



Food and Agriculture Organization  
of the United Nations

## 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; statistical modelling tools allow establishing a cause-effect relationship between resilience and its critical determinants, depending on the context.

The first version of RIMA – developed in 2008 – has been technically improved in 2016 based on its application in more than 10 countries.<sup>1</sup>

### Why a short RIMA questionnaire?

The RIMA analyses are based on **household level data** from ad hoc or pre-existing surveys.

Collecting household level data is time and resource consuming, and it is not always feasible in countries affected by fragility and conflict.

**A short RIMA questionnaire allows at collecting the information needed for estimating the household resilience capacity through short interviews.**

The short RIMA questionnaire comprises three components:

**1. Mandatory modules:**

- Access to Basic Services (ABS); Assets (AST); Social Safety Nets (SSN); Adaptive Capacity (AC)
- Food security
- Shocks

**2. Optional modules:**

- Subjective resilience
- Conflict

**3. Household demographic characteristics, to be collected by the enumerators**

The list of 29 questions used in the short RIMA questionnaire is based on: RIMA experience, literature review (Table 1), and technical consultations of RIMA experts.

### 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 (reducing data cleaning / data preparation) – in order to provide updated policy & programming implications
- Collecting high-frequency data – for monitoring interventions or critical contexts.

<sup>1</sup> 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](http://www.fao.org/3/a-i5665e.pdf))

## MODULES

### Access to Basic Services (ABS)

1. Is the main source of drinking water for members of the household piped a household water connection, public taps or standpipes, tube wells or boreholes, protected dug wells, protected springs or rainwater collection? <sup>1</sup>	[1 = yes 0 = no]
2. Is the main type of toilet facility used by members of the household 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? <sup>2</sup>	[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?	[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 members of the household own?	[number]
• Car	
• Bicycle	
• Gas/electric cooker	
• Mobile	
• Plough	
• Machete	
• Tractor	
6. Do the members of the household use [INPUTS]?	[1 = yes 0 = no]
• Seeds	
• Pesticides/herbicides	
• Fertilizers	
7. What is the total area of agricultural land (owned, leased or used) that the household owns/uses in hectares?	[hectares]
8. How many [LIVESTOCK] does the household currently own?	[number]
• Cows/calves	
• Sheep, goat	
• Chicken	
• Camels	

<sup>2</sup> List of improved water sources available here: <https://data.worldbank.org/indicator/SH.H2O.SAFE.ZS>

<sup>3</sup> List of improved toilet facilities here: [www.who.int/water\\_sanitation\\_health/monitoring/jmp2012/key\\_terms/en](http://www.who.int/water_sanitation_health/monitoring/jmp2012/key_terms/en)

9. How much [CROP] did the household members harvest / do they expect to harvest during the last/current crop season in kilograms?	[kg]
• Maize	
• Millet	
• Sorghum	
• Beans	
• Cow peas	

## Social Safety Nets (SSN)

10. What is the total amount of loan(s) received in the last 12 months by the members of the household?	[monetary value in local currency]
11. What is the total amount of formal transfers (relief food, cash assistance, livestock, safety net programs, pension schemes, etc.) received in the last 12 months by the members of the household?	[monetary value in local currency]
12. What is the total amount of informal transfers (cash, remittances, food or grain gift, seed gift, free use of animals, etc.) received in the last 12 months by the members of the household?	[monetary value in local currency]
13. How many [NETWORKS] can the members of the household rely on in case of need?	[number]
• Associations (farmers groups, women support groups, youth groups, business associations, unions, etc.)	
• Relatives/friends/family members	

## Adaptive Capacity (AC)

14. Can the head of the household read and write?	[1 = yes 0 = no]
15. a. How many years has the household head attended formal school? b. How many years has the household head attended Koranic school?	[number]
16. a. How many years has the household member with the highest level of education? b. How many years has the household member with the highest level of education attended Koranic school?	[number]
17. How many years on average have the household members of working age (>14 and <64 years old) attended formal school?	[number]
18. In the past 12 months, was [SOURCE] a source of household income?	[1 = yes 0 = no]
• Agriculture, animal breeding, fishing	
• Family business (other than agriculture)	
• Government wage and salary	
• Private sector wage and salary	
• Transfers and social assistance	
• Other	
19. What is considered as the main income source of the household?	[open answer]
20. How many different crops have the household members grown during the last season?	[number]

