Evaluation of the project "Cross-cutting: Targeted support for agricultural statistical innovation at FAO"

Project code: MTF/GLO/707/BMG

Annex 2. Analysis of FIES implementation

FIES data publication and sources

1.   Data from the Food Insecurity Experience Scale (FIES) is published annually at country, regional and global levels in the State of Food Security and Nutrition in the World (SOFI) annual report,[1] jointly prepared by the Food and Agriculture Organization of the United Nations (FAO), the international Fund for Agricultural Development (IFAD), the United Nations Children's Fund (UNICEF), the World Food Programme (WFP) and the World Health Organization (WHO). The data is also published for the Sustainable Development Goal (SDG) global indicator 2.1.2 on 'Prevalence of moderate and severe food insecurity' on the SDG indicator database.[2] Estimates published on the FAOSTAT database[3] are the same as in SOFI.

2.   Among 203[4] countries and territories listed in the FAOSTAT data portal section on food security indicators as of 18 April 2022, 96 (47 percent) had published estimates in 2018 on the prevalence of severe food insecurity relating to the three-year period 2015–2017. This number grew steadily to 120 (59 percent) for the data series 2018–2020 published in 2021. Figure 1 summarizes the reporting status for FIES estimates relating to 203 countries as published via FAOSTAT for five years.

Figure 1. Count of FIES estimates for 203 countries
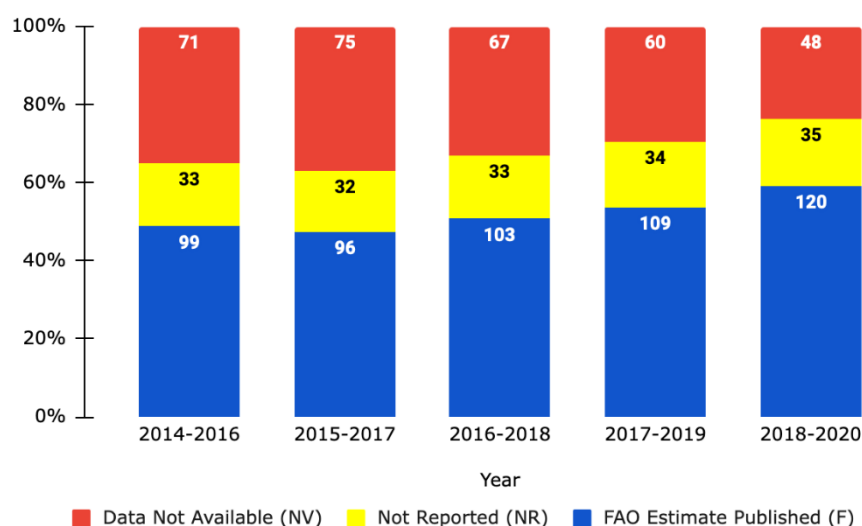
Source: FAOSTAT.

3.   The status "Not Reported (NR)" means that although data to compute the FIES estimates may have been available, the country did not approve the publication of any estimates. Where the status was flagged as "NV=data is not available", no computation of estimates or discussion on filing estimates was carried out with the project team. The project team clarified that on some occasions it considered the available national survey FIES data to be of such bad quality that it was discarded, leading to a 'NV' flag.

[1] The State of Food Security and Nutrition in the World is an annual report https://www.fao.org/publications/sofi/en/

[2] SDG Global Indicator Database Portal - https://unstats.un.org/sdgs/dataportal

[3] The FAOSTAT database / portal https://www.fao.org/faostat/en/

[4] While FAOStat lists 204 countries and territories, we analyzed data for 203 countries by excluding the aggregate values of China which were covered already through its listed territories and the mainland
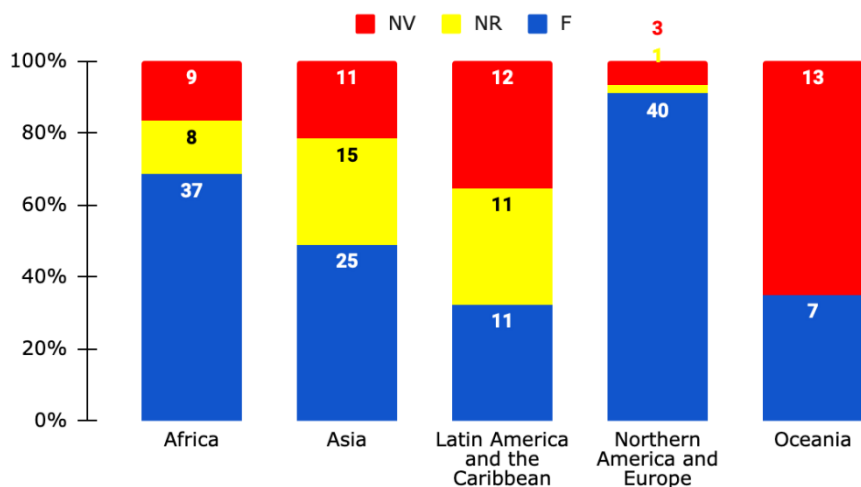
4.   Figure 2 and Figure 3 summarize the regional distribution of publication status for the published 2015–2017 and 2018–2020 data series respectively.

