

RESILIENCE INDEX MEASUREMENT AND ANALYSIS SHORT QUESTIONNAIRE

What is the Resilience Index Measurement and Analysis (RIMA)?

RIMA estimates household resilience to food insecurity with a quantitative approach to establish a cause-effect relationship between resilience and its critical determinants.¹ RIMA is context- and shocks-specific; it can be adopted for impact evaluation, reflecting the Theory of Change (ToC) and Logframe of interventions. Within a Monitoring Evaluation and Learning (MEAL) framework, this tool can be used for tracking progress during the project cycle and adapt interventions; to explore food security and resilience changes over time; and to improve programme design and to inform policy decisions.

Why a short RIMA questionnaire?

The RIMA analysis is based on **household-level data**. Collecting large volumes of household-level data is time- and resource-consuming, and it is not always feasible in countries affected by fragility and conflict. For this reason, the size of the RIMA questionnaire has been reduced to take these aspects in consideration.

A short RIMA questionnaire allows collecting the minimum information needed for estimating the household resilience capacity through short interviews; to increase efficiency, it can be collected using mobile devices, such as tablets and smart phones. It can be complemented with additional modules relevant to the project/programme to serve as an overall baseline for the intervention.

The short RIMA questionnaire has three components, the first two are mandatory, and the third is tailored according to context and project/programme requirements:

- 1. Modules required to establish the resilience capacity index (RCI):
 - Access to Basic Services (ABS)
- Social Safety Nets (SSN)
- Adaptive Capacity (AC)
- Food securityShocks
- 2. Household demographic characteristics that factor into indicator tabulation and which can support targeting.
- 3. Optional modules that can be included based on context and project needs:
 - Subjective resilience
 - Conflict

Assets (AST)

• Other modules that are specific to the ToC and interventions of the project (e.g., Farming Systems Outcome Monitoring module)

The list of 41 questions used in the short RIMA questionnaire is based on experience implementing the full RIMA which isolated the critical variables and questions, literature review (Reference list by questions), and technical consultations among RIMA experts.

More information on the RIMA methodology can be found in FAO. 2016. RIMA-II: Resilience Index Measurement and Analysis II. Rome. (also available at: www.fao.org/3/a-i5665e.pdf)

Objectives of the short RIMA questionnaire:

- Reducing the time for collecting household data for resilience analysis.
- Reaching households living in areas with limited access for field activities (mobile interviews).
- Reducing the time for conducting resilience analysis (reduced data cleaning / data preparation).
- Facilitating the calculation of the RIMA-Resilience Capacity Index using the Excel tool² in order to provide timely policy and programming implications.
- Collecting high-frequency data for monitoring interventions or critical contextual factors.
- Providing a benchmark to assess whether already existing monitoring and evaluation frameworks are suitable for resilience analysis.

Contextualization before use:

- Questions need to be contextualized in order to capture characteristics of the implementation context, for example by modifying the list of items included in the questions marked with "*".
- When the questionnaire is being used for project/programme monitoring and evaluation ensure that the
 questions required to measure the log-frame indicators are included, as well as the questions related to the
 types of assistance being provided.

MODULES

Access to Basic Services (ABS)

1.	Is the main source of drinking water for household a piped connection to the household, public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs or rainwater collection? ³	[1 = yes 0 = no]
2.	Is the main type of toilet facility used by household members a flush/pour flush (to piped sewer system, septic tank, or pit latrine), a ventilated improved pit (VIP) latrine, a pit latrine with slab, or a composting toilet? ⁴	[1 = yes 0 = no]
3.	Is electricity the main source of energy used in the household for cooking or lighting?	[1 = yes 0 = no]
4.	How far (one way) is the household dwelling from the closest accessible/functioning [SERVICE] in minutes (walking distance)?*5	[minutes]
	Water source	
	Primary school	
	Public hospital / health facility	
	Livestock market	
	Agricultural/crops market	
	Public means of transport	

Assets (AST)

5.	How many [DURABLES/ASSETS] do the household members own?*	[number]
	• Car	
	Bicycle	

More information can be found here: https://www.youtube.com/watch?v=BksgzboPa2Q

³ List of improved water sources available here: https://data.worldbank.org/indicator/SH.H2O.SAFE.ZS

 $^{^4 \}quad List \ of \ improved \ to illet \ facilities \ here: www.who.int/water_sanitation_health/monitoring/jmp2012/key_terms/en$

⁵ Additional question can be added to capture the quality of the basic services.

