	11	page	1	100	1	66,000
Bi-annual facilitation by regional IT specialist (in case of computer malfunctioning)	Per diem	1	2	days/event	1	65,000	2	260,000
	Travel	1	2	time/event	1	10,000	2	40,000
	Per diem (DMEO, DS, DALDO)	75	3	days/event	1	45,000	1	10,125,000
Annual workshop with all VAE0/WAE0	Per diem	3	2	days/event	1	32,500	1	195,000
	Travel	75	1	time/event	1	5,000	2	750,000
	Per diem (DMEO, DS, DALDO)	5	1	days/event	1	32,500	1	162,500
(B) Total								12,054,500
Assumption: There are 15 WAE0s and 60 VAE0s .								
Grand Total (A+B)								
								17,913,500

Table 2: Indicative Cost Estimate (General Form)

(A) Minimum cost necessary for adequate ARDS Operation (Blank format only to WAEO)

Item	Details	Number	Page / litre / day		Unit price	No of copies/ event	Frequency	Cost
			Amt	Unit				
		(1)	(2)	(3)	(4)	(5)	(6)	(6)=(1)x(2)x(4)x(5)x(6)
Printing and Photocopying	Monthly	ww	5	page	100	2	12	
	Quarterly	ww	4	page	100	2	4	
	Annual	ww	11	page	100	2	1	
Fuel for WAEO	Monthly	ww	3	Litre / month	2,200	1	12	
Bicycle maintenance for VAEO	Monthly	wv	1	Time / month	2,000	1	12	
Stationary for VAEO/WAEO	Monthly	ww+vW	1	Time / month	500	1	12	
Submission of complete format (by bus, etc.)	Monthly	ww	1	Time / month	500	1	12	
Monitoring by DME0, DS	Monthly	1	4	Days / month	45,000	1	12	
	Fuel	1	yy	Litre / month	2,200	1	12	
LGMD2 synchronization	Monthly	1	1	Time / month	500	1	12	
(A) Total								

ww: number of WAEO, wv: number of VAEO

yy: amount of litres necessary for DME0/DS to monitor VAEO/WAEO per month.

(B) Additional costs for ARDS Operation with enhancing components
 Enhancement: (a) Blank format to VAEO, (b) Bi-annual facilitation by Regional IT, (c) Annual refresher workshop to WAEO/VAEO,
 (d) Refresher/Training to LGA officers.

Item	Details	Number	Page / litre / day		Unit price	No of copies/ event	Frequency	Cost
			Amt	Unit				
		(1)	(2)	(3)	(4)	(5)	(6)	(6)=(1)x(2)x(4)x (5)x(6)
Printing and Photocopying	Monthly	ww	5	page	100	2	12	
	Quarterly	ww	4	page	100	2	4	
	Annual	ww	11	page	100	2	1	
Facilitation for regional IT specialist (In case of computer malfunctioning)	Per diem	1	2	days / event	6,5000		2	
	Travel	1	2	time / event	10,000		2	
Annual workshop with all VAEO/WAEO	Per diem	ww+ww	3	time / event	45,000		1	
	Travel	ww+ww	2	days/ event	5,000		1	
	Per diem (DALDO, DMEQ, DS)	3	2	days/ event	32,500		1	
Training for LGA officers	Per diem	mm	1	days / event	32,500		1	
(B) Total								

ww: number of WAEO, w: number of VAEO, mm: number of LGA officers

Grand Total (A)+(B)

(2) Format Distribution [V/W, D]

For each month, quarter, and year, district officers should make necessary copies of the VAEO/WAEO blank formats and distribute them to VAEO/WAEO. The district should prepare the copies well in advance so that there is enough time for distribution.

[Means of Distribution]

- The direct distribution in person is highly recommended rather than passing them through other people/bus.
 - Responsible district officer distributes the format to VAEO/WAEO by directly visiting them. This is especially important if VAEO/WAEO do not regularly visit the district headquarters.
 - VAEO/WAEO should pick up the format utilizing any opportunity to visit the district headquarters. In this case, it is recommended for the district to designate one specific place at DALDO office for distribution of the blank format and collection of the filled-in report.
- If district officers do not visit village/ward and VAEO/ WAEO do not come to the district headquarters, district officer may deliver the format to the WAEO at division center, who in turn will distribute it to the other VAEO/WAEO in the same division or ask VAEO/WAEO to pick them up there.

[Timing of Format Distribution]

- Distribution should be completed before the beginning of the month of their usage so that VAEO/WAEO can fill the form as they conduct their normal duties.
 - The Monthly Format should be distributed quarterly (three months together), during the days between 20th and 30th (or 31st) of the last month of previous quarter.
 - The Quarterly Format should be distributed once per quarter at the same time when the monthly format is distributed.
 - The Annual Format should be distributed when the formats for the fourth quarter are distributed (March).

[Number of Blank Formats to be distributed]

- It is important that two copies of the blank forms are distributed to each VAEO / WAEO for each month / quarter / annual.
- Both of them are to be filled: one of them is for submission to the District, and the other for WAEO/VAEO to keep at the ward / village, which can be used for, e.g., planning of Village Agricultural Development Plans (VADP).

If the blank forms are not distributed on time, Village/Ward Extension Officer should contact the district office.

It is recommended for the district to monitor the status of format distribution. Below is a suggested table to do this task.

Table 3: Suggested table for VAEO/WAEO format distribution

Report for: _____

SN	Name of ward	Number of village	Number of format distributed	Received by		Remark
				Name	date	

(3) Data Collection [V/W, D]

The data for the VAEO/WAEO format are to be collected by VAEO/WAEO. Data must be collected every month, quarter and year without interruption. With interruption, the system loses the ability of tracking overall trend of the sector. When collecting the data, VAEO/WAEO should pay attention to the following.

