Monitoring, Formulation, and Implementation of National Rice Development Strategy (NRDS) in Malawi

REFERENCE MANUAL

For Generating NRDS Monitoring Data

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DATA COLLECTION MANUAL

In summary, the following framework summarises the conclusion of the 12 indicators:

BF=Baseline Figure

Indicator	BF	Year	Data Collection Procedure	Method to Generate the BF	Data Source/s	Recommendation
O1: Production (MT). National Rice Production.	112,313MT	2019	i. APES data should be accessed from the Agro-Economics Survey Offices which is located in Area 4, Lilongwe. The contact person was the incumbent "Agricultural Statistician" ii. Data from the APES Round-3 Main Data set. iii. The accessed raw data already contains the values for O1, O2, and O3 which are: O1=Quantity of Paddy Rice Produced O2=Total Area Harvested. iv. Ecologies should be categorized according to the 8 ADDs of Malawi. This is the only accessible and reliable national-level data that is collected annually and dissagregated by ecologies.	Production data for each ecology should be collected and added up to reach the national figure.	Secondary Data (APES). The data is accessible by NRDS task team members • Agro-Economic Surveys Office. • Department of Crops Developme nt (DCD). • The data is available every year after the APES has been completed.	**Data collection for O1, O2, and computation of O3:** Data for these three indicators will come from the Agricultural Estimates Survey (APES). This is an extensive, national, annual data collection framework for agricultural data. It is reliable because it is conducted by the Government to determine food security levels and many other agricultural parameters. The NRDS focal person is one of the custodians of APES. Consequently, it will be easy for the NRDS TF to access the APES data and use it for generating many NRDS indicators until 2030 and beyond.
O2: Area Harvested	63,971Ha	2019		Production data for each ecology should be collected and added up to reach the national figure.		
O3: Yield	1.756MT/Ha	2019		The average National yield level was calculated by dividing the National total quantity of rice harvested (MT) by the National Total area (Ha) harvested with paddy.		

O4: Self Sufficiency	0.98 (98%)	2019	To generate the self-sufficient statistic, there is a requirement to have the following elements: (1) An estimate of the national quantity of locally produced milled rice that is subject to consumption by a country. (2) Quantity of imported milled rice (3) Quantity of exported milled rice.	To generate the national quantity of milled rice the National Total Quantity of Harvested rice is multiplied by a 60% milling equivalence. Data on Milled rice that has been imported or Exported by Malawi is accessed from the Ministry of Trade and Industry. The 3 elements are inputted in the following equation: Used Secondary Data that was inputted in the following formula: Sufficiency. (SS)= {Qty produced / (Qty produced + Qty imported - Qty exported)}	• Data accessed from the Ministry of Trade and Industry. • National Production Data is available on FAOSTAT for every completed year.	Data on the quantity of milled rice will be easy to compute from the total quantity of harvested rice. On the other hand, the quantity of imported and exported rice should be accessed from the Data from the Ministry of Trade and Industry. A request to access the data should be sent by the NRDS focal person. The data should be triangulated with quantities appearing on no-objection documents archived by the DCD.