Figure 2. FIES Estimates publishing status by region in 2018 (2015–2017 series)
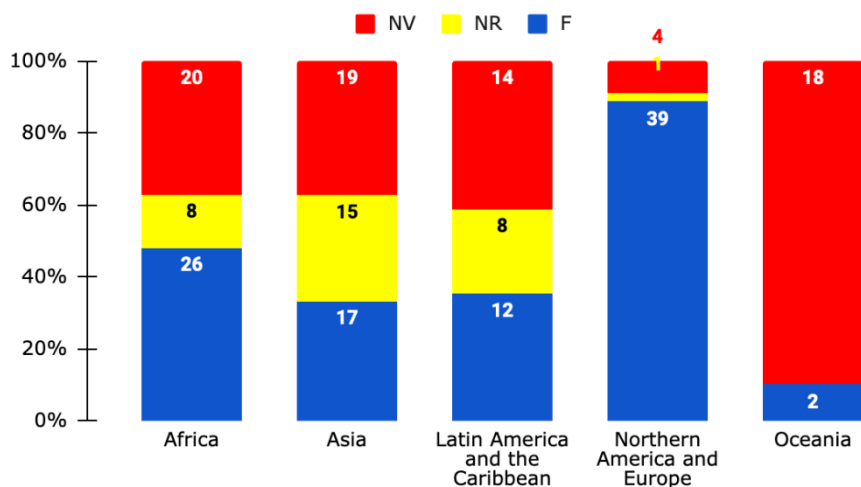
Source: FAOSTAT.

Figure 3. FIES Estimates publishing status by region in 2021 (2018–2020 series)

Source: FAOSTAT.

5.   North America and Europe with 44 countries and territories under consideration had the highest proportion of FAO published estimates at 91 percent (40) in the 2018–2020 data series. This was an increase by one country (Belgium) compared to the 2015–2017 series. Africa had the second-highest proportion at 37 (slightly over a third) of the 54 Countries and territories under consideration. This was a notably high growth from the slightly less than a half (26) of the countries in the 2015–17 data series. Latin America and the Caribbean with 34 Countries and territories under consideration had the least proportion of FAO published estimates in the 2018–2020 series at 32 percent (11). This was a slight drop from 35 percent (12) in the 2015–2017 data series. In all the countries and territories in Asia (15) and Africa (8) for which the publication status of FIES estimates was 'NV=data is not available,' the status did not change from 2015–2017 to the 2018–2020 data series.

6.   Table 1 shows the sources of the data used to estimate the 2018–2020 series for 140 countries and territories. This information was collected by the project team as part of the process of securing approval for publishing estimates from countries and territories. 108 (77 percent) of the estimates were computed using Gallup World Poll (GWP) datasets only, while 14 (10 percent) were computed using a combination of a national survey and a GWP dataset. 18 of the 140 Countries and territories (13 percent) had their estimates computed without reference to GWP datasets.

Table 1. Sources of data for 140 countries and their FAOSTAT publication flags (2018–2020)

FAOSTAT Flag 2018–2020	FAO thru GWP	National data	National data Trend is imputed based on GWP data	National integrated with GWP	Only GWP data, discarded national data	Total
FAO Estimates Published	76	15	11	2	7	111
Not reported	20	2	1		3	26
Not available	2	1				3
Total	**98**	**18**	**12**	**2**	**10**	**140**

Source: Elaborated by the evaluation team.

7.   Of the 140 countries and territories tracked, 111 had their estimates published. No information was available about the approval process relating to nine of the 120 countries for which estimates were published in the 2018–2020 series. These nine countries are Somalia, the Central African Republic, the Democratic Republic of the Congo in Africa, Myanmar, Lao People's Republic, Fiji, Kiribati, Tonga and Vanuatu.

8.   Table 2 shows the 63 countries and territories, including the nine discussed above, that were not included in the monitoring tool for publication approval but appeared in FAOSTAT for the data series 2018–2020.

Table 2. Countries and territories appearing in FAOSTAT but not in monitoring tool (2018–2020 series)

FAOSTAT Flag 2018–2020	Africa	Asia	Latin America and the Caribbean	Northern America and Europe	Oceania	Total
FAO Estimates Published	3	2			4	9
Not Reported	2	4	3			9
Not available	7	11	11	3	13	45
Total	**12**	**17**	**14**	**3**	**17**	**63**

Source: Elaborated by the evaluation team.

