

Thematic Evaluation Series

Evaluation of FAO's role and work on antimicrobial resistance (AMR)

Annex 2. Results of the FAO Members and country level surveys

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
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Note: Three surveys were conducted as part of the evaluation process. These were used to get a comprehensive understanding of the different views on the importance of the work on AMR as well as FAO's role and work on it. The surveys were conducted with FAO Members, government counterparts and FAO personnel at the country level.

The following sections include results of (A) the FAO Members survey and (B) the country level surveys of FAO personnel and government counterparts.

Part A: FAO Members survey

1. Introduction

1. As part of the evaluation process, the evaluation team conducted a brief survey with FAO Members in order to understand their views on the importance of the AMR threat and on FAO's role and work on AMR. A link to the online survey was posted on the FAO Members' website and was available in all six FAO languages. Members were given two weeks to response to the survey.
2. Thirty of the 197 FAO Members (approximately 15 percent) responded to the survey from across all continents. The following sections categorize and summarize their responses along the four questions covered (1) importance of the threat posed by AMR (2) relevance of FAO in the global AMR architecture (3) challenges for FAO in delivering its work on AMR (4) suggestions on the way forward.

2. Overview

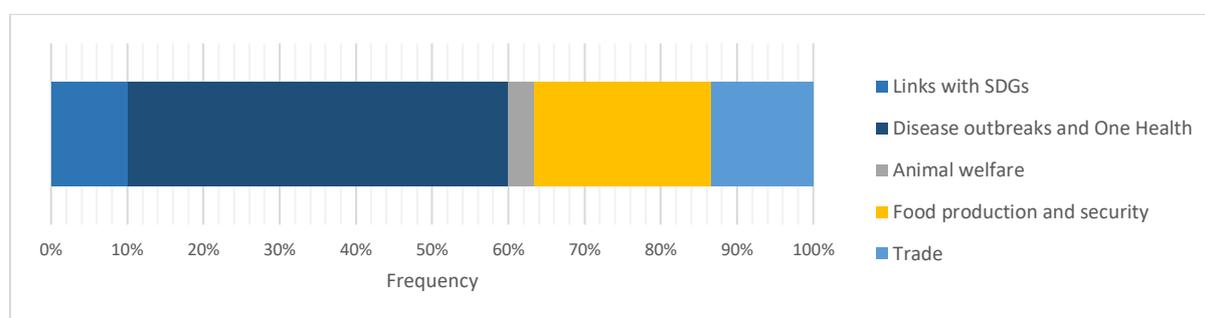
3. Overall, even though only a limited number of Members participated in the survey, there was a good geographic spread, and most responses were supported by a detailed justification. There were no questions raised over the importance and urgency of combatting AMR, however, there was some concerns shown by a few Members on possible economic consequences and unfair trade restrictions, linked with AMR work.
4. Regarding FAO's relevance in the global AMR architecture, all agreed on its critical role and comparative advantages, simultaneously emphasising the need for further strengthening its partnerships at all levels. The responses showed some concern over overlapping work between FAO and the World Organisation for Animal Health (OIE). Based on the expert panel discussion and the evaluation report, the distinction of roles and responsibilities is clear within FAO and OIE, however, it requires further clarification among FAO Members as well as external partners.
5. The challenges for FAO's work on AMR mentioned by Members are adequately stated in the evaluation report. Nevertheless, awareness among FAO Members on AMR and FAO's approach to AMR needs to be further defined to ensure wider political commitment.
6. Participating Members have also described in detail key suggestions for FAO's future work on AMR. These are aligned with the evaluation report and are also covered in its recommendations. The need to develop a risk assessment and prioritize its activities on AMR was particularly stressed. Additionally, the greater engagement of FAO Members was also indicated, probably outside formal meetings, in the finalization of FAO's new strategy/action plan on AMR.

3. Summary

3.1 Importance of the threat posed by AMR in comparison to other global threats in the food and agriculture sector

7. All responses marked AMR threat as important or extremely important. The most prominent reason cited for its importance was the associated disease outbreaks and the One Health nature of the issue. The responses highlighted the interconnectedness between human, animal and environment health and the need for coordination and collaboration across all sectors. They indicated how misuse and overuse of antimicrobials can lead to the emergence and expansion of resistant organisms, threatening human, animal and plant health as well as the global ecosystem. Further, leading to superbugs and incurable diseases.