- Follow the instructions stipulated in the VAEO/WAEO Training Guide.
- The format clearly shows what should be written in a report. Therefore VAEO/WAEO should be clear what kinds of information to be collected. Note that the present ARDS is different from the past where data collection was non-uniform and sporadic because the method was not standardized.
- The format covers the whole agricultural sector including livestock, cooperatives etc.
- It will be easy to fill out the format if VAEO/WAEO keep a record on their activities every day.
- It is very important that VAEO/WAEO cooperate so that they organize themselves in data collection.
- It is recommendable for VAEO/WAEO to have a regular meeting (like once in two weeks or a month) so that they share information and keep cooperation. (see sub-section (4) below)
- It is also important to cooperate with village executive officers in data collection.
- When a VAEO is on a leave, he/she can ask his/her colleague in a nearby village to write this report. As for WAEO, he/she may ask one of the VAEO in the ward.

District officers should keep good guidance to, supervision on and feedback to VAEO/WAEO for the data collection work. Especially the data collection method stipulated by the VAEO/WAEO Training Guide needs to be thoroughly observed for the good data quality.

(4) VAEO/WAEO Report (Filled-in formats) Submission/ Reception [V/W, D]

- At the village level, the VAEO submits the report to the WAEO by the end of the month. The VAEO should keep a copy of the report in his/her office.
- At the ward level, a village report is consolidated into a ward report, which is submitted to district office within the first week of the following month. The WAEO should keep a copy of the report in the ward office.
- It is desirable for the district to encourage VAEO/WAEO to form the Ward Data Consolidation Team (WDCT) in each ward. All extension officers in a ward are the members of a WDCT, which is led by a WAEO. It meets every month and jointly fills out the ward level format. In this process, they check data quality each other, which helps improve data quality and the capacity of extension officers in report preparation.

- WAEO should go to the district office to submit the report. In case that he/she is not able to go to the district office, he/she will ask other extension officers to submit the report.

For district officers, in order to collect filled-in reports on time, follow-up is very important. The officers should make phone calls to WAEO if they fail to submit the report on time. Especially for quarterly and annual reports, VAEO/WAEO may forget about them as they are not required every month. It is recommended for districts to monitor the report submission status. Suggested table to do this task are shown below. Also, proper feedback is a key to motivate VAEO/WAEO to fill out the format with reliable information and submit it on time. For details on feedback, see sub-section (6) in this chapter.

Table 4: Suggested table for VAEO/WAEO filled-in format submission

Report for: _____

SN	Name of ward	Submitted by		Data quality check (✓)	Data entry to LGMD2i (✓)	Remark
		Name	date			

(5) Data Quality Check [D, R, N]

■ District Level

When the district officer receives the report from WAEO, or WAEO receives the report from VAEO, s/he should check the data, in particular, in the following points. If there are mistakes or questionable data, s/he should contact WAEO (or VAEO) and clarify the question or provide instruction.

- Are all tables filled (except for those not applicable)?
- Are the data period appropriate in each table (data for the particular month/quarter or cumulative)?
- Are the data using appropriate unit of measurement (i.e. not by bundles, but by Kg)?
- Are the data realistic compared to the following?
 - Previous report data
 - District total or average data
 - Latest National Sample Census Agriculture data (i.e. 2002/03, 2007/08)
 - Your field observation
- Cross check the data with relevant officers at the district: officers in charge of crop, livestock, cooperative, extension, marketing, irrigation, etc.

■ Regional and National Level

- Regional officers should inspect the quality of data once the district submits the report for approval. They should give comments and guidance to the district for improving the data quality. (See sub-section (10) below.)
- Similarly the national level should also inspect the data quality, and give guidance to the region and the district. If it is necessary, the national level should amend the relevant documents such as the training guides and this operation guide, etc. so that data quality will be uniformly improved across the country.

(6) Feedback [D, R, N]

■ District Level

- WAEO should provide feedback to VAEO. If there is a problem, the officer should ask for clarification or correction.
- If they meet as WDCT (explained before), it is easy to provide feedback to VAEO.

Proper feedback is a key to motivate VAEO/WAEO to fill out the format with reliable information and submit it on time. Through feedback, VAEO/WAEO need to see that their reports are read and the information they have provided is well used by the district. The following is some examples of how to give feedback to them.

- Once the district report is prepared, the district should not only submit it to the District Executive Officer and the Council, but also post it on a notice board of the district office so that VAEO/WAEO can read it when they visit the office. If possible, the district may send the report to each ward or division.
- A district officer should visit division/ward centers as often as possible to meet VAEO/WAEO for providing feedback and backstopping for data collection. Such positive engagement by the district increases extension officers' confidence and encourage them to be more serious in filling out the form. Therefore the quality of data will improve.
- Based on the data analysis, the district and VAEO/WAEO can provide comments to the village agriculture development plan.
- Another idea to motivate VAEO/WAEO may be to provide an award or reward to those performing well, such as "best WAEO of the quarter."

■ Regional and National Level

- Both regional and central officers should give feedback to the district so that the district understands that the data are effectively monitored by the higher levels. The national level should also give feedback to the region for the same purpose.