## Food security

21. What is the amount spent on the food consumed by the household members during the past 7 days?	[monetary value in local currency]
22. What percentage of your income is used for buying food?	[%]
23. 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]
24. Can you quantify how much your household consumed in the past 7 days from its own production?	[monetary value in local currency]
25. Can you quantify how much your household consumed in the past 7 days from assistance/gifts?	[monetary value in local currency]
26. Over the past 7 days, have the household members consumed [FOOD GROUP]?	[1 = yes 0 = no]
• Cereals	
• White tubers and roots	
• Vitamin A rich vegetables and tubers	
• Dark green leafy vegetables	
• Other vegetables	
• Vitamin A rich fruits	
• Other fruits	
• Organ meat	
• Flesh meat	
• Eggs	
• Fish and seafood	
• Legumes, nuts and seeds	
• Milk and milk products	
• Oils, fats	
• Sweets	
• Spices, condiments, beverages	
27. During the last 7 days, have you been faced with a situation wherein you did not have enough food to feed the household?	[1 = yes 0 = no]

## Shocks

28. What are the most severe shocks faced by the household in the last 12 months?	[open answer]
29. What did the household members do to cope with the shocks?	[open answer]

## Household demographic characteristics

30. Gender of household head	[1 = male 2 = female]
31. Total number of members of the household (Adults and children)	[number]
32. Total number of household members of working age (>14 and <64 years old)	[number]
33. Region	[open answer]
34. Ethnic Group	[open answer]
35. Livelihood	[open answer]