	Gas/electric cooker	
	Mobile	
6.	How many [DURABLES/ASSETS] do the household members own?*	[number]
	Ox-plough	
	Machete	
	Tractor	
7.	Do the household members use [INPUTS]?*	[1 = yes 0 = no]
	Purchased seeds (traditional/local)	
	Pesticides/herbicides	
	Fertilizers	
	Livestock feed	
8.	What is the total area in hectares of agricultural land (owned, leased or used) that the household uses?	[hectares]
9.	How many [LIVESTOCK] does the household currently own?*	[number]
	Cows/calves	
	Sheep, goat	
	Chicken	
	• Camels	

Social Safety Nets (SSN)

10. a. What is the total amount of formal cash transfers ⁶ received in the last 12 months by the household members?	[monetary value in local currency]
 b. How often have you or other members of the household received formal cash transfers in the last 12 months? [Please ask this question only if question 10a is greater than 0. In case of multiple cash transfers, please refer to the most frequent one]. 	[1 = daily; 2 = weekly; 3 = biweekly; 4 = monthly; 5 = bimonthly; 6 = quarterly; 7= twice a year; 8 = only once/ lump-sum]
 c. Have the cash transfers been received regularly in the last 12 months? [Please ask this question only if question 10a is greater than 0 and 10b different from 8. In case of multiple cash transfers, please refer to the most frequent one]. 	[1 = yes 0 = no]
11. a. What is the total amount of formal in-kind transfers ⁷ received in the last 12 months by the household members?	[monetary value in local currency]

These amounts include for instance unconditional cash transfers, cash for work, pensions. Please include transfers from the Government, international organizations such as the WFP, FAO, UNICEF, etc., institutions, or non-governmental organizations, like Save the Children, Care International, Mercy Corps, etc.

These transfers include for instance relief food, food vouchers, input subsidies, fuel subsidies, asset transfers, etc. Please include transfers from the Government, international organizations such as the WFP, FAO, UNICEF, etc., institutions, or non-governmental organizations, like Save the Children, Care International, Mercy Corps, etc. and convert the amount into an equivalent monetary value, i.e. the amount you would have spent in case you had to buy the in-kind transfer.

 b. How often have you or other members of the household received formal in-kind transfers in the last 12 months? [Please ask this question only if question 11a is greater than 0. In case of multiple in-kind transfers, please refer to the most frequent one]. 	[1 = daily; 2 = weekly; 3 = biweekly; 4 = monthly; 5 = bimonthly; 6 = quarterly; 7 = twice a year; 8 = only once/ lump-sum]
c. Have the in-kind transfers been received regularly in the last 12 months? [Please ask this question only if question 11a is greater than 0 and 11b different from 8. In case of multiple in-kind transfers, please refer to the most frequent one].	[1 = yes 0 = no]
12. How many meals have the children living in the household received during the last month they attended school? [Please ask this question only if children are living in the household].	[number of school meals]
13. What is the total amount of informal transfers ⁸ received in the last 12 months by the household members?	[monetary value in local currency]
14. Are members of this household formally participating in a local group/association, such as farmers groups, women support groups, youth groups, business associations, unions, etc.? If so, how many of these associations can provide support in case of need?9	[number of associations]
15. How many relatives/friends/family members can the household members rely on in case of need?	[number]

Adaptive Capacity (AC)

16. Can the head of the household read and write (in any language / alphabet)?	[1 = yes 0 = no]
17. a. How many years has the household head attended formal school?b. How many years has the household head attended non-formal (e.g. Koranic) school?*	[number]
18. a. How many years has the household member with the highest level of education attended formal school?b. How many years has the household member with the highest level of education attended non-formal (e.g. Koranic) school?*	[number]
19. On average, how many years have the household members of working age (>14 and <65 years old) attended formal school?	[number]
20. In the past 12 months, what percentage of the household's overall income was generated by [SOURCE]?*	[%]
Agriculture, animal breeding, fishing	
Family business (other than agriculture)	
Government wage and salary	
Private sector wage and salary	
Transfers and social assistance	
Other	
21. Over the past 12 months, what is the total value of loan(s) received by household members?	[monetary value in local currency]

Please include cash from remittances of relatives or friends, the monetary value of in-kind transfers such as free food/grains/inputs.

Please mark 0 if nobody from this household is formally participating in these associations or if they are not available in the locality where the household lives.