(7) Data Entry to LGMD2i [D]

- After checking and improving the data collected by VAEO/WAEO, district officers should enter the data into LGMD2i, creating a file for each month, quarter and year for each ward.
- Data entry should be conducted according to the LGMD2i user manual.
- Some tables of LGMD2i are to be filled out at district. To do this, create a file for district report for each quarter and year for the district, and enter data.
- LGMD2i will automatically aggregate ward-level data to get district-level estimates. It is important to double check the ward / district level data after the data are entered in LGMD2i.
- If it is hard for one officer to enter data in LGMD2i, it is a good idea to form a team in the district office in entering ward-level data in LGMD2i. Actually it is important that several officials are familiar with ARDS and LGMD2i just in case of transferring and/or emergency.

Table 5: ARDS Entry Forms (at District)

Level	Name of Entry Forms in LGMD2i	Abbr.	Data source
Ward	WF00 - Ward Annual Target Entry Form	WF00	VAEO/WAEO Format (Monthly, July)
	WF01 - Ward Monthly Entry Form	WF01	VAEO/WAEO Format (Monthly)
	WF02 - Ward Quarterly Entry Form	WF02	VAEO/WAEO Format (Quarterly)
	WF03 - Annual Entry Form	WF03	VAEO/WAEO Format (Annual)
District	DF02 - District Quarterly Entry Form	DF02	District Subject Matter Specialist

DF03 - District Annual Entry Form	DF03	District Subject Matter Specialist
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(8) Report Production [D, R, N]

■ District Level

Once necessary data are entered into LGMD2i, the software automatically processes the data and makes following report ready for printing. LGMD2i can produce a variety of reports as summarized in the table below. The reports can be used for different purposes, and the district should be able to utilize them according to their needs. Note that among various reports, two reports (DIR Quarterly (DIR02) and DIR Annual (DIR03) <for the abbreviation, refer to the description below>) are those to be referred to as district's official reports.

Table 6: ARDS Reports (at District)

Outputs in LGMD2i	Name of Report	Abbr.	Data contents
Ward Reports	Ward Monthly Report	WR01	Ward Annual Target Entry Form (WF00) and Ward Monthly Entry Form (WF01)
	Ward Quarterly Report	WR02	Ward Quarterly Entry Form (WF02)
	Ward Annual Report	WR03	Ward Annual Entry Form (WF03)
District Reports	District Monthly Report	DR01	Consolidation of WR01 across wards
	District Quarterly Report	DR02	Consolidation of WR02 across wards
	District Annual Report	DR03	Consolidation of WR03 across wards
Integrated Reports (District)	District Quarterly Integrated Report	DIR02	Consolidation of DR01 and District Quarterly Entry Form (DF02)
	District Annual Integrated Report	DIR03	Consolidation of DR02, DR03 and District Annual Entry Form (DF03)

Characteristics of each type of reports are described below.

Ward Reports: Individual ward has its own report after data entry.

These reports are useful for checking data entry mistakes. It is also good for data saving. It has three kinds: Monthly, Quarterly and Annual (WR01, WR02 and WR03).

District Reports:

These reports simply summarize all ward-level data into the district level. DR are not official reports of the district. It has three kinds: Monthly, Quarterly and Annual (DR01, DR02 and DR03).

Integrated Reports (District):

This is a report produced by combining both ward-level data and district-level data. DIR is an official district report to be referred to by the region and the national level. It has only two kinds: Quarterly and Annual (DIR02 and DIR03).

The district should be aware of the difference among the reports and make the best use of them. It is expected that once these reports are ready, the district should be ready for responding rather easily to any inquiries about district's on-going agricultural status.

■ Regional Level

After the district sends (transmits) data to the national level (to the central server), the region can see and produce the following two types of reports through LGMD2i, in addition to all the reports in Table 6. The reports particularly relevant to the region are tabulated below.

Table 7: ARDS Reports (at Region)

Outputs in LGMD2i	Name of Report	Abbr.	Data Contents
Integrated Reports (District)	District Quarterly Integrated Report	DIR02	Individual LGA's District Quarterly Integrated Report
	District Annual Integrated Report	DIR03	Individual LGA's District Annual Integrated Report
Integrated Reports (Region)	Region Quarterly Integrated Report	RIR02	Consolidation of DIR02 across LGAs
	Region Annual Integrated Report	RIR03	Consolidation of DIR03 across LGAs

Characteristics of each type of reports are described below.

Integrated Reports (District): The region can see individual LGA's Integrated Reports. It has two types: Quarterly and Annual (DIR02 and DIR03).

Integrated Reports (Region): The region also can see a regionally summarized DIRs. It has again two types: Quarterly and Annual (RIR02 and RIR03).

The region should utilize these two types of reports according to their needs.

■ **National Level**

Similar to the region, after the district sends (transmits) data to the national level (to the central server), the national level can see and produce the following three types of reports, in addition to all the reports in Table 6. The reports particularly relevant to the national level are listed below.

Table 8: ARDS Reports (at National)

Outputs in LGMD2i	Name of Report	Abbr.	Data Contents
Integrated Reports (District)	District Quarterly Integrated Report	DIR02	Individual LGA's District Quarterly Integrated Report
	District Annual Integrated Report	DIR03	Individual LGA's District Annual Integrated Report
Integrated Reports (Region)	Region Quarterly Integrated Report	RIR02	Consolidation of DIR02 across LGAs
	Region Annual Integrated Report	RIR03	Consolidation of DIR03 across LGAs
Integrated Reports (National)	National Quarterly Integrated Report	NIR02	Consolidation of RIR02 across Regions
	National Annual Integrated Report	NIR03	Consolidation of RIR03 across Regions

Characteristics of each type of reports are described below.

Integrated Reports (District): The center can see individual LGA's Integrated Reports. It has two types: Quarterly and Annual (DIR02 and DIR03).