9.   The 63 countries in Table 2 included 39 (62 percent) which were indicated to have included FIES in their national surveys or to have concrete plans to do so. Among the remaining 24 where no information about FIES adoption was available were Haiti, Madagascar, Cuba, Barbados, Yemen and the Democratic People's Republic of Korea. Five of the 63 countries had hosted advocacy and capacity building missions: Chad, Grenada, Jordan, Lebanon, Myanmar and Oman. Although the tool used by the project team to monitor publication approvals included Benin, Cameroon and Gabon, the status of approval for each of these three countries was blank.

10.   Table 3 compares the FAOSTAT status flag with the Approval Comments for the 2018–2020 series as indicated in the monitoring file. Saint Lucia, where FIES estimates were indicated as approved in the monitoring tool, was flagged as "Data Not Available (NV)" in the FAOSTAT dataset. Likewise, Thailand and Zambia had estimates published in FAOSTAT but were indicated as "Not Approved" in the monitoring tool. For the Congo, estimates were published on FAOSTAT, yet the monitoring tool flagged the proposed estimates as "Not published".

Table 3. Comparison of FAOSTAT status flag and approval comments (2018–2020 series)

FAOSTAT Flag 2018–2020	Unspeci-fied	Approved 2018	Approved 2019	Approved 2020	Not approved	Not published	Published	Total
FAO estimates published	1	5	1	86	2	1	15	111
Not reported					20	5	1	26
Not available	2			1				3
Total	**3**	**5**	**1**	**87**	**22**	**6**	**16**	**140**

Source: Elaborated by the evaluation team.

FIES adoption

11.   The project team established five stages of FIES adoption in national surveys as follows:

    i.   the government regularly reports food insecurity rates based on FIES or similar experience-based measurement scale (Level 1);

    ii.   the government has reported food insecurity rates based on FIES or similar experience-based measurement scale and FAO is working to institutionalize regular, periodic reporting (Level 2);

    iii.   FIES has been included in national surveys and FAO is working with countries to produce valid food insecurity estimates (Level 3);

    iv.   plans in place to include FIES in national surveys (Level 4); and

    v.   no information (Level 5).

12.   Figure 4 illustrates the FIES adoption stages in national surveys of 203 countries and territories featured in the 2018–2020 data series on FAOSTAT. It shows the initial status as of March 2018 as reported in the evaluation report for the Voices of the Hungry project (VoH), compared to the status as of September 2021. A roadmap has been established for 125 (two-thirds) of these countries and territories to collect FIES data through their own national surveys and to compute FIES estimates in the future. These are countries recorded in adoption Levels 1 to 4. This is more than double the 58 countries at the beginning of the project. The project team had no information available on the roadmap to the adoption of FIES in the remaining 78 (one-third) Countries and territories featured in FAOSTAT reporting. This is a drop from 146 countries at the onset of the project.

Figure 4. Stages of FIES adoption in national surveys March 2018 vs. September 2021
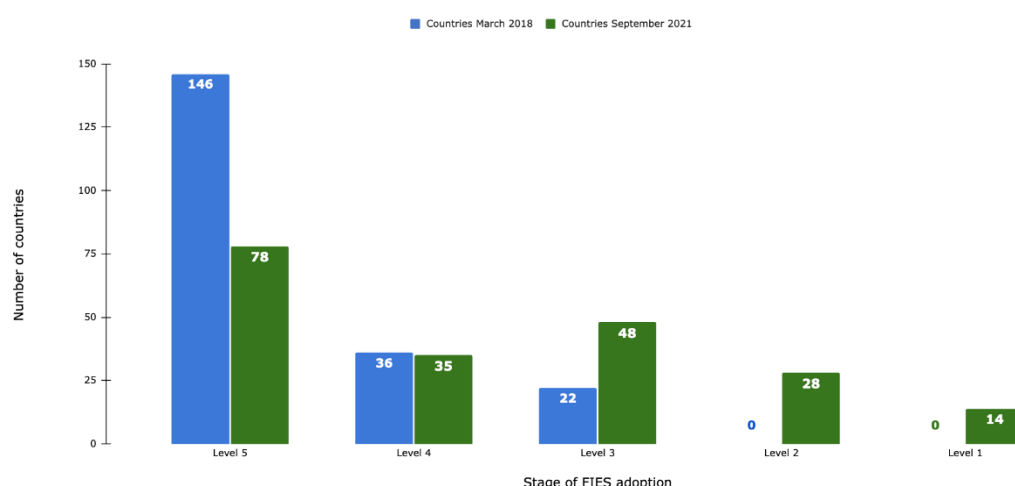
Source: Elaborated by the evaluation team.