22. How many different crops have the household members grown during the last season?	[number]
23. Have the household members used improved quality seeds during the last season? [Please refer to both rainy and off-season culture].	[1 = yes 0 = no]
24. a. Have the household members received any training in the last 12 months? (if "Yes", go to question 24b)	[1 = yes 0 = no]
b. if "Yes", which type of training?*	[1 = good agricultural practices; 2 = livestock management; 3 = agribusiness and value addition; 4 = vocational training; 5 = other]
25. Have the livestock owned by the household received any vaccination in the last 12 months?	[1 = yes 0 = no]

Food security

FOOD	INSECURITY	EXPERIENCE	SCALE	FIFS)
TOOD	INSECOULL	LAFLINLLINCL	JCALL I	ILDI

Now I would like to ask you some questions about food. During the last 12 months, was there a time when:	
26. You or others in your household worried about not having enough food to eat because of a lack of money or other resources?	[1 = yes 0 = no 98 = don't know 99 = refused]
27. Still thinking about the last 12 months, was there a time when you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources?	[1 = yes 0 = no 98 = don't know 99 = refused]
28. Was there a time when you or others in your household ate only a few kinds of foods because of a lack of money or other resources?	[1 = yes 0 = no 98 = don't know 99 = refused]
29. Was there a time when you or others in your household had to skip a meal because there was not enough money or other resources to get food?	[1 = yes 0 = no 98 = don't know 99 = refused]
30. Still thinking about the last 12 months, was there a time when you or others in your household ate less than you thought you should because of a lack of money or other resources?	[1 = yes 0 = no 98 = don't know 99 = refused]
31. Was there a time when your household ran out of food because of a lack of money or other resources? (if "Yes", go to question 31a). a. Did it happen in the past 4 weeks (30 days)? (if "Yes", go to question 31b).	[1 = yes 0 = no 98 = don't know 99 = refused]

b. How often did this happen in the past 4 weeks (30 days)?	[2 = rarely (1 or 2 times) 3 = sometimes (3-10 times) 4 = often (more than 10 times) 98 = don't know 99 = refused]
32. Was there a time when you or others in your household were hungry but did not eat because there was not enough money or other resources for food? (If "Yes", go to question 32a and 32b).a. Did it happen in the past 4 weeks (30 days)? (if "Yes", go to question 32b).	[1 = yes 0 = no 98 = don't know 99 = refused]
b. How often did this happen in the past 4 weeks (30 days)?	[2 = rarely (1 or 2 times) 3 = sometimes (3-10 times) 4 = often (more than 10 times) 98 = don't know 99 = refused]
 33. Was there a time when you or others in your household went without eating for a whole day because of a lack of money or other resources? (if "Yes", go to question 33a and 33b). a. Did it happen in the past 4 weeks (30 days)? (if "Yes", go to question 33b). b. How often did this happen in the past 4 weeks (30 days)? 	[1 = yes 0 = no 98 = don't know 99 = refused] [2 = rarely (1 or 2 times) 3 = sometimes (3-10 times) 4 = often (more than 10 times) 98 = don't know 99 = refused]
FOOD EXPENDITURE AND CONSUMPTION	
34. What is the amount of money spent on the food consumed by the household members during the past 7 days?	[monetary value in local currency]
35. What percentage of your income is used for buying food?	[%]
36. Can you quantify how much your household consumed in the past 7 days using credit (because of inability to cover the cost)?	[monetary value in local currency]
37. Can you quantify how much your household consumed in the past 7 days from its own production?	[monetary value in local currency]
38. Can you quantify how much your household consumed in the past 7 days from assistance/gifts?	[monetary value in local currency]
39. Over the past 7 days, 10 how many days have the household members consumed [FOOD GROUP]?Cereals	[number of days]
White tubers and roots	
Vitamin A rich vegetables and tubersDark green leafy vegetables	
Other vegetables Vitamin A rich fruits	
Vitamin A rich fruits	

 $^{^{\}rm 10}$ $\,$ The preferred recall period is 24 hours for the Household Dietary Diversity Score.

Other fruits	
Organ meat	
Flesh meat	
• Eggs	
Fish and seafood	
Legumes, nuts and seeds	
Milk and milk products	
Oils, fats	
• Sweets	
Spices, condiments, beverages	

Shocks

40. In the last 12 months, what are the most severe shocks faced by the household?	[open answer]
41. What did the household members do to cope with the shocks?	[open answer]

Household demographic characteristics

42. Gender of household head.	[1 = male 2 = female]
43. Total number of members of the household (adults, >14 years old and children, < 15 years old).	[number]
44. Total number of household members of working age (>14 and <65 years old).	[number]
45. Region.	[open answer]
46. Livelihood.	[open answer]