Integrated Reports (Region): The center can see individual Region's Integrated Reports It has two types: Quarterly and Annual (RIR02 and RIR03).

Integrated Reports (National): The center also can see a nationally summarized Integrated Reports. It has two types: Quarterly and Annual (NIR02 and NIR03).

The national level should utilize these three types of reports according to their needs.

(9) Data Transmission [D]

The district should transmit their data either by network synchronization or by email-based zipped file transmission. LGMD2i has capability of both transmission modes. The district should select either mode, depending upon their local network connectivity.

[Selection of data transmission mode]

- If a district has good internet connectivity, it should be able to send data through synchronization which allows a district computer directly send data to the central server.
- However, if the connection is weak or not stable, the district should send the data by zipped files through email communication. LGMD2i can easily produce zipped files.
- The zipped file needs to be sent to the national level (**Lgmd2.kilimo@gmail.com**). A few officers of the ASDP M&E TWG [See sub-section 3.4 (2)] have been specifically designated for receiving the files. They then import the data to the central server.
- For data approval by the region, the zipped file needs to be first sent to the center (to the two officers mentioned above). Once the data are imported to the server, the regional officers can see and process the approval and comments.

[Frequency of data transmission]

- If data are sent by synchronization, data transmission should be tried as often as possible. For example it is acceptable to send data every time data of one ward are entered into LGMD2i. The longer one waits for data transmission, the greater the volume of data to be transmitted, hence the longer LGMD2i needs to be kept in synchronization.
- Even if data are sent by zipped file, it is preferable to send them monthly. The reason is the same: the longer one waits for sending data, the greater the volume of data to be sent.
- Data transmission of monthly data (by either synchronization or zipped file) must complete before the 20th day of the following month.
- The same deadline applies to the transmission of the quarterly and annual data.

[Others]

- To obtain district level reports (DIR and DSR), neither synchronization nor zipped file is necessary. Simply go to the district report section of LGMD2i and select the report which is of interest.

(10) Data Approval [R]

Regional officers are in charge of approving or rejecting (with comments) the data submitted by the districts. He / she can do this by synchronizing LGMD2i and obtaining the data from the central server. The approval must be done within 25 days of the following month. If data are sent by zipped files, regional officers need to communicate with the district as well as the national level (those two officers responsible for receiving the zipped files). The approval can be done once the zipped file data are imported to the central server (the due date must be the same).

- Go over the data and check whether they are appropriate by comparing them with data in other districts and/or previous quarters/years.
- If data are wrong, have anomaly or inconsistency, regional officers should give proper

comments so that the district can amend them.

(11) Data Analysis and Utilization (Benefit of ARDS) [D, R, N]

■ District Level

The data obtained through ARDS is comprehensive in the sense that it covers all areas of the district, and it encompassed a broad range of sub-sectors: crop production, crop health, livestock production, livestock health, inputs, extension services, food security, machine and infrastructure. Because of this broadness, if data are collected properly and long enough, it can reveal overall changes of the district agriculture (similarly of region and nation). This is contrasted to progress reports of individual project, which shows outputs of a particular project only.

In this sense, the ARDS report should be helpful in overall monitoring of district agriculture where multiple projects are being implemented. The report is also beneficial to district planning, serving as a basis for all kinds of planning.

The Training Guide for District Officers shows some of the ways to conduct data analysis (from Page 54 of the Guide), which will help district officers extract focused information from the data. The technique for data analysis includes following:

- Time series analysis
- Comparison with target
- Cross section analysis
- Comparison with neighboring districts

ARDS is also useful at the grass root level because the district and VAEO/WAEO can provide suggestions to the Village Agriculture Development Plan (VADP) by referring to the data of particular villages.

■ Regional Level

ARDS data can also be used at the regional level. Regional offices receive both regionally consolidated data and individual LGA data. Data can be analyzed to find out, for example areal characteristics of production within the region, with which the region can construct a regional development plan. It is also possible for a region to produce regional comparison (comparison among regions) of a specific commodity by working on regional data of the entire country. By doing this the region can identify its own strength or weakness in agriculture.

■ National Level

ARDS data is also useful at the national level. ARDS produces nationally consolidated data together with regional and district level data. Similar to the regional data use, the central offices can study on the data to produce, for example national trend of a particular crop, or regional variation of a particular commodity. In various ways, ARDS data is helpful for the national level to analyze the nation's agriculture in general. ARDS data are also very complementary to the data from the annual sample survey and the national sample census which are more rigorous with respect to data quality. The M&E TWG should work closely with the statistics units of ASLMs in this regard.

(12) Data Management [D, N]

■ District Level

With LGMD2i, it is easy to manage data because they are kept at one place (LGMD2i). For VAEO/WAEO, it is also easy to keep records as long as they keep a copy of the filled-in VAEO/WAEO format. They will be used for VADPs and other purposes.

- LGMD2i will be an important databank for district. Whenever data are needed, open LGMD2i and check the data you look for.
- For this purpose, it is important to keep the computers (which LGMD2i is installed) from crashing or virus contamination. Give specific designation to the officers who are authorized to use the computer with LGMD2i. Keep anti-virus software effective all the time.
- It is always a good idea to have data backup separate from the computer. How to make a backup file is explained in the LGMD2i operation manual.
- If the computer crashes and it is necessary to recoup the data, use “rebuild” function in the LGMD2i. This will allow you to rebuild the data from the main server. For this to happen, the data must be in the main server in advance. Thus, frequent synchronization will give you greater chances for data recovery.