13.   Table 4 shows the regional distribution of 203 Countries and territories by the FIES adoption stages. Half of the 14 countries and territories indicated as Level 1 are in Asia. In Africa, Morocco was recorded under Level 1, with the rest of the 54 Countries and territories being distributed fairly evenly across the other four levels.

Table 4. FIES adoption in national surveys by region as of September 2021

FIES adoption level	Africa	Asia	Latin America and the Caribbean	North America and Europe	Oceania	Total
Level 1 - Regular reports	1	7	3	3		14
Level 2 - Rates reported	12	6	7		3	28
Level 3 - Survey included	19	11	8	1	9	48
Level 4 - Plans in place	11	10	5	3	6	35
Level 5 - No information	11	17	11	37	2	78
Total	**54**	**51**	**34**	**44**	**20**	**203**

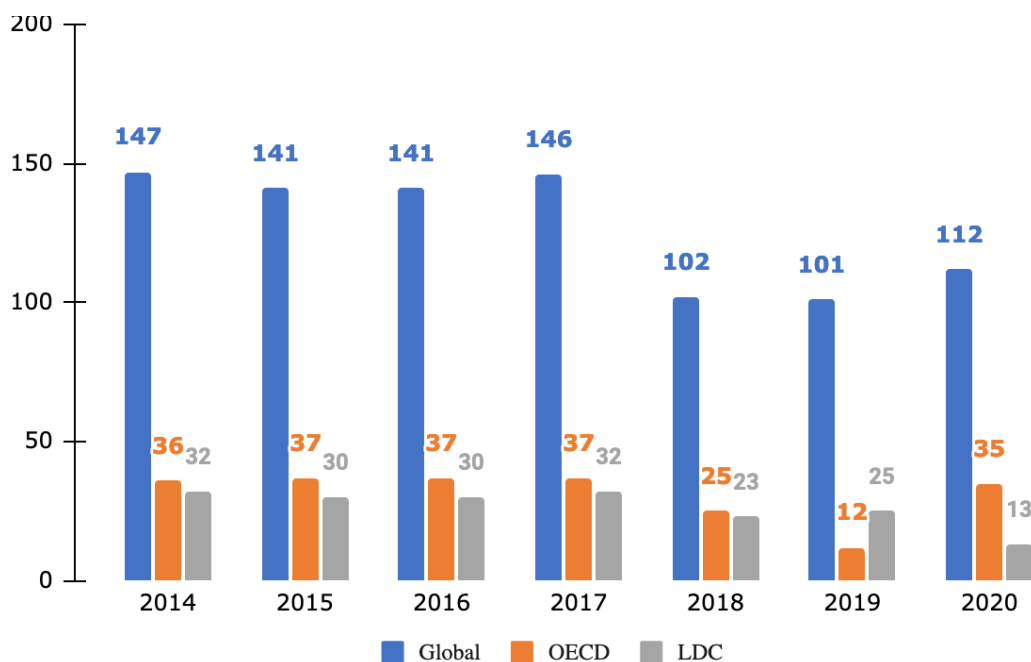*Source*: Elaborated by the evaluation team.

14.   The majority (37 out of the 44) of the countries and territories in the North America and Europe region were indicated to be in Level 5, where no information had been acquired on the roadmap to the adoption of FIES in national surveys. There was also no information available about the FIES stage of adoption in the majority (28 => 74 percent) of the 38 Organisation for Economic Co-operation and Development (OECD) countries, most of which were in the region designated as "North America and Europe".

15.   As shown in Figure 5, among the 46 least developing countries (LDCs), none were recorded at Level 1, where regular reports are received from national survey data. Over one-third (13) of the 34 LDCs in Africa had included FIES in their national surveys but had no estimates reported to FAO.

Figure 5. FIES Adoption stages among least developed countries as of September 2021
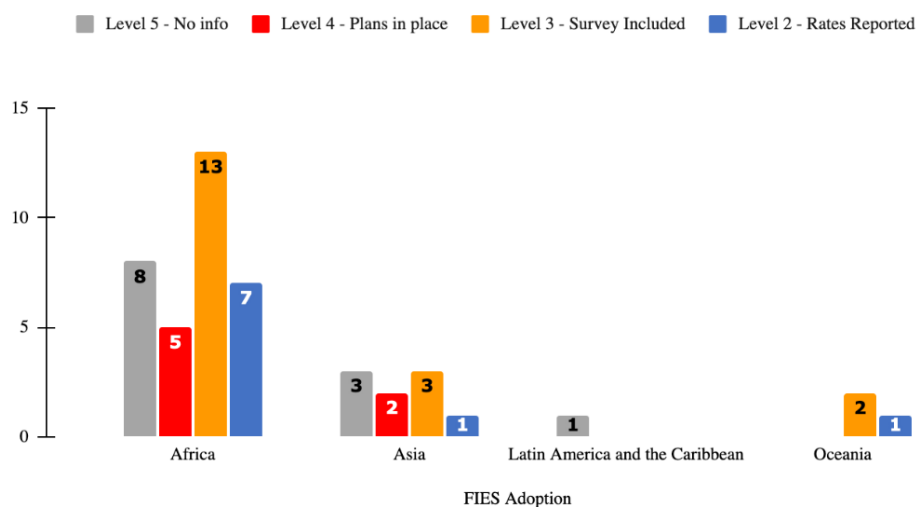
Source: Elaborated by the evaluation team.

