IGAD PROTOCOL FOR RESILIENCE MEASUREMENT (IPRM)

DASHBOARD

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IGAD Food Security, Nutrition and Resilience Analysis Hub (IFRAH)

Assessment Team

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1 Introduction

Operationalization of the proposed IGAD resilience measurement framework requires that appropriate and sufficient arrangements are made to ensure effective adoption. This document provides succinct guidelines on the roadmap towards institutionalization of the framework by IGAD and the member states. The proposed high-level indicators tracked over time will require continuous reviews in relation to IGAD IDDRSI priority interventions areas, scale and contextual changes (from various shocks) in the region.

This proposed dashboard will aid in visualizing the state of resilience within the region from computation of the Resilience Indices (RI) of member states (MSs) using high level indicators and guidelines described in the framework. The state of resilience based on the resilience index will be presented at regional level across countries as well as at national level. Member states will also able to apply the same to track resilience at national and sub-national levels respectively. The following sections will provide a brief background and the proposed guidelines.

2 Computation of the IGAD Resilience Index (RI)

The computation of the IGAD resilience Index will adopt a multivariate approach that will compute indicators against weights assigned to individual indicators. The weighting of the frameworks' indicators will be determined through a consensus building by IGAD and MSs Technical resource persons. The individual scores will then be aggregated to give a percentage score for each of the indicators per member state. The Resilience Index will therefore be tracked to inform member states progress on the proposed high level indicators.

Indicator	IDDRISI PIA	Denote	Indicator type	Weights	Perfect Score	Computation
1: Extent of climate change adaptation integration in national development plans	All	p_1	Qualitative	W ₁	100%	$(p_1 * w_1)$
2: Domestic Food Price Volatility Index (VI)	PIA 3	p_2	Quantitative	<i>W</i> ₂	100%	(p2*w2)
3 : Proportionate value(\$) of economic loses attributed to shocks	PIA 3	<i>p</i> ₃	Quantitative	<i>W</i> ₃	100%	(p3* w3)
4: Proportion value(\$) of livestock lost in during shocks	PIA 3	p_4	Quantitative	W_4	100%	(p4* w4)
5: Proportion of agricultural area under sustainable agriculture production	PIA 3	p_5	Quantitative	W5	100%	(p5*w5)
6: Proportionate number of people in need of food assistance as a result of shocks	PIA 4	p_6	Quantitative	<i>w</i> ₆	100%	(<i>p</i> 6* <i>w</i> 6)
7: Proportion value (\$) of admissible country humanitarian AID requests during shocks	PIA 4	p_7	Quantitative	W7	100%	(p7* w7)
8: Functional legal frameworks for disaster risk management and resilience building	PIA 4	p_8	Qualitative	W_8	100%	(p8*w8)
9: Number of timely early warning information disseminated that translate to early action	PIA 4	<i>p</i> 9	Qualitative	W9	100%	(p9*w9)
10: Proportion of conflict and natural disaster- related deaths	PIA 6, 4	p_{10}	Quantitative	W10	100%	(p10*w10)
11: Prevalence of acute malnutrition by children under 5	PIA 8	<i>p</i> 11	Quantitative	W11	100%	(p11)*w11)
12: Proportion of vulnerable social groups with access to social safety nets	PIA 8	<i>p</i> ₁₂	Quantitative	<i>W</i> ₁₂	100%	(p12*w12)
13: Proportion access to critical infrastructure (i.e. health, water, roads, bridges, schools, markets) by population	PIA 8	<i>P</i> ₁₃	Quantitative	<i>W</i> ₁₃	100%	(p13*w13)

Table 1: Proposed IGAD Protocol for Resilience Measurement

Resilience Index (RI) 100%

The computation model as proposed in the protocol is as illustrated below.