■ National Level

As to the national level data management, the major issue is the maintenance of the ARDS central server. Since all ARDS data are submitted and stored at the central server and the server is under the management of ASLMs (specifically by the M&E TWG together with the IT sections), their responsibility is particularly important. The TWG and the IT sections need to make sure that data backups are regularly done and the server is properly protected from disturbances and damages.

When ARDS will be operated long enough and the server becomes obsolete with respect to the data storage capacity and functionality, it is national level responsibility to upgrade the system with replacement of proper facilities.

(13) Campaign and Promotion of ARDS [D, R, N]

■ All Levels

At all levels, ARDS should be promoted and made to known to as many stakeholders as possible. The best way for this is to collect proper data regularly, use the data and show results (either raw data or analytical results) to broader audience. In addition, the district, region and the center should do the following.

- To explain to high ranking officers including political members the importance of the “evidence-based discussion”, i.e. to use data in reporting, planning and any policy analysis.
- To take every opportunity to high ranking officers in explaining the benefit of ARDS.
- To explain that ARDS is a standardized and formally authorized data collection system for the agricultural sector.
- To explain what kinds of data and how often they are collected.
- To use ARDS data for any meeting and presentation occasions: administrative meeting, council meeting, discussion with private sector, discussion with experts and study teams, explanation to farmers and general households, etc.
- To make ARDS data accessible to general public through reports and other means.

(14) Maintenance and Improvement of ARDS [D, R, N]

■ District and Regional Levels

For the district and the region, the major maintenance tasks of ARDS are data storage and computer/ LGMD2i protection.

- Data storage: Once data are entered into LGMD2i, they are electronically stored in a computer. Hence, as long as the computer and LGMD2i are properly functional, one can retrieve any data any time. However, it is also important for the district to keep original data (data on paper). The district should store the submitted filled-in VAEO/WAEO formats for at least three years. This action is necessary for both data backup and data checking if any inquiries arise in future.
- Computer/ LGMD2i protection: As described above, all data are stored in LGMD2i and the central server. Therefore the maintenance of LGMD2i and the computer is the utmost importance. LGMD2i and the computer must be protected from crashing or virus contamination. The district should make resources available for anti-virus software and its regular updating. It is also recommendable for the district to designate particular officers for the use of the computer which LGMD2i is installed.
- Should the computer loaded with LGMD2i be crashed, it is LGA's responsibility to restore or replace the computer and LGMD2i. Upon the request, the copy of LGMD2i will be supplied to LGAs by the M&E TWG for new installation.
- The district is responsible to keep LGMD2i at the latest version.
- Reporting on the ARDS Operation Status: The M&E TWG requests every quarter all LGAs (via regions) to report the ARDS operation status. LGAs receive a standardized report form, i.e. "ARDS Operation Status Matrix" and are requested to fill up the matrix. This operation status information is crucial for the center to monitor the nation-wide ARDS operation. Therefore all LGAs must response to this request and submit the filled-in matrix within 25 days of the following month.
- The same applies to the region. The region must keep LGMD2i and the computer clean from virus and any other damages. Without them, the region is unable to perform its duties (data approval and data utilization).

As to the improvement of ARDS, the district and the region should be encouraged to inform the center about any modifications which seem to improve the use of ARDS. This is particularly relevant in the contents and use of the VAEO/WAEO formats. The formats may need to adjust to local conditions. In such a case, the district should communicate with the center about possible modifications of the formats.

The VAEO/WAEO formats need to be maintained at the latest version.

Also it is highly recommended for the district and the region to inform and share among stakeholders about good practices and/or better examples of ARDS utilization including data utilization.

■ National Level

The center, in particular the M&E TWG, is responsible for the entire setting and operation of ARDS. Therefore the TWG should actively engage in the maintenance and improvement of ARDS. In the areas of information technologies (IT), the TWG should work closely with the IT sections of ASLMs.

[Central server]

- The central server which accumulates all submitted data must be kept safe and functional all the time without disruptions or disturbances. It must be stable and accessible by users 24 hours throughout a year. It must be supported by stable power supply. Data backup must regularly be implemented. The server maintenance must be under the responsibility of the TWG and the IT sections of ASLMs.
- The central server should be improved, reflecting the progress of data accumulation and server capacity and functionality.

[Data Storage]

- The TWG and the IT sections must maintain intact the data stored in the server. Access to the server for data management should be restricted to only authorized officers of the TWG and the IT sections.

[LGMD2i]

- LGMD2i is another essential component of ARDS. The M&E TWG and the IT sections must be responsible for maintaining the software and supplying copies for installation when needs arise.
- While LGMD2i is designed and structured to be used under a variety of computer environments, it is predictable that some users may encounter technical difficulties in their operation. Therefore it is the responsibility of the TWG and ASLMs' IT sections to provide technical support to such users. The TWG and the IT section should establish effective mechanism for such technical support and implement the support accordingly.
- LGMD2i should be amended/ improved in a timely manner in response to the changes taking place in the VAEO/ WAEO formats and the way data are to be collected.

[VAEO/WAEO Formats and Data Collection Method]

- The TWG is also responsible for the maintenance and improvement of the VAEO/WAEO formats and the data collection method at the ground.
- The formats should be amended and fine-tuned as ARDS is being used. Changes may be needed to accommodate local conditions by giving more flexibility in the set of data to be collected. They may also arise from new demands for data according to the situation of the agricultural sector, like commercial activities expanding and new set of data needs to be collected.
- The method of data collection should also be reviewed once in a while to reflect actual situation of VAEO and WAEO.
- Consideration should be given to adjust ARDS to the overall agricultural statistics/data systems of the country. For example, when the agricultural annual sample survey is fully operational, ARDS should be adjusted to the extent the two systems achieve the optimum complementarity.