Figure 6. Countries and territories where GWP was used to collect FIES data 2017–2020

Source: Elaborated by the evaluation team.

16.   The number of countries and territories for which the GWP mechanism was used to collect FIES data between the years 2017 and 2020 in LDCs decreased from 32 to 12. The decrease was the lowest among OECD countries from 37 to 35 (6%). Table 5 illustrates this trend further.

Table 5. FIES Adoption where GWP data was collected in 2017 and 2020

Designation	LDC		OECD		Other	
FIES adoption status	2017	2020	2017	2020	2017	2020
Level 1 - Regular reports			4	4	10	7
Level 2 - Rates reported	7		1	1	10	9
Level 3 - Survey included	13	2	3	3	17	14
Level 4 - Plans in place	4	9	2	2	14	12
Level 5 - No information	8	1	27	25	25	21
Total	**32**	**12**	**37**	**35**	**76**	**63**

Source: Elaborated by the evaluation team.

17. As illustrated in Table 5, in the 2018–20 data series, 14 countries were indicated as regularly reporting food insecurity rates based on FIES or a similar experience-based measurement scale (Level 1). Of these, ten had published estimates while four were flagged as "Not reported (NR)" for this data series. These were Bahrain, Jordan, Morocco and Pakistan. Of the 120 Countries and territories whose FIES estimates were published by FAO in the data series, 48 (49 percent) were indicated to be in Level 5, where there was no information on the roadmap for FIES incorporation into national surveys. Half (54) of the Countries and territories for which GWP was the sole source of data for estimates were in the category where no information was available on the adoption roadmap (Level 4). Likewise, 15 percent (16) of the Countries and territories for which GWP was the sole source of data belonged to the category where plans were in place to adopt FIES (Level 3).

18. Among the 140 countries and territories in the project team's monitoring tool for the 2018–2020 data series, 22 did not approve publication of FIES estimates as requested by FAO. This is illustrated in Table 6. Delayed or ignored communication was one of the reasons approvals were not granted. Among the reasons indicated for cases where approval was explicitly denied were concerns that the FIES methodology exaggerated the food insecurity indicators. Bahrain and Pakistan were in the Level 1 category of FIES adoption but declined to grant approval for estimated publications. GWP was the indicated data source for both countries, with national survey data from Pakistan being discarded. These countries were also flagged with the Not Reported (NR) status in the 2018–2020 data series on FAOSTAT. A large fraction (38 out of 87 = 44 percent) of the countries whose 2020 estimates were indicated as approved for publication in 2020 belonged to the Level 5 category, where no information on FIES adoption was available as of September 2021. The project team indicated that the categories "Not published" and "Published" reflected 22 additional instances where it did not receive responses to its request for the approval of FIES estimates. The label "Published" was given where the project team went ahead to publish an estimate based on approvals granted in previous years and following the SDG guidelines, given the non-response. The label "Not published", indicated that the project team did not publish the estimates, based on past communication with the country.

Table 6. FIES Adoption Vs. Indicated Approval Status (2018–2020)

| FIES adoption status	Unspec-ified	Approv-ed 2018	Approv-ed 2019	Approv-ed 2020	Not approv-ed	Not publish-ed	Publish-ed	Total
Level 1 - Regular reports		1		7	2		3	13
Level 2 - Rates reported		1		18	2	1	2	24
Level 3 - Survey included	1			18	8	3	3	33
Level 4 - Plans in place	2		1	6	5	1	1	16
Level 5 - No info		3		38	5	1	7	54
Total	**3**	**5**	**1**	**87**	**22**	**6**	**16**	**140**

Source: Elaborated by the evaluation team.

19.   The project spent USD 2 995 372 on the Gallup contract for FIES data collection and subsequent data analysis in 2017 and 2018. This equated to 66 percent of the component's budget. There was a 30 percent decrease in the number of countries for which GWP data was collected from 146 countries in 2017 to 112 in 2020. Figure 6 illustrates the overall trend of data collection over the period of the GWP contract since 2014. A large (59 percent) decrease in the number of LDC countries for which data was collected through the GWP mechanism was notable from 32 in 2017 to 13 in 2020.