Resilience Index (RI) = $(p_1 * w_1) + (p_2 * w_2) + (p_3 * w_3) + (p_4 * w_4) + (p_5 * w_5) + (p_6 * w_6) + (p_7 * w_7) + (p_8 * w_8) + (p_9 * w_9) (p_{10} * w_{10}) + ((p_{11}) * w_{11}) + (p_{12} * w_{12}) + (p_{13} * w_{13}) \dots (p_n * w_n)$

Note:

- 1. "p" is used to denote an indicator (i.e. " $p_1 \dots p_n$ ")
- 2. "w" is used to denote an Indicator weight (i.e. "w1...wn")
- 3. There will be "negative" and "positive" indicators.
- 4. Defining the "negative" or "positive" indicators is qualitative process that needs consensus.
- 5. For the "negative" indicators: (2, 3, 4, 6, 7, 10, 11) where by the lower the score, the better; the indicator computation formula transposes them by subtracting the score from one (1).
- 6. For the positive indicators the computation will be done using the scores captured against the weights without any transposition.
- 7. It is proposed that qualitative indicators be scored using the following criteria (based on consensus);
 - Existence 1(100%)
 - Partial existence 0.5 (50%)
 - Nonexistence 0 (0%

3. Dashboard - Visualization of indicators and Resilience Index

A dashboard module with real-time analytics off the web-based Di-monitoring¹ tool will provide a visualized state of resilience in the region as well as progress made on each proposed high-level indicator over time. This will enable IGAD to gain insights on the state of resilience and periodic changes over time from the data collated from member states through drill downs² for ease of comparisons.

3.1 Guidelines/Checklist

Real-time visualization from data analyzed per indicator from each member state and/or across member states will be available from the Di-Monitoring tool. Use of clickable maps and color-coding functionalities will be incorporated to enhance the visualization experience. Data collection will be guided by the framework indicator definitions on the frequency and computation. Each of the indicators' data will periodically be collated and shared with IGAD for processing as per the indicator definition.

¹The di Monitoring tool, is a web-based project monitoring solution intended to facilitate the tracking of the IDDRSI development plans at regional, national and sub-national level https://igad.int/video/1460-dimonitoring-tool-for-monitoring-drought-resilience-programs

² Data drilling refers to operations and transformations on tabular, relational, and multidimensional data with an intent to gain more insights.

Figure 1: IGAD Protocol for Resilience Measurement Operationalization Steps



Consensus building on indicators and weighting – The first step of operationalizing the proposed IGAD framework will be to build consensus among the member states on the high-level indicators and their weighting to compute the overall Resilience Index (RI) of each member state.

Capacity building of member states on the framework – this will involve unpacking the measurement protocol to member states technical focal points and sharing of responsibilities, agreeing on schedules and clarifying any grey areas.

Mapping out Data sources – This will involve supporting the technical focal points to identify the data sources and computations as outlined in the indicator definitions, rationale, method of computation and data requirements in the framework document. This will ensure availability and validity of the data that member states submit to IGAD periodically.

Creating the framework profile in the Dimonitoring Tool – This will involve creating the IGAD resilience framework profile on the di-monitoring platform by coding all the data elements including variables as appropriate. Baseline values as well as targets should also be captured to allow for systematic tracking of progress made by member countries.

Collating and processing of the data – as outlined in the proposed high-level indicator definition(s), data will be collected by the member states and submitted periodically for collation in the Dimonitoring tool. Automated data processing will be performed at that level and meaningful analyses generated to inform progress made in data analysis, presentation and reporting.

Generating Visualization – Data visualization is the graphical representation of information and data. This will be made possible through visual elements like charts, graphs, and color coded maps. This will make it possible for member states and IGAD to

understand trends and patterns in the data they submit on resilience overtime.

The Di monitoring tool visualization module will provide a powerful real time visualization with data filters³ and drill downs to enable IGAD and member states to gain more insights from the resilience data. This module will enable member states relate investments and results as well as communicate findings/information on an efficient way.

Generate periodic IGAD state of resilience report -The above process will culminate in the generation of a periodic IGAD region state of resilience report. This report will be informed by information generated by this framework as well case studies from other sources to further triangulate and qualify the findings.





³ Data filtering is the process of choosing a smaller part of your data set and using that subset for analysis at a smaller scale