3.2 Operation Cycle of ARDS

The improved ARDS consists of monthly, quarterly and annual reports within the LGAs (from village to ward and then to district). The timing at which actions are taken is summarized below.

Data/Action	Blank format distribution	Submission (VAEO to WAEO)	Submission (WAEO to LGA)	LGAs' Data transmission to the Server (by Synchronization or Zip file sending)	Report Approval by Region	LGAs' Report Submission (LGA to Center [Server])	LGAs' ARDS Operation Status Reporting
Monthly	-Distributed quarterly. -B/w 20th and 30th of last month of previous quarter	-By the end of the month	-Within 1st week of the following month	-(by Synchronization) As often as every time data of one ward are entered into LGMD2i. But at the latest within 20 days of the following month. -(by Zip file sending) Send within 20 days of the following month via email	n.a.	n.a.	-Quarterly reporting as indicated below.
Quarterly	-Distributed quarterly. -Same time as the Monthly format	-Ditto	-Ditto	-Ditto	-Within 25 days of the following month	-Within 25 days of the following month	-Within 25 days of the following month
Annual	-Same time as the 4th quarterly format	-Ditto	-Ditto	-Ditto	-Ditto	-Ditto	-Within 25 days of the following month

The cycle of these actions is shown in Figure 2 below.

	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
VAEO/WAEO Format													
Monthly													
Village	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Ward	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
District	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Quarterly													
Village													
Ward													
District													
Annual													
Village													
Ward													
District													
LGMD2i													
Monthly													
Ward	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
District	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Quarterly													
Ward													
District													
Region													
National													
Annual													
Ward													
District													
Region													
National													

Note: ▲ Current year events, △ Last year events.

Figure 2 Flow of data in the improved ARDS

3.3 Tasks of Major Actors of ARDS

3.3.1 LGA Level

(1) Village / Mtaa

- VAEO visits farmer groups, individual farmers, stockiest, etc. to collect necessary data as a part of extension activities. In collecting (or estimating) data, follow the methodologies specified in the VAEO/WAEO Training Guide.
- VAEO fills out the two copies of the VAEO/WAEO format with the data and information.
- VAEO submits one filled-in format (monthly, quarterly and annual) to WAEO. The deadline for each format is as follows:
 - Monthly format: Before the end of each month.
 - Quarterly format: Before the end of each quarter (Sep. Dec. Mar. and Jun.)
 - Annual format: Before the end of June.
- VAEO keeps the other for the planning at the village level.

(2) Ward

- WAEO analyzes and evaluate the submitted VAEO monthly/quarterly/annual reports (formats) and provide feedback to respective VAEO.
- Based on the analyses above and adding information on agricultural activities in the ward obtained from direct visits to the villages, WAEO fill up the ward agricultural monthly/quarterly/annual reports (formats). WAEO should carefully collect data of villages which are not covered by VAEO. WAEO should perform appropriate calculation (summation, averaging, etc.) to prepare the WAEO reports (formats).
- WAEO submits the WAEO reports (formats) to DALDO (or equivalent officer) on time. The deadline for each format is as follows¹:
 - Monthly format: By the end of 1st week of the following month.
 - Quarterly format: By the end of 1st week of the following month (October, January, April and July).
 - Annual format: By the end of 1st week of the following month (July)
- WAEO posts the WAEO [monthly/quarterly/annual] reports (formats) on the notice board of ward offices so that everyone (including VAEO) can see the reports, as a part of feedback.

(3) District

The main actors at this level are DALDO (or equivalent officer), DS and DMEO. The district (DALDO) must maintain a sufficient number of officers who are capable of and committed to the ARDS operation. It is desirable to form a District Agricultural Data Management Team (DADMT) by which the district can address challenges in the ARDS operation.

DALDO should try every effort to increase the number of staff (in addition to DS and DMEO) who can handle ARDS in particular the LGMD2i operation so that the data processing can be jointly by several people, hence avoiding work concentration to a few capable officers. The DADMT mentioned above is helpful in this respect.

¹ Though the multi-sectoral reports should be submitted through WEO, the agricultural reports should follow the technical line (from WAEO to DALDO).

Their main roles and responsibilities of the district are as follows:

[In Regular ARDS operation and utilization]

- To budget for ARDS activities
Reference should be made to Section 3.1 (1). Given the importance of data for both agricultural reporting and planning, all LGAs must secure budget for the ARDS operation which enables all activities below. An indicative budget is given in Table 1.
- To distribute VAEO/WAEO forms to all villages/wards on time.
- To collect filled-in VAEO/WAEO format from WAEO on time.
- To check quality of data submitted by VAEO/WAEO.
- To provide feedback to the villages and wards.
- To enter data into LGMD2i
- To prepare report for the district
- To transmit data to regions and ASLMs using LGMD2i (by synchronization or zip).
- To obtain approval for data by the region
- To analyze and utilize data in reporting, monitoring and planning

[In Maintenance, updating and promotion of ARDS]

For this part, refer to Section 3.1 (13) and (14).