Reference list by questions

Question number	References
1	United Nations Development Programme (UNDP). 2006. Human development report 2006-beyond scarcity: Power, poverty and the global water crisis. (also available at: www.undp.org/content/dam/undp/library/corporate/HDR/2006%20Global%20HDR/HDR-2006-Beyond%20scarcity-Power-poverty-and-the-global-water-crisis.pdf).
	Adams, M. 2006. <i>Land-water interactions: Opportunities and threats to water entitlements of the poor in Africa for productive use.</i> No. HDOCPA-2006-20. Human Development Report Office (HDRO), UNDP.
2	World Health Organization (WHO) & United Nations Children's Fund (UNICEF). 2000. Global water supply and sanitation assessment 2000 report. WHO.
3	Aguero, J., Carter, M. & May, J. 2007. Poverty and inequality in the first decade of South Africa's democracy: what can be learnt from panel data from KwaZulu-Natal? <i>Journal of African Economies</i> , 16(5): 782–812.
4	Adger, W.N., Brooks, N., Bentham, G., Agnew, M. & Eriksen, S. 2005. New indicators of vulnerability and adaptive capacity. Tyndall Centre for Climate Change Research.
	Dercon, S., Bold, T. & Calvo, C. 2004. <i>Insurance for the poor?</i> QEHWorking Paper 125. Oxford, UK, University of Oxford.
5-6	Barrett, C. B., Reardon, T. & Webb, P. 2001. <i>Nonfarm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications.</i> Food policy, 26(4): 315–331.
7-8	Berdegué, J.A. & Escobar, G. 2002. Rural diversity, agricultural innovation policies and poverty reduction.
	Agricultural Research and Extension Network (AgREN), Overseas Development Institute (ODI).
9	Frison, E.A., Cherfas, J. & Hodgkin, T. 2011. <i>Agricultural biodiversity is essential for a sustainable improvement in food and nutrition security.</i> Sustainability, 3(1): 238–253.
10-13	World Bank . 2000. <i>Designing household survey questionnaire for developing countries. Lessons from 15 years of the Living Standard Measurement Study.</i> Washington, DC.
	Devereux, S. & Getu, M. 2013. <i>Informal and formal social protection system in Sub-Saharan Africa.</i> Kampala, African Books Collective.
	Ligon, E. 2001. <i>Targeting and informal insurance</i> . WIDER Discussion Papers/World Institute for Development Economics (UNU-WIDER). Berkeley, USA, University of California.
	Mordoch, J. 1999. <i>Between the state and the market: can informal insurance patch the safety net?</i> World Bank Research Observer, 14(2): 187–207.
	Mane, E., Rocca, M. & Conforti, P. 2015. Social protection and food security indicators: an inquiry through data from 10 household budget surveys. FAO Statistics Division - Working Paper Series 9/2015. Rome, FAO.
	Skoufias, E. & Quisumbing, A. 2004. <i>Consumption insurance and vulnerability to poverty: a synthesis of the evidence from Bangladesh, Ethiopia, Mali, Mexico and Russia.</i> Social Protection Discussion Paper Series 0401. Washington, DC, World Bank.
	Freund, C.L. & Spatafora, N. 2005. <i>Remittances: transaction costs, determinants, and informal flows</i> . World Bank Policy Research Working Paper 3704.
	Carletto G., Davis, B., Stampini, M., Trento S. & Zezza, A. 2004. <i>Internal mobility and international migration in Albania</i> . Rome, FAO.
	Duflo, E. 2003. <i>Grandmothers and granddaughters: old-age pensions and intra-household allocation in South Africa.</i> The World Bank Economic Review, 17(1): 1–25.
14-15	Fafchamps. M. & Gubert, F. 2007. The formation of risk sharing networks. <i>Journal of Development Economics</i> , 83: 326–350.
16-18	Gallopin, G.C. 2006. <i>Linkagers between vulnerability, resilience, and adaptive capacity.</i> Global Environmental Change, 16: 293–303.
	Abdulai, A. & Eberlin, R. 2001. <i>Technical efficiency during economic reform in Nicaragua: evidence from farm household survey data.</i> Economic System, 25(2): 113–125.
	Goensch, I. 2016. Formal school or Koranic school? Determinants of school type choice in Senegal. <i>Journal Oxford Development Studies</i> , 44(2): 167–188.
	d'Aiglepierrea , R. & Bauerb , A. 2018. The choice of Arab-Islamic education in sub-Saharan Africa: Findings from a comparative study. <i>International Journal of Educational Development</i> , 62: 47–61.
19	Eurostat. 1998. Labour Force Survey - Methods and definitions. Luxembourg, European Communities.