**Table 1. Reference list by questions**

Question number	References
1	<p><b>United Nations Development Programme (UNDP).</b> 2006. <i>Human development report 2006-beyond scarcity: Power, poverty and the global water crisis.</i> (also available at: <a href="https://www.undp.org/content/dam/undp/library/corporate/HDR/2006%20Global%20HDR/HDR-2006-Beyond%20scarcity-Power-poverty-and-the-global-water-crisis.pdf">https://www.undp.org/content/dam/undp/library/corporate/HDR/2006%20Global%20HDR/HDR-2006-Beyond%20scarcity-Power-poverty-and-the-global-water-crisis.pdf</a>).</p> <p><b>Adams, M.</b> 2006. Land-water interactions: Opportunities and threats to water entitlements of the poor in Africa for productive use. No. HDOCPA-2006-20. Human Development Report Office (HDRO), UNDP.</p>
2	<p><b>World Health Organization (WHO) &amp; United Nations Children's Fund (UNICEF).</b> 2000. <i>Global water supply and sanitation assessment 2000 report.</i> WHO.</p>
3	<p><b>Agüero, J., Carter, M. &amp; May, J.</b> 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.</p>
4	<p><b>Adger, W.N., Brooks, N., Bentham, G., Agnew, M. &amp; Eriksen, S.</b> 2005. <i>New indicators of vulnerability and adaptive capacity.</i> Tyndall Centre for Climate Change Research.</p> <p><b>Dercon, S., Bold, T. &amp; Calvo, C.</b> 2004. <i>Insurance for the poor?</i> QEH Working Paper 125. Oxford, UK, University of Oxford.</p>
5	<p><b>Barrett, C. B., Reardon, T. &amp; Webb, P.</b> 2001. Nonfarm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications. <i>Food policy</i>, 26(4): 315–331.</p>
6-7	<p><b>Berdegú, J.A. &amp; Escobar, G.</b> 2002. <i>Rural diversity, agricultural innovation policies and poverty reduction.</i> Agricultural Research and Extension Network (AgREN), Overseas Development Institute (ODI).</p>
8	<p><b>Frison, E.A., Cherfas, J. &amp; Hodgkin, T.</b> 2011. Agricultural biodiversity is essential for a sustainable improvement in food and nutrition security. <i>Sustainability</i>, 3(1): 238–253.</p>
9	<p><b>Herrero, M., Thornton, P.K., Notenbaert, A.M., Wood, S., Msangi, S., Freeman, H.A., Bossio, D., Dixon, J., Peters, M., van de Steeg, J., Lynam, J., Parthasarathy R., Macmillan, S., McDermott, J., Sere C. &amp; Rosegrant, M.</b> 2010. Smart investments in sustainable food production: revisiting mixed crop-livestock systems. <i>Science</i>, 327(5967): 822–825.</p>
10	<p><b>Janzen, S.A. &amp; Carter, M.</b> 2013. <i>The impact of micro insurance on consumption smoothing and asset protection: evidence from a drought in Kenya.</i> Agricultural and Applied Economics Association Annual Meeting, 4–6 August 2013. Washington, DC.</p> <p><b>Asadul, I.P.M.</b> 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.</p>
11-12	<p><b>Devereux, S. &amp; Getu, M.</b> 2013. <i>Informal and formal social protection system in Sub-Saharan Africa.</i> Kampala, African Books Collective.</p> <p><b>Ligon, E.</b> 2001. <i>Targeting and informal insurance.</i> WIDER Discussion Papers/World Institute for Development Economics (UNU-WIDER). Berkeley, USA, University of California.</p> <p><b>Mordoch, J.</b> 1999. Between the state and the market: can informal insurance patch the safety net? <i>World Bank Research Observer</i>, 14(2): 187–207.</p> <p><b>Mane, E., Rocca, M. &amp; Conforti, P.</b> 2015. <i>Social protection and food security indicators: an inquiry through data from 10 household budget surveys.</i> FAO Statistics Division - Working Paper Series 9/2015. Roma. FAO.</p> <p><b>Skoufias, E. &amp; Quisumbing, A.</b> 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.</p> <p><b>Freund, C.L. &amp; Spatafora, N.</b> 2005. <i>Remittances: transaction costs, determinants, and informal flows.</i> World Bank Policy Research Working Paper 3704.</p> <p><b>Carletto G., Davis, B., Stampini, M., Trento S. &amp; Zezza, A.</b> 2004. <i>Internal mobility and international migration in Albania.</i> Roma, FAO.</p> <p><b>Duflo, E.</b> 2003. Grandmothers and granddaughters: old-age pensions and intra-household allocation in South Africa. <i>The World Bank Economic Review</i>, 17(1): 1–25.</p>
13	<p><b>Fafchamps, M. &amp; Gubert, F.</b> 2007. The formation of risk sharing networks. <i>Journal of Development Economics</i>, 83: 326–350.</p>
14	<p><b>Gallopin, G.C.</b> 2006. Linkagers between vulnerability, resilience, and adaptive capacity. <i>Global Environmental Change</i>, 16: 293–303.</p>
15	<p><b>Abdulai, A. &amp; Eberlin, R.</b> 2001. Technical efficiency during economic reform in Nicaragua: evidence from farm household survey data. <i>Economic System</i>, 25(2): 113–125.</p>