- To explain to high ranking officers including political members the importance of the “evidence-based discussion”, i.e. to use data in reporting, planning and any policy analysis.
- To take every opportunity to high ranking officers in explaining the benefit of ARDS.
- To ensure involvement and commitment of LGAs’ decision makers such as DED and DC.
- To keep updating ARDS components (formats, LGMD2i and any other related ones) to the latest version.
- To maintain LGMD2i, relevant computers and other electronic components virus-free and avoid from any unnecessary damages (physical or electronic).
- To fix, repair or replace with its own expenses the computer and LGMD2i if they crash or contaminated by virus. The district should contact with the M&E TWG for the copy of LGMD2i for the new installation.
- To keep record of the ARDS operation status by filling up the “ARDS Operation Status Matrix.”
- To perform regular data backup taking. Backup data should be kept separately from the computer with LGMD2i installed.
- To keep the original VAEO/WAEO data (those data on paper submitted by WAEO to the district) for at least three years
- To carry out necessary training with its own expenses for the newly recruited VAEO/WAEO.
- To carry out necessary refresher training for existing VAEO/WAEO.

It is desirable that if the district has IT officers, DALDO (or equivalent officer) should promote good communications between DMEO/DS with the IT officers for reliable technical support to the ARDS operation

3.3.2 Regional Level

(4) Region

The main actors at this level are RAA, RLA, or ASDP regional coordinator and Regional IT officers. Their main roles and responsibilities are to ensure all districts carry out ARDS operation properly. For this, the region must first make sure itself being ready for the ARDS operation.

Only then it can implement proper and regular guidance, monitoring and supervision to LGAs. The specific responsibilities of the region are as follows.

[Region's own deployment]

- The region must have a functional computer with the latest version of LGMD2i installed.
- Both the computer and LGMD2i are properly managed and continuously protected from virus and other disturbances.
- The region has at least one staff (RAA, RLA or ASDP coordinator) who is capable of and fully committed to the LGMD2i operation.
- The regional IT must closely be involved in the ARDS operation. He/she should be regularly updated by RAA, RLA or ASDP coordinator on the development of ARDS.
- The region should actively communicate with neighboring (or other regions) for sharing experiences.
- The region should utilize the ARDS data for its own purposes such as reporting to RAS, important visitors and data inquiries from the center.

[Facilitation to LGAs]

- To ensure the district consolidate data properly and on time.
- To ensure the district transmit data and submit reports on time.
- To check quality of the data from the districts,
- To provide feedback to the district on their reports,
- To approve the data submitted by the district.
- To promote ARDS data utilization at the district especially in the DADP preparation and reporting.

[Main roles and responsibilities of Regional IT]

- To provide technical facilitation to the district on the operation of LGMD2i and related issues.
- To provide feedback to the National LGMD2i technical team (Sub-group of the M&E TWG)

3.3.3 National Level

(5) PMO-RALG

The Director of Sector Coordination and the Director of Information, Communication and Technology are the main actors in PMO-RALG. Their main roles are but not limited to:

- To enforce LGAs and the regions to use ARDS as a formal data collection system in the agricultural sector.
- To disseminate and maintain ARDS at regional and district offices.
- To ensure and promote consistency between ARDS/LGMD2i and other LGA's data system such as LGMD.

(6) Agricultural Sector Lead Ministries (ASLMs: MAFC, MLFD and MIT)

The Directors of Policy and Planning in the ASLMs have the following duties as far as ARDS is concerned. The duties may be executed via the M&E TWG, IT sections and statistics units.

- To prepare reports on national component of ARDS (nationally consolidated data).
- To review reports on the local component and provide feedbacks.
- To collate data needed to monitor ASDP implementation, analyze and comment on the

- monitoring results, and submit regular monitoring reports to the ASDP BFSC.
- To lead the M&E functions such as assessing the performance of the DADPs.
- To coordinate the M&E systems of the ASLMs and examine agricultural sector performance at national level.
- To coordinate capacity building activities that support better M&E understanding and practices for planners and agricultural staffs in the ASLMs.

**(7) ASDP M&E Thematic Working Group (TWG)
(with the IT Sections and Statistics Units of ASLMs)**

The M&E TWG together with the IT sections and statistics units of ASLMs is the central body responsible for ARDS operation, dissemination, maintenance and improvement. In order for them to perform their full responsibilities, it must establish an effective and durable organizational arrangement that ensures steady workings of ARDS operation. The arrangement should also assure close collaboration among the M&E TWG, the IT sections and the statistics units. Their roles and responsibilities are following.

[Overall management of ASDP M&E]

- To operationalize M&E framework and M&E Guidelines and revise them as needs arise.
- To introduce, disseminate, maintain and Improve ARDS.
- To prepare the ASDP Performance Report by collecting the latest data for the ASDP M&E shortlisted indicators.
- To maintain close cooperation between the TWG and the statistics units in managing and publishing agricultural data/statistics.
- To assist NBS in conducting agricultural surveys (Annual sample survey and National Sample Census).

[Regular monitoring of ARDS]

- To establish a steady and continuing mechanism to monitor, guide and supervise the ARDS operation at LGA and regional levels.
- To track the LGAs' and regions' ARDS operation status on monthly basis by using the "ARDS Operation Status Matrix" that is sent to LGAs via regions every quarter.
- To assign TWG members to specific areas (regions) so that they responsibly communicate with due LGAs and regions and collect information on time through the "Matrix."
- To assign particular members of the TWG to inspect the ARDS central server on monthly basis whereby the latest data transmission status of LGAs is monitored.
- To report the ARDS operation status (both by the Matrix and the server inspection) at least quarterly to the M&E TWG meeting.
- To carry out necessary measures (identifying causes of the problems, facilitating their solving the problems, or demanding proper actions) to LGAs and regions if their operation has problems.
- To establish, if necessary, a special support mechanism to address IT related problems, in cooperation with the IT sections.

[Promotion of ARDS]

For this part, refer to Section 3.1 (13) and (14).