Figure 1: Percentage of total reasons listed across responses by category



Source: Evaluation team.

8. A large percentage of the responses also pointed out to its effect on food production and eventually on food security. In the case of spread of infections across animals and plants, food producers may bear the costs associated with increased resistance levels and it directly impacts the quantity of food produced. At the same time the responses also acknowledged the importance of using antimicrobials for food safety, food security, animal welfare, economic development, and livelihoods; underlining that the main cause for concern is the misuse of antimicrobials.
9. A few responses mentioned the global importance of the AMR risk, as recognized by all relevant global actors and the 2030 Sustainable Development Goal (SDG) agenda, and the negative impact of AMR on animal welfare. While another response suggested that it is essential to manage AMR risks to protect human health, but it should not be used to create unjustified barriers to trade. The response also indicated that Members Nations are responsible to take measures according to their national plans, priorities and capacities.

3.2 Relevance of FAO in the global AMR architecture

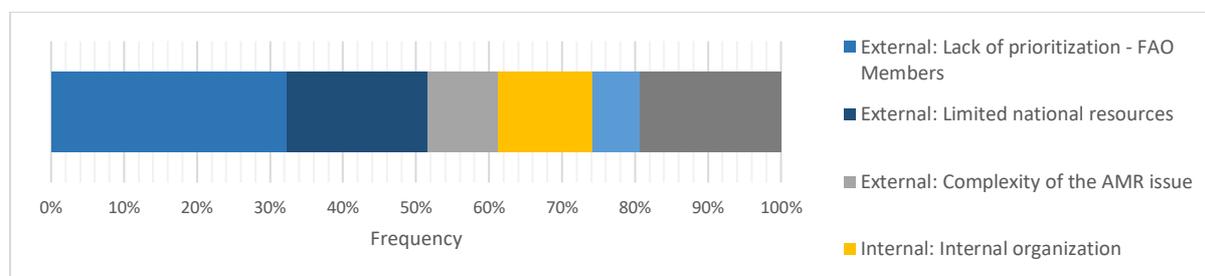
10. All participating Members categorised FAO in the global AMR architecture as relevant or highly relevant. The justifications emphasised FAO's mandate and its comparative advantages. These noted FAO's mandate to lead on AMR in the food and agriculture sectors and linked AMR work to FAO's goal of achieving zero hunger and good nutrition for the world's population, and its mission to reduce food insecurity.

11. Aspects of FAO's comparative advantage were also stressed by most respondents. FAO's wide expertise within the food and agriculture sectors covering key areas associated with AMR and its global presence were both considered important in combatting AMR. Further, FAO's strong linkages with a wide range of stakeholders were highlighted, including those with governments, producers and trade associations. Additionally, a few responses mentioned FAO's track record in standard setting and promoting good practices, including the close collaboration with national veterinary services through its Emergency Centre for Transboundary Animal Diseases (ECTAD) offices. One of the responses highlighted the importance of FAO in supporting Member's efforts to implement international standards, guidelines and recommendations developed by the international standard-setting bodies and to implement AMR national plans. While noting that the food production sector is already challenged by the present goal to end hunger by 2030 and that FAO has as a primary role to support countries on it.
12. Most responses also stressed the importance of close coordination and collaboration with the World Health Organization (WHO), OIE and United Nations Environment Programme (UNEP) on AMR, taking into account their respective mandates. OIE was specifically mentioned as an important organization with a similar mandate. The responses indicated limited clarity on the distinct roles and responsibilities of FAO and OIE.

3.3 Challenges for FAO in delivering its work on AMR

13. Members highlighted both external and internal challenges for FAO in delivering its work on AMR. Among the external challenges, the key ones mentioned were the lack of prioritization among FAO Members and limited national financial and technical resources across countries. Some also highlighted the complexity of the AMR issue.

Figure 2: Percentage of total reasons listed across responses by category



Source: Evaluation team.