RESILIENCE: RESILIENT PRODUCTION SYSTEMS

Indicator	BF	Year	Data Collection Procedure	Method to Generate the BF	Data Source/s	Recommendation
R1: Resilient Production System (Area under Irrigation)	4306 Ha	2019	i. Contacted the Department of Irrigation (Talked to the Senior Irrigation Office) ii. Data for functional schemes was provided through an e-mail iii. Consulted the NRDS TF on functional and non-functional schemes iv. NRDS members removed non-function schemes v. Summed up land for all functional schemes in use and not in use. vi. Thereafter, calculate the percentage of land being used under supplementary irrigation.	The baseline figure should be extracted from the Round-3 Main APES data file	• Secondary Data (The data is accessible by NRDS task team members and the computation is not complex. APES Data from Agro-Economic Surveys. (Extracting the figure directly). • APES Data is available annually.	Data from the Department of Irrigation have an online data platform that is accessible and reliable. The accessed data should be reviewed by the NRDS TF to rectify any discrepancies existing in the data.
R2: Quantity of high-yielding seeds	37.4 MT	2019	i. A request should be sent to the Seed Quality Manager who tasked Seed Inspection Specialists to compile the Data. ii. The data should be reorganized into Tables as reflected in the baseline study report.	Secondary Data (Summation of quantities of seeds produced for each resilient variety).	• Seed Services Unit of DARS, MoA. • The data is available Bi-Annually: (i) after rain-fed rice production and (ii) After irrigated rice production.	For the quantity of high-yielding certified rice seed, the data should only be collected from the Seed Services Unit, which is at Chitedze Agricultural Research Station.

INDUSTRIALISATION

Indicator	BF	Year	Data Collection Procedure	Method to Generate the BF	Data Source/s & Availability	Recommendation
I1: Level of industrial mills	Capacity Ratio of 1:2 =(0.5) =50%	2022	i. List all millers in a selected rice-growing area. ii. Access their contacts and inquire about the mill's milling capacity. iii. In addition, observe rice brands stocked in shops, get contacts on the packages, and trace where their rice is milled. Inquire about the traced mills' capacities. iv. Use a simple checklist to capture the mills' capacity.	Secondary & Primary Data is used. The captured data should be inputted in the following formula: Calculated the capacity ratio using the following formula: = (installed capacity of medium and large mills/Installed capacity of all functional mills)	• Department of Crops Development. • Mill owners. • Data is available when needed concerning peak milling periods.	Data on potential milling capacity for Medium and Large mills should be collected from the DCD. There is a responsible officer handling information on these. On the other hand, installed milling capacity for small mills should be collected from the Crops Officer whose office is at the DAO.
I2: Mechanizatio n ratio	Tractors-28: Cono Weeders-63: Power Tillers-52: Combine Harvesters-0	2019	i. Accessed a list and contacts of Subject Matter Specialists (SMS) for Crops and Irrigation from their relevant Departments. ii. The SMSs were contacted asking about the availability of machines used for rice production. They were also questioned if there were service providers who hire out such services. iii. They were requested to recall the details and situation for the past 4 years, iv. A summary of the findings were tabulated in Table 15 below.	Primary Data Summation of machines used for rice production in rice-producing areas.	• DCD. • District Agriculture Offices (DAOs). • Data is available when needed from the indicated sources.	Data on potential milling capacity for Medium and Large mills should be collected from the DCD. There is a responsible officer handling information on these. On the other hand, installed milling capacity for small mills should be collected from the Crops Officer whose office is at the District level.

COMPETITIVENESS

Indicator	BF	Year	Data Collection Procedure	Method to Generate the BF	Data Source/s	Recommendation
C1: Market share of local rice	87%	2022	i. Visited several major retail stores selling both local produce and imported rice. ii. Used the following checklist questionnaire (See Appendix 8) to capture the required information: iii. The data was simply organized in MS Excel as shown in Table 15. iv. The quantity of rice procured and sold (Imported Vs. Locally produced) by the Retail Shop was summed.	Primary Data: Summation of rice procured and sold by retail shops. The percentage of Local rice procured and Sold (Imported Vs. Locally produced) was then computed by the following formula: %age of Local rice Procured = TOTAL of Locally Produced Rice /TOTAL Qty of Rice Procured (Kg) * 100 %age of Local rice sold = TOTAL of Locally Produced Rice sold /TOTAL Qty of Rice Procured (Kg) * 100	• Retail shops selling both imported and locally produced rice. • Data is available when needed by conducting a simple market survey.	Phone calls of staff handling the rice sections in the retail shops are contained in Appendix 5 for easy follow-up by the NRDS task team.
C2: Quantity of high-yielding seeds	37.4 MT	2019	i. A request should be sent to the Seed Quality Manager who tasked Seed Inspection Specialists to compile the Data. ii. The data should be reorganized into Tables as reflected in the baseline study report.	Secondary Data (Summation of quantities of seeds produced for each resilient variety).	• Seed Services Unit of DARS, MoA. • The data is available Bi-Annually: (i) after rain-fed rice production and (ii) After irrigated rice production.	For the quantity of high-yielding certified rice seed, the data should only be collected from the Seed Services Unit, which is at Chitedze Agricultural Research Station.