Question number	References
20	Mortimore, M.J. & Adams, W.M. 2001. Farmer adaptation, change and "crisis" in the Sahel. Global environmental change, 11(1): 49–57.
	Brooks, N. & Adger, W.N. 2005. <i>Assessing and Enhancing Adaptive Capacity.</i> In B. Lim & E. Spanger-Siegfried, eds. Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures, pp.165–181. UNDP y Cambridge University Press.
21	Janzen, S.A. & Carter, M. 2013. The impact of micro insurance on consumption smoothing and asset protection: evidence from a drought in Kenya. Agricultural and Applied Economics Association Annual Meeting, 4–6 August 2013. Washington, DC.
	Asadul, I.P.M. 2012. Health shocks and consumption smoothing in rural households: Does microcredit have a role to play? <i>Journal of Development Economics</i> , 97: 232–243.
22-25	Lin, B.B. 2011. <i>Resilience in agriculture through crop diversification: adaptive management for environmental change</i> . BioScience, 61(3): 183–193.
26-33	FAO. 2017. The Food Insecurity Experience Scale: Measuring food insecurity through people's experiences. Rome.
34-38	Deaton, A. & Zaidi, S. 2002. <i>Guidelines for constructing consumption aggregates for welfare analysis.</i> LSMS Working Paper No. 135. The World Bank.
	Pangaribowo, E.H., Gerber, N. & Torero, M. 2013. <i>Food and nutrition security indicators: a review.</i> FOODSECURE WP 05.
	Levin, C.E., Ruel, M.T., Morris, S.S., Maxwell, D.G., Armar-Klemesu, M. & Ahiadeke, C. 1999. Working women in an urban setting: traders, vendors and food security in Accra. World Development, 27(11): 1977–1991.
	Tarasuk, V.S. 2001. Household food insecurity with hunger is associated with women's food intakes, health and household circumstances. <i>The Journal of nutrition</i> , 131(10): 2670–2676.
	Hamelin, A.M., Habicht, J.P. & Beaudry, M. 1999. Food insecurity: consequences for the household and broader social implications. <i>The Journal of Nutrition</i> , 129(2): 5255–528S.
39	Swindale, A. & Bilinsky, P. 2006. Household dietary diversity score (HDDS) for measurement of household food access: indicator guide. Washington, DC, Food and Nutrition Technical Assistance Project, Academy for Educational Development.
	Kennedy, G., Ballard, T., & Dop, M.C. 2011. <i>Guidelines for measuring household and individual dietary diversity.</i> Rome, FAO.
	Nordic Council of Ministers. 2014. <i>Nordic Nutrition Recommendations 2012. Integrating nutrition and physical activity.</i> Copenhagen. (also available at: https://norden.diva-portal.org/smash/get/diva2:704251/FULLTEXT01.pdf).
	International Food Policy Research Institute (IFPRI). 2016. Global Nutrition Report 2016: From Promise to Impact: Ending Malnutrition by 2030. Washington, DC.
	Savy, M., Martin-Prével, Y., Traissac, P., Eymard-Duvernay, S. & Delpeuch, F. 2006. Dietary diversity scores and nutritional status of women change during the seasonal food shortage in rural Burkina Faso. <i>The Journal of nutrition</i> , 136(10): 2625–2632.
	Cafiero, C., Melgar-Quinonez, H.R., Ballard, T.J. & Kepple, A.W. 2014. <i>Validity and reliability of food security measures</i> . Annals of the New York Academy of Science, 1331: 230–48.
	Leroy, J.L., Ruel, M., Frongillo, E.A., Harris, J. & Ballard, T.J. 2015. <i>Measuring the Food Access Dimension of Food Security: A Critical Review and Mapping of Indicators.</i> Food and Nutrition Bulletin, 36(2): 167–95.
40	Food Security Information Network (FSIN). 2015. <i>Measuring shocks and stressors as part of resilience measurement. Resilience Measurement Technical Working Group.</i> Technical Series No. 5. Rome. (also available at: www.fsincop.net/fileadmin/user_upload/fsin/docs/resources/1_FSIN_TechnicalSeries_5.pdf).
41	Farzana, F.D., Rahman, A.S., Sultana, S., Raihan, M.J., Haque, M.A., Waid, L.J. Choudhury, N. & Ahmed, T. 2017. Coping strategies related to food insecurity at the household level in Bangladesh. PLoS ONE, 12(4): e0171411. (also available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC5391923).

TO KNOW MORE

Luca Russo, FAO Senior Economist FAO-RIMA@fao.org www.fao.org/resilience/background/tools/rima This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of FAO and can in no way be taken to reflect the views of the European Union.



Food and Agriculture Organization of the United Nations Rome, Italy