20.   The cost of collecting FIES data using the GWP mechanism was estimated at USD 13 600 per year per data cycle according to the project design document. Therefore approximately USD 1.5 million was spent on FIES data collection in OECD countries through the GWP mechanism in the four years between 2017 and 2020 (i.e., 37+25+12+35 = 109 instances X USD 13 600). The comparable figure for the two years where GWP data collection for OECD countries was funded by the Cross-cutting project is USD 0.5 million (i.e., 25+12=37 instances X USD 13 600).

FIES microdata available on the FAO Microdata Catalogue

21.   The FAO Microdata Catalogue (FAM) was developed in the Cross-cutting project component "Open and interoperable microdata" as an open access, web-based platform for the dissemination of agriculture and food security survey microdata, including that from FIES. More than half of the datasets publicly available through the FAM catalogue's food security collection were FIES microdata datasets as of 02 March 2022. Figure 7 shows the number of countries whose FIES microdata datasets can be accessed on the FAM catalogue by survey year.

Figure 7. FIES micro datasets available on FAO Microdata Catalogue by survey year
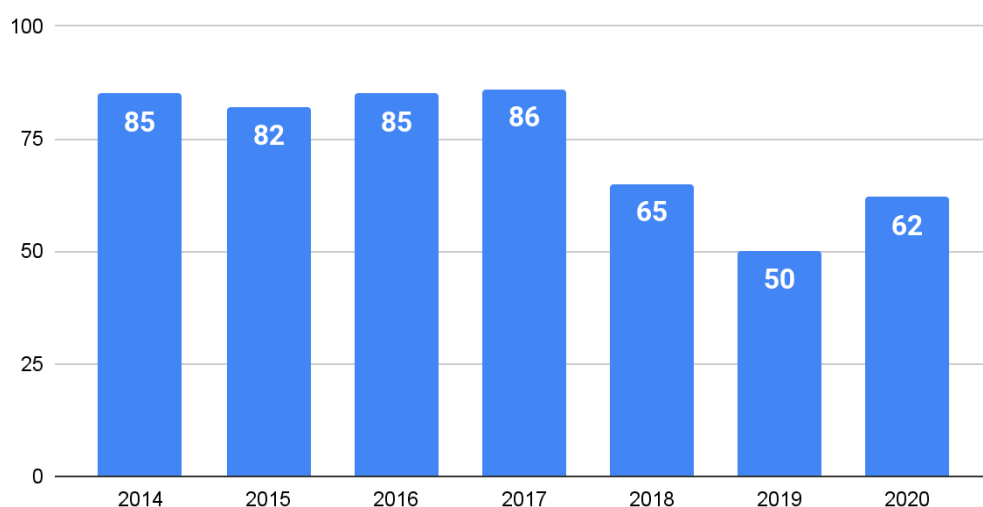
22.   The FIES microdata sets were published on the FAM catalogue at least once for 98 countries, as shown in Table 7. Among these countries, a large proportion (47 percent) was in Level 5 of FIES adoption, where information on the roadmap for inclusion in national surveys was not available. Among the 98 Countries and territories with at least one FIES microdata set on FAM since 2017, 37 (38 percent) are in the North America and Europe region while 27 (28 percent) are in the Africa region. In the FAM catalogue, there was at least one FIES microdata set available from 32 (84 percent) of the 38 OECD countries for survey years since 2017. Among the 46 LDC countries, 19 (41 percent) had at least one FIES microdata set in the FAM catalogue.

Table 7. FIES Adoption and FIES datasets on FAM since 2017 (LCD vs OECD)

FIES Adoption	LDC	OECD	Other	Total
Level 1 - Regular reports		2	6	8
Level 2 - Rates reported	5	1	7	13
Level 3 - Survey included	6	2	10	18
Level 4 - Plans in place	4	2	7	13
Level 5 - No info	4	25	17	46
Total	**19**	**32**	**47**	**98**

Technical assistance and training

23.   Other component activities covered provision of technical assistance to country governments on the inclusion of the FIES survey module into large-scale national household or individual surveys, training of enumerators, analysis of FIES data, and compilation of indicators of the prevalence of food insecurity at different levels of severity, calibrated against the global FIES reference scale. Information sessions were also held with selected international organizations, non-governmental organizations, academic units and others on the analysis of FIES data and reporting of results according to established FIES standards.