- To explain to high ranking officers including political members the importance of the "evidence-based discussion", i.e. to use data in reporting, planning and any policy analysis.

- To take every opportunity to high ranking officials of the government and politicians to introduce, disseminate and promote the usefulness of ARDS.
- To explain the kinds and frequency of data to be collected by ARDS.
- To communicate with other stakeholders about effective use of the data collected by ARDS.
- To organize if possible workshops and gathering to explain and sensitize stakeholders about the usefulness of ARDS.

[Data utilization]

ARDS data is indeed useful at all levels of the administration (LGA, Region and National). Assuming the responsibility of overall ARDS operation, the M&E TWG should promote ARDS data use at all levels including its own use.

- To encourage LGAs and the regions to use ARDS data in any possible occasions, including LGAs' own reporting, DADP preparation, and response to data inquiries by the center.
- To demonstrate or share examples of good data utilization of data in reporting and planning.
- To communicate with the DADP Planning and Implementation TWG to incorporate ARDS data use in the DADP Guidelines.
- To connect ARDS data to the FAO CountrySTAT.
- To utilize ARDS data at the national level in reporting, policy analyses and planning.
- To streamline the ARDS data with other agricultural data such as those in Food Security, Crop Development and Livestock.
- To ensure consistency between the ARDS data and agricultural statistical data such as the Annual Sample Survey and National Sample Census.

[ARDS maintenance, revision and improvement]

The center, in particular the M&E TWG, should actively engage in the maintenance and improvement of ARDS. In the areas of information technologies (IT), the IT sections of ASLMs should work closely with the TWG. Their specific roles and responsibilities are as follows.

[Central server]

- To keep the central server safe and functional all the time (24 hours throughout a year) without disruptions or disturbances.
- For the purpose of stable operation of the server, it is responsibility of the TWG and the IT sections to guarantee the stable power supply and regular re-booting without delay if the server is down. Data backup must regularly be implemented.
- The central server should be improved or replaced, reflecting the progress of data accumulation and server capacity.

[Data Storage]

- The TWG and the IT sections must maintain intact the data stored in the server. Access to the server for data management should be restricted to only authorized officers of the TWG and the IT sections.

[LGMD2i]

- To maintain and authorize the software.
- To supply copies for installation when needs arise.
- To provide technical support to users. The TWG and the IT section should establish effective mechanism for such technical support and implement the support accordingly.
- To amend or improve LGMD2i in a timely manner in response to the changes taking place in the VAEO/ WAEO formats and the way data are to be collected.

- To improve LGMD2i in response to the changes in the national internet conditions. .

[VAEO/WAEO Formats and Data Collection Method]

- To maintain and improve the VAEO/WAEO formats and the data collection method at the ground.
- To amend and fine-tune the formats as needs arise.
- To review the method of data collection in response to changes taking place in the actual situation of VAEO and WAEO.
- To adjust ARDS to the overall agricultural statistics/data systems of the country.

3.4 Communications/ Consultation among Stakeholders

(1) Communications among LGAs, Regions and the National Level (M&E TWG)

Communication among LGAs, Regions and the National level must be actively promoted.

First the regions should closely work with LGAs in the ARDS operation. Whenever LGAs have challenges and problems, the regional officers either respond themselves or bridge them to the national level. In turn the national level should keep close communication with the region as ARDS and LGMD2i will be routinely updated and new features will be introduced.

Technical communications with respect to LGMD2i has higher importance because arising issues will be highly technical demanding experts' support. Any information either problems or good utilization of LGMD2 should widely be shared with regions (including regional IT staff) and the national level. The contacts of all stakeholders must be collected and circulated back to all stakeholders. They should be regularly updated.

Communications and consultations should also be enhanced horizontally. LGAs should discuss and compare their operations and problems with neighbouring LGAs. Regions should communicate with other regions about ARDS issues and LGMD2i technical challenges. There must be a database on the issues and challenges as well as their solutions encountered by LGAs, regions and the centre. Such database should be broadly shared by LGAs and regions (including IT staff) so that every stakeholder can resort to the common experience and knowledge.

(2) Contacts on ARDS and LGMD2i Issues

Contacts for the general inquiry of ARDS are as follows. They are all members of the ASDP M&E Thematic Working Group of ASLMs.

Ministry of Agriculture, Food Security and Cooperatives (MAFC)

Mr. John Maige Tel: 0759-074576 Email: maige2008@gmail.com

Mr. Kassim Msuya Tel: 0767-316161 Email: Yussu2000@yahoo.com

Ministry of Livestock and Fisheries Development (MLFD)

Mr. Stephen Michael Tel: 0754-007008 Email: steve007008@yahoo.com

Ministry of Industry and Trade (MIT)

Mr. John Chassama Tel: 0784-643242 Email: mbiti07@yahoo.co.uk

Prime Minister's Office – Regional Administration and Local Government (PMO-RALG)

Mr. Ramadani Mwaliko Tel: 0784-490822 Email: mwalikorb@yahoo.com

ASDP M&E Homepage: <http://www.kilimo.go.tz/M&E.html>

On the other hand, LGMD2 Technical Committee is responsible for all technical aspects of LGMD2i. Operational aspects are under the guidance of the LGMD2i Operational Committee.

The contact persons for LGMD2i committees are:

Mr. Msuya (MAFC):	0767 / 0682-316161	yussu2000@yahoo.com
Mr. Genya (MIT):	0783-059693, 0717-345534	genya_06@yahoo.com
Mr. Shayo (MAFC):	0713 / 0767 -285320	shayo.inns@gmail.com

These officers are also responsible for receiving zipped files of district data in case synchronization is not successful at the district.