14. The responses emphasized that countries have competing priorities and given the lack of awareness and its invisible nature, AMR does not place high on their list leading to limited political commitment. Further stating that the COVID-19 pandemic has worsened this, and few consider AMR to be a similar threat. The resistance of countries to commit to AMR work due to economic reasons linked with trade was also mentioned. Additionally, it was noted that striking a balance between food security and minimizing the use of antimicrobials in agriculture sectors is difficult, which has been another source of concern for greater political commitment.
15. The responses also linked the limited commitment by FAO Members to the availability of inadequate resources, both financial and technical at the national level. These have directly challenged the implementation of AMR National Action Plans (NAPs) and, in particular, the

ability to collect global AMR data. The responses noted that many countries struggle to provide data on antimicrobial usage (AMU) in animals (for OIE) and people (for WHO), and AMR information for WHO Global Antimicrobial Resistance Surveillance System (GLASS). Another concern noted was the distribution of costs and sustainability of funding. For example, how much and who bears the cost of culture and susceptibility testing of isolates from food may affect capacity building activities.

16. At the same time, Members also acknowledged the overall challenges faced on AMR. One of the responses argued that the use of antimicrobials could almost double in the next ten years presenting additional challenges. A few responses also mentioned climate related challenges that could cause mutation of certain microbes, and the large variation in agricultural systems around the world makes it impossible to have common solutions.
17. The Members also mentioned internal challenges such as the need for improved internal collaboration across FAO's broad range of expertise, resource allocation and FAO partnerships. For example, it was noted that 'antibiotic residues in manure' or antimicrobial movement from agricultural activities to the environment (soil and water) risks not being addressed. The respondents also mentioned FAO's competing areas of work and the lack of prioritization in its strategic framework. These further stated the need for sustainable resource allocation in terms of funding and personnel.
18. The responses also discussed the need for greater alignment across the Tripartite organizations and especially between FAO and OIE, to avoid duplication of work. Additionally, it was noted that FAO should maintain strong collaboration among global partners and coordinate with public and private organizations conducting research on AMR to strengthen its search for solutions.

3.4 Suggestions on the way forward

19. FAO Members provided a range of suggestions for the AMR work. The most prominent ones relate to the need to develop background information and a risk assessment on AMR, including an assessment of global gaps, and regular stocktaking.
20. Additionally, a large proportion of responses highlighted the need for FAO to continue developing guidelines and technical advice based on scientific evidence that takes into account geographic priorities. A few examples noted were the development and implementation of international guidelines to harmonize laboratory methodology, data collection, analysis and reporting across different sectors on AMR, guidelines to restrict the use of antimicrobials, studies that can support and guide fair trade regulation to prevent para-tariff measures. Its current work on sharing lessons learned from across regions was appreciated and should also be continued. It was also suggested that FAO should focus on improvements in agricultural and livestock production practices to better control antimicrobial resistance (good nutrition, health, hygiene, sanitation, genetics, breeding, welfare, environmental protection and practices of crop) that will help boost production and protect against losses from infectious diseases, making production systems more profitable and more sustainable.
21. Members also emphasised the need to promote a One Health approach through partnerships with organizations across sectors, including with research organizations on discovering alternatives to antimicrobials. The responses also stressed the importance of

strengthening the coordination and collaboration with international organizations within the framework of the 'tripartite plus'. For example, on AMR questionnaires circulated to Members to avoid repetition and to collectively work on extrapolating data. It was also suggested that FAO should ensure that it is fully represented within the Tripartite Joint Secretariat and that animal and environment health (including plants) are part of the discussions.

22. The other broader suggestion was for FAO to work closely on assisting countries to implement their AMR action plans through national capacity building. It was also highlighted that in developing and implementing the next FAO Action Plan on AMR, FAO should consider all concerns expressed by Members, irrespective of their financial contributions to FAO activities. Further emphasizing that implementation of the next FAO Action Plan must be developed in a neutral, balanced and evidence-based manner.
23. Similarly, a substantial proportion of responses, focused on the need for large scale awareness campaigns on AMR at all levels including farmers, consumers and FAO Members. Parallels were also drawn to the campaigns currently being carried out for the COVID-19 pandemic, focusing on basic hygiene and infection prevention measures that can curb the demand for antibiotics. There was also reference made to the lifecycle of antimicrobials and the need for FAO to work at all relevant stages, for example, including on wastewater management linked with antimicrobial manufacturing, plant and animal production, including disposal of unused drugs that are discarded in each setting.
24. Responses also underlined the importance of ensuring sustainability of FAO's work on AMR through allocation of core resources that also indicate its long-term commitment. Development of relevant and transparent indicators that measure FAO progress on AMR work and extension of this survey to public organizations in all member states were also listed as suggestions for FAO's future work.