24.   A total of 52 missions targeting capacity building and advocacy for increased awareness and adoption of the FIES methodology were implemented between 2017 and 2019. The missions were hosted in 40 countries, as broken down in Figure 8. These missions included multinational and

national workshops ranging from 3 days to 5 days with training programs for the FIES and the prevalence of undernourishment (PoU) indicator based on food security indicators.

Figure 8. Countries hosting missions by number of missions hosted

Count of Missions Reported
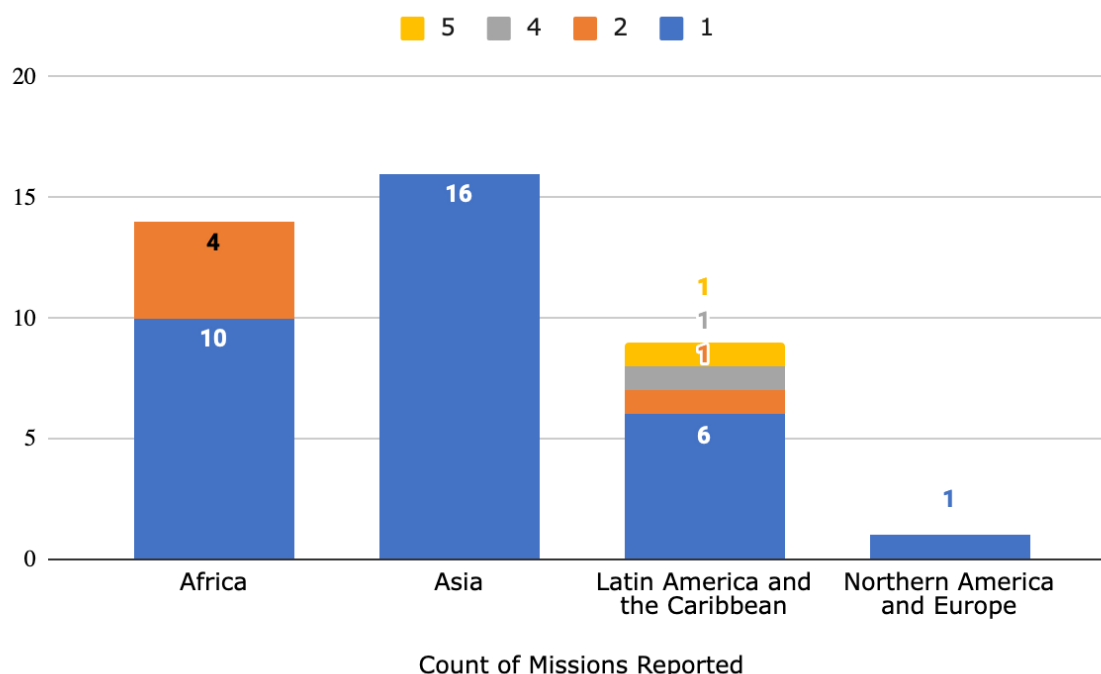
Source: Elaborated by the evaluation team.

25.   The number of missions was distributed evenly across Latin America and the Caribbean (17), Asia (16), and Africa (18). Asia had the highest proportion of countries hosting missions at 40 percent, with Africa at 35 percent and 23 percent in Latin America and the Caribbean. Among countries in North America and Europe, only Ukraine hosted a mission during the period. Colombia and El Salvador in Latin America hosted the highest number of missions - 5 and 4, respectively. Half (seven) of the countries indicated to be in Level 1 of FIES adoption as of September 2021 had hosted a mission in the period before 2020.

26.   Of the 52 missions analysed, LDC countries hosted ten missions while OECD countries hosted six missions. These six missions were hosted by Chile (one) and Colombia (five) in Latin America. Table 8 shows the distribution of FIES missions hosted per country against FIES adoption. Countries in Level 3 of FIES adoption hosted 42 percent of the missions, while countries in Level 2 of FIES adoption hosted 25 percent.

Table 8. FIES Adoption versus Missions hosted per country (2017–2019)

FIES adoption status	1	2	4	5	Total
Level 1 - Regular reports	7				7
Level 2 - Rates reported	9	2			11
Level 3 - Survey included	9	2	1	1	13
Level 4 - Plans in place	6				6
Level 5 - No info	2	1			3
Total	33	5	1	1	40

Source: Elaborated by the evaluation team.

27.   Almost one-third (seven) of the countries that declined to approve the publication of FIES estimates for the 2018–2020 data series had hosted about a quarter of the capacity building/advocacy activities before 2020. These countries were Colombia, Bahrain, the Plurinational State of Bolivia, Pakistan, Sri Lanka, Thailand and Zambia. Colombia had hosted five missions.

28.   Among the participants in mission activities were staff at national statistics offices; ministries of agriculture: and food and nutrition departments. Participants also included staff members of research and training institutes. Some missions targeted regional economic communities: the Southern African Development Community (SADC) and the East African Community (EAC), while others targeted international organizations such as the Integrated Food Security Phase Classification (IPC).[5] The majority of the workshops took participants through the following topics:

    i.   the SDG monitoring framework and the food security monitoring indicators under FAO's custodianship being the FIES (SDG indicator 2.1.2) and PoU (SDG Indicator 2.1.1);

    ii.   the methodological and computational aspects of SDG 2.1.1 and 2.1.2 including the relationships between FIES, PoU and other food security measurements; and

    iii.   step by step production of the PoU indicator estimates and the generation of FIES estimates from existing in-country data collected through national surveys and the GWP mechanism.

29.   The missions also included advocacy for regular collection of FIES data withing national surveys as well as the approval of estimates of food insecurity generated from FIES data.

30.   Sources other than the Cross-cutting project funded many of the missions. There were apparently no missions carried out between January 2020 and December 2021. This period coincided with the COVID–19 pandemic in many countries. The project team stated that it did not use Cross-cutting funding for technical assistance, capacity building, or FIES advocacy from 2020 onwards.

31.   The project team published two e-learning courses for free access on the FAO eLearning Academy in 2018. One course[6] was on SDG indicator 2.1.1 (prevalence of undernourishment - PoU) and the other course[7] was on SDG indicator 2.1.2 (prevalence of moderate or severe food insecurity based on the FIES). The target audiences for these e-learning courses were indicated to be data analysts responsible for working with data to report on the SDG indicators, national statistics officers responsible for planning and implementing data collection and reporting for the indicators, and

---

[5] https://www.ipcinfo.org/

[6] https://elearning.fao.org/course/view.php?id=386   eLearning course on SDG indicator 2.1.1.

[7] https://elearning.fao.org/course/view.php?id=360 - eLearning course on SDG indicator 2.1.2.

policy makers who may use the reported data to inform decisions. The team also published tools and templates for analysing FIES data[8] on the VoH section of the FAO website.

Advocacy, awareness communication, partnership promoting use of FIES worldwide

32.   FAO project team activities aimed at creating greater awareness and use of FIES worldwide. The VoH section of the FAO website continues to serve as an updated source of information and a means of advocacy for FIES awareness and uptake. The project team has also participated in events and conferences to publicise FIES. The promotion efforts have also included the publishing of 17 research and technical articles by my project team members and researchers who have benefited from access to FIES microdata. Partnerships for the promotion of FIES include collaboration with IFAD, WFP, WHO, and UNICEF to publish the annual SOFI report as well as FAO's membership in the IPC partnership. Below are resources illustrating the adoption of FIES among international organizations resulting from FAO's promotion of FIES.

   i.   the United States Agency for International Development (USAID) Feed the Future Indicator Handbook;[9]

   ii.   the monitoring and evaluation function of the United States' Global Agriculture and Food Security Program;[10]

   iii.   the Demographic and Health Survey (DHS) Program - Instructions for the DHS-8 Interviewer;[11]

   iv.   the technical manual of the IPC global partners;[12] and

   v.   the Regional Overview of Food security and nutrition in the Near East and North Africa - Impact Assessment at FAO, IFAD, UNICEF, WFP and WHO.[13]

33.   Concerning demonstration of adaptive capacity, FAO was presented with the opportunity of being the custodian of the SDG indicators related to the access dimension of food security. The project team adapted the scope of the project to cover its training and capacity development on the PoU measurement for the SDG indicator 2.1.1, in addition to the FIES-related SDG indicator 2.1.2.

FIES stakeholder survey and interview results

34.   With a median of three = "Somewhat agree" (N=132), the survey respondents somewhat agreed that FAO's work in food security monitoring contributes to eradicating food insecurity using FIES. Several interview and survey participants stated that FAO's activities in food security monitoring such as the work around FIES are contributing to achieving the zero-hunger objective by 2030.

---

[8] https://www.fao.org/in-action/voices-of-the-hungry/analyse-data/en/ - templates and tools for analysing FIES data.

[9] https://www.agrilinks.org/post/feed-future-indicator-handbook
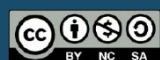
[10] https://www.gafspfund.org/

[11] https://dhsprogram.com/pubs/pdf/DHSQM/DHS8-Module-FAO-FIES-Instructions-EN-16Oct2020-DHSQM.pdf

[12] https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/manual/IPC_Technical_Manual_3_Final.pdf

[13] https://www.ifad.org/documents/38714170/41917111/sofi_nen_2019.pdf

Office of Evaluation
E-mail: evaluation@fao.org
Web address: www.fao.org/evaluation

Food and Agriculture Organization of the United Nations
Rome, Italy