EMPOWERMENT

Indicator	BF	Year	Data Collection Procedure	Method to Generate the BF	Data Source/s	Recommendation
E1 : Farmers' accessibility to Financial services	6.5% of the rice farmers had access to finances for rice production.	2022	i. A dataset containing details on membership of associations and phone contacts should be requested from the Department of Irrigation. ii. Schemes to be focused on for the study should be selected with the guidance of the NRDS focal person. iii. The selected groups should be Water Users' Association (WUAs). iv. Membership of the pre-selected WUAs and summarised. v. A list of rice farmers from the sampled association should be requested. vi. A few farmers should be randomly selected proportionate to the group size. vii. The sampled rice farmers should be asked if they accessed a. finance and b. pieces of training in the following five areas: (1)Decision to produce (2) Field practices (3)Post-Production (4) Processing and (5) Marketing. c. Members who attended all five pieces of training were considered trained.	• The NRDS task team will liaise with Extension Staff working in the rice growing areas to randomly identify farmers to be interviewed. • Using Primary Data • Which is subjected to • Simple analysis to get a percentage. • Data is available when needed by conducting a simple farmer assessment.	Sampled groups working with a few sampled rice farmers.	Simple farmer survey.
E2: Farmers' accessibility to technical services	36% of the rice farmers had access to pieces of training in all key areas.	2022				

Prices, Hiring Services of Machines & Financial Schemes

Indicator	BF	Year	Data Collection Procedure	Method to Generate the BF	Data Source/s	Recommendation
Prevailing Prices for Rice	• The average price of Locally produced rice: MwK1813.00 [1](US$1.78) per Kg • Average price of imported rice: MwK2943 (US$2.86) per Kg	2022	i. The NRDS TF should task members to visit major retail stores and open markets selling both locally produced and imported rice. ii. Details on prices for rice prices for the following standard packages: 1Kg, 2Kg, 5Kg, and 10Kg. iii. The data should be organized in MS Excel. iv. The average prices for each category should be generated simply using MS Excel.	Primary Data: Listing, counts, and summation. A simple analysis to generate the Mean Price should be conducted.	Retail shops	A simple market survey should be conducted.
Number of agricultural machinery hiring service centers in rice-producing areas	2 Hiring service points per district	2022	i. Access a list and contacts of Subject Matter Specialists (SMS) for the Department of Crops (DCD) and Department of Irrigation (DoI) from their Departments. ii. The SMSs should be contacted asking them about the availability of service providers who hire machines including tractors and other machines for rice farmers. iii. A summary of the findings should be tabulated in a Table.	• Primary Data: • Listing, counts, and summation • Data is available at any part of the year when needed. Inquiries should be made to District Agricultural Offices.	District Agricultural Offices	Inquiries should be made at the district level.
The number of financial schemes and institutions (Micro, Macro-Commercial banks) offering financial assistance to rice farmers and other stakeholders in the rice value chain.	Micro (6) Macro (3) Initiatives at Commercial Banks (3)	2022	i. Inquiries should be made to Agribusiness officers working at District levels. ii. Thereafter, the listing was done as follows. iii. Thereafter, the number of such schemes was counted and summarised.	• Primary Data: • Listing, counts, and summation • Data is available at any part of the year when needed. Inquiries need to be made to Agri-Business Officers.	District Agricultural Offices	Inquiries should be made at the district level.