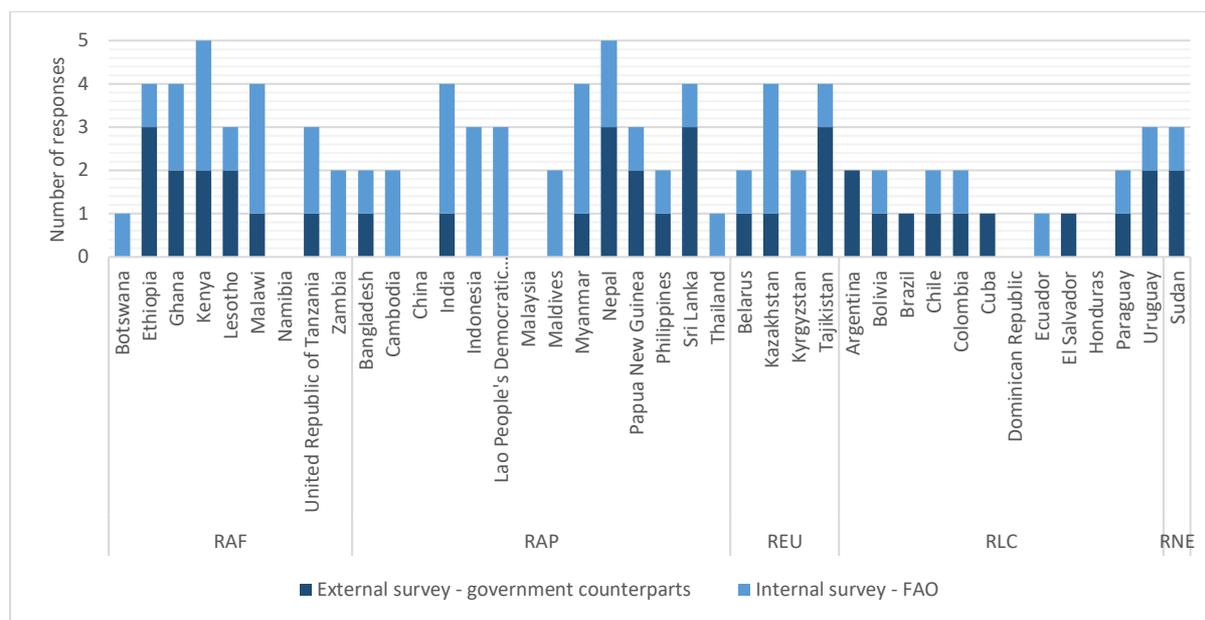
Part B. Country level surveys with FAO personnel and government counterparts

1. Introduction

25. This survey was conducted as part of the evaluation of FAO's role and work on AMR. The purpose of conducting the survey was to get insights from countries that are part of FAO's AMR projects but were not selected for a deeper analysis. Key respondents of this survey were internal FAO teams implementing the AMR projects and external government counterparts. Each of the two categories were administered different surveys,¹ available in English, Russian and Spanish.
26. In terms of the survey process, respondent details were collected via email by writing directly to the regional FAO AMR focal points or in some cases to the national AMR focal points, where possible. Contact details of six individuals were requested to directly email them the relevant link to the survey – three at the FAO office and three from the national government. Within the FAO office details of persons directly involved with AMR activities were requested, and for the external survey of AMR focal points across Ministries of Agriculture, Environment and Health; however, personnel within the same ministry were also accepted if no focal points were available for any of the three ministries.
27. Contact details of 151 individuals was collected across 40 countries and requests for the survey were sent out in mid-November 2020 with a deadline of two weeks. A total of 98 complete responses were received from 35 countries across all regions covered by FAO's AMR projects, with a response rate for the internal survey of 76 percent and for the external survey of 49 percent. The survey was not sent to the five countries selected for deeper analysis (Armenia, Peru, Ukraine, Viet Nam and Zimbabwe). Figure 3 lists the number of surveys received by country and survey type across FAO regions.
28. To ensure that respondents were either directly involved or had a certain level of awareness of the AMR projects, additional screening questions were included at the beginning of each survey. Internal respondents were asked the proportion of time spent on AMR activities and external respondents were required to confirm their familiarity with FAO's AMR activities on a scale of one to four. Only one of the external respondents had limited familiarity with FAO's AMR activities and all internal respondents had direct involvement with FAO's AMR projects.

¹ See Appendix 1 for more details on the survey questions.

Figure 3: Distribution of respondents by country and survey type



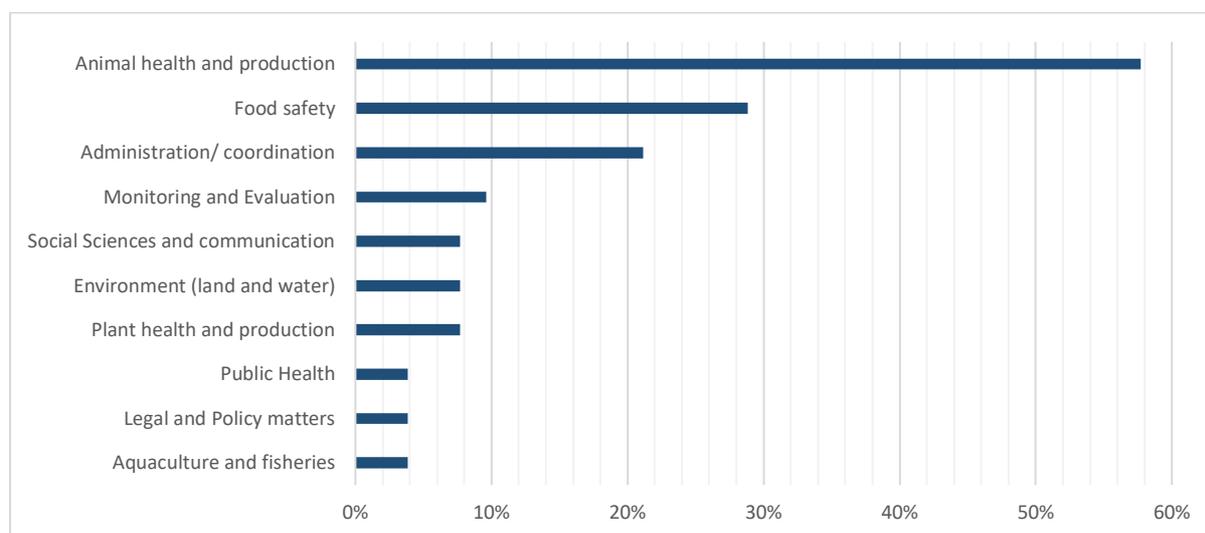
Source: Evaluation team.

* Note: Even though Sudan is part of RNE, for the purpose of this analysis it is considered as part of RAF.

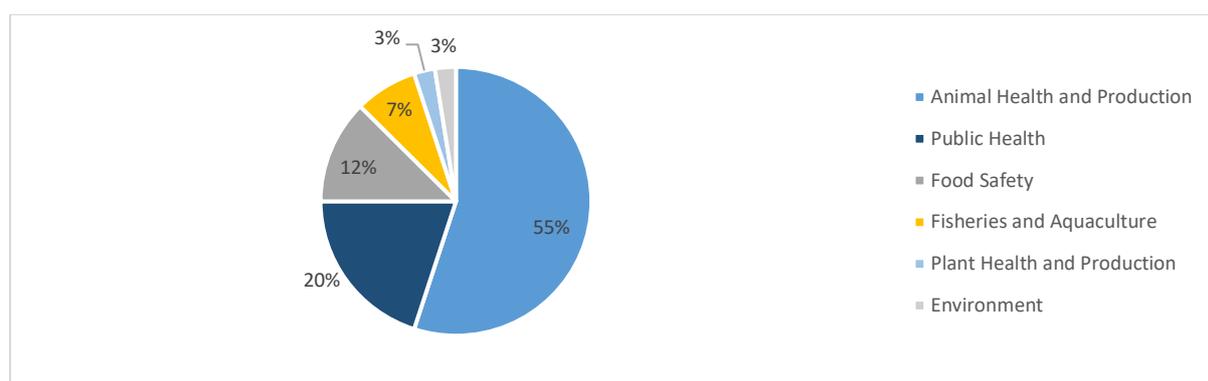
1.1 Sample description

29. The initial section of the survey included a few descriptive questions to understand the background of the respondents. Figure 4 and 5 show the areas of expertise and primary association for the internal and external respondents respectively. Most of the internal respondents had expertise in animal health and production, and food safety. Figure 4, also to a certain extent, shows FAO's distribution of technical skills across the sub-sectors associated with AMR. This cannot be taken as a precise representation of FAO's expertise as not all FAO personnel working on AMR participated in the survey. Similarly, Figure 5 shows the primary area of association of the external respondents, indicating limited interaction with officials within plant health and production and environment on AMR.

Figure 4: Internal survey: areas of expertise



Source: Evaluation team.

Figure 5: External survey: primary association

Source: Evaluation team.

1.2 Limitations

30. Even though effort was made to get contact details of six individuals for each country, some FAO offices had limited personnel directly involved with the AMR projects. Similarly, in some countries there were less than three focal points on AMR across ministries or had focal points only within the same ministry. Further, the total number of responses for each survey from the Regional Office for Europe and Central Asia (REU) and the Regional Office for Latin America and the Caribbean (RLC) are relatively limited, the analysis below shows the frequencies for each region into account and refrains from drawing any correlations at the level of the regions. Additionally, some responses were received above the limit of three for each country within the two categories. These were removed from the sample prior to the analysis, which brought the total number of valid responses to 93.

2. Analysis

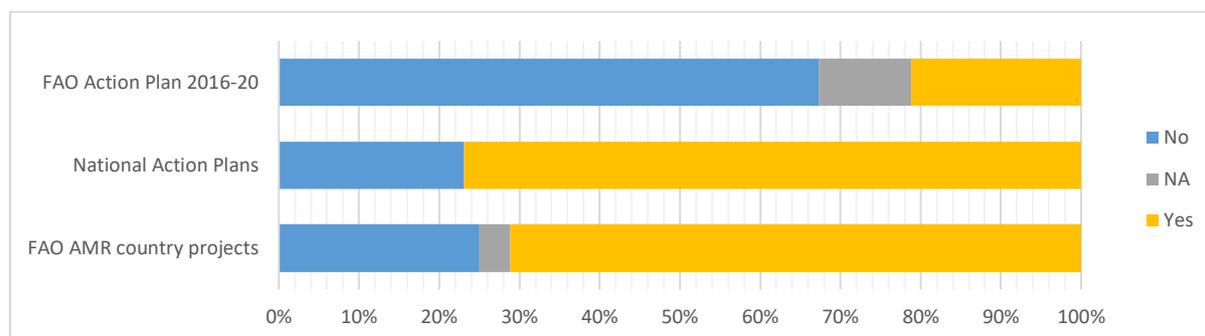
2.1 Relevance

31. The survey directly asked the external respondents to rate the importance of AMR and to list other threats in the food and agriculture sector. AMR was scored as extremely important with an average score of 3.9 on a scale of 4 and other major threats listed by the respondents were environment and food safety. Even though these scores are from officials working in the sector, the scores were consistent across 35 countries, multiple areas of expertise and association, reaffirming the relevance of the AMR work. Similarly, the importance of FAO's work on AMR was given an average score of 3.6 on the four-point scale, which was consistent across the regions.

32. The survey further had questions on the engagement of internal and external stakeholders in the development of key AMR projects and plans. Figures 6 and 7, show the variation in engagement levels across the two respondent groups. Both groups were well engaged in the development of the NAP's and the FAO AMR country projects, however, only 20 percent of FAO respondents contributed to the development of the FAO Action Plan 2016–20. This could have been if the respondents were not associated with FAO in 2015, however, for such cases they were given an option to select 'not applicable'. Further, all respondents were also asked to provide examples of their engagement in the development. These included specific instances of involvement in the project design or of workshops/working

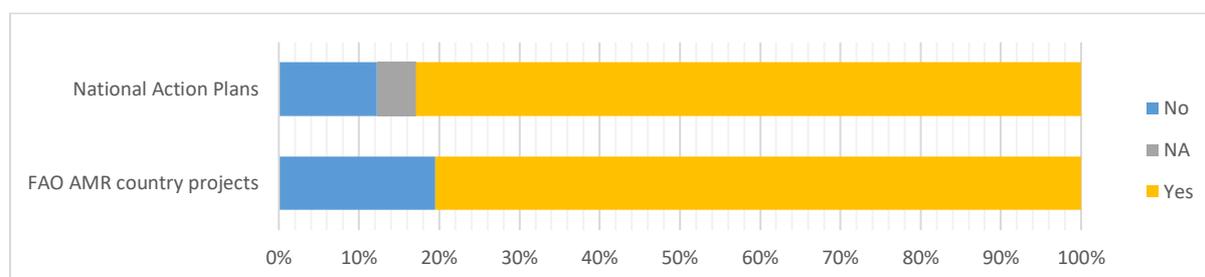
group meetings. No examples were provided to support the engagement on the FAO Action Plan 2016–20 by the 21 percent that selected 'yes'. These results were consistent across regions.

Figure 6: Internal survey: engagement in the design of AMR work



Source: Evaluation team.

Figure 7: External survey: engagement in the design of AMR work



Source: Evaluation team.

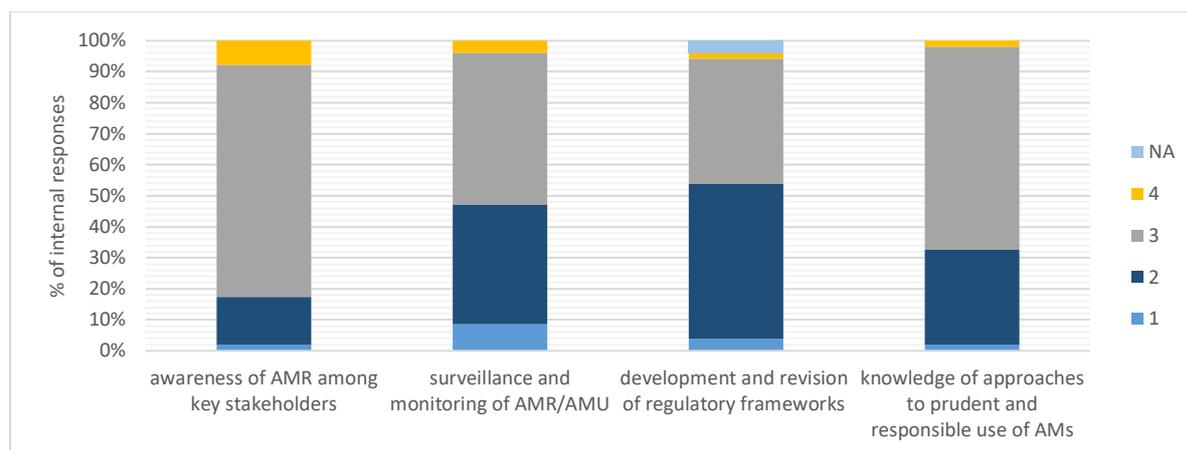
33. Another way of looking at engagement levels on AMR work is to see it across areas of expertise, however, since the set of respondents included few responses from sectors other than 'animal health and production' and 'food safety', there was limited opportunity for such analysis. For the external survey only one person had a background on AMR and environment, however, on the national action plan the person suggested that the environment sector was only involved 'at the tail end of its development'.

2.2 Effectiveness

34. On FAO's contribution to the development of NAPs, 80 percent of the FAO respondents stated that FAO was able to fully or sufficiently assist the national governments. For the external respondents, 73 percent noted that the assistance provided was adequate or fully adequate. In a few cases the external scores were 1 -no assistance provided or NA, for instances where the NAPs were already in place and therefore FAO could no longer contribute or support its development