16	<p><b>Goensch, I.</b> 2016. Formal school or Koranic school? Determinants of school type choice in Senegal. <i>Journal Oxford Development Studies</i>, 44(2): 167–188.</p> <p><b>d’Aiglepierrea, R. &amp; Bauerb, A.</b> 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.</p>
17	<p><b>Eurostat.</b> 1998. <i>Labour Force Survey - Methods and definitions</i>. Luxembourg, European Communities.</p>
18-19	<p><b>Mortimore, M.J. &amp; Adams, W.M.</b> 2001. Farmer adaptation, change and “crisis” in the Sahel. <i>Global environmental change</i>, 11(1): 49–57.</p> <p><b>Brooks, N. &amp; Adger, W.N.</b> 2005. Assessing and Enhancing Adaptive Capacity. In B. Lim &amp; E. Spanger-Siegfried, eds. <i>Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measures</i>, pp.165–181. UNDP y Cambridge University Press.</p>
20	<p><b>Lin, B.B.</b> 2011. Resilience in agriculture through crop diversification: adaptive management for environmental change. <i>BioScience</i>, 61(3): 183–193.</p>
21/24/25	<p><b>Deaton, A. &amp; Zaidi, S.</b> 2002. <i>Guidelines for constructing consumption aggregates for welfare analysis</i>. LSMS Working Paper No. 135. The World Bank.</p>
22	<p><b>Pangaribowo, E.H., Gerber, N. &amp; Torero, M.</b> 2013. <i>Food and nutrition security indicators: a review</i>. FOODSECURE WP 05.</p> <p><b>Levin, C.E., Ruel, M.T., Morris, S.S., Maxwell, D.G., Armar-Klemesu, M. &amp; Ahiadeke, C.</b> 1999. Working women in an urban setting: traders, vendors and food security in Accra. <i>World Development</i>, 27(11): 1977–1991.</p>
23	<p><b>Tarasuk, V.S.</b> 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.</p> <p><b>Hamelin, A.M., Habicht, J.P. &amp; Beaudry, M.</b> 1999. Food insecurity: consequences for the household and broader social implications. <i>The Journal of Nutrition</i>, 129(2): 525S–528S.</p>
26	<p><b>Swindale, A. &amp; Bilinsky, P.</b> 2006. <i>Household dietary diversity score (HDDS) for measurement of household food access: indicator guide</i>. Washington, DC, Food and Nutrition Technical Assistance Project, Academy for Educational Development.</p> <p><b>Nordic Council of Ministers.</b> 2014. <i>Nordic Nutrition Recommendations 2012. Integrating nutrition and physical activity</i>. Copenhagen. (also available at: <a href="https://norden.diva-portal.org/smash/get/diva2:704251/FULLTEXT01.pdf">https://norden.diva-portal.org/smash/get/diva2:704251/FULLTEXT01.pdf</a>).</p> <p><b>International Food Policy Research Institute (IFPRI).</b> 2016. <i>Global Nutrition Report 2016: From Promise to Impact: Ending Malnutrition by 2030</i>. Washington, DC.</p> <p><b>Savy, M., Martin-Prével, Y., Traissac, P., Eymard-Duvernay, S. &amp; Delpeuch, F.</b> 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.</p> <p><b>Cafiero, C., Melgar-Quinonez, H.R., Ballard, T.J. &amp; Kepple, A.W.</b> 2014. Validity and reliability of food security measures. <i>Annals of the New York Academy of Science</i>, 1331: 230–48.</p> <p><b>Leroy, J.L., Ruel, M., Frongillo, E.A., Harris, J. &amp; Ballard, T.J.</b> 2015. Measuring the Food Access Dimension of Food Security: A Critical Review and Mapping of Indicators. <i>Food and Nutrition Bulletin</i>, 36(2): 167–95.</p>
27	<p><b>Maxwell, D., Ahiadeke, C., Levin, C., Armar-Klemesu, M., Zakariah, S. &amp; Lamptey, G.M.</b> 1999. Alternative food-security indicators: revisiting the frequency and severity of coping strategies, <i>Food policy</i>, 24(4): 411–429.</p>
28	<p><b>Food Security Information Network (FSIN).</b> 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: <a href="http://www.fsincop.net/fileadmin/user_upload/fsin/docs/resources/1_FSIN_TechnicalSeries_5.pdf">http://www.fsincop.net/fileadmin/user_upload/fsin/docs/resources/1_FSIN_TechnicalSeries_5.pdf</a>).</p>
29	<p><b>Farzana, F.D., Rahman, A.S., Sultana, S., Raihan, M.J., Haque, M.A., Waid, L.J. Choudhury, N. &amp; Ahmed, T.</b> 2017. Coping strategies related to food insecurity at the household level in Bangladesh. <i>PLoS ONE</i>, 12(4): e0171411. (also available at: <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5391923">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5391923</a>).</p>

#### TO KNOW MORE

Luca Russo, FAO Senior Economist  
[luca.russo@fao.org](mailto:luca.russo@fao.org) | [FAO-RIMA@fao.org](mailto:FAO-RIMA@fao.org)  
[www.fao.org/resilience/background/tools/rima](http://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.



Some rights reserved. This work is available under a CC BY-NC-SA 3.0 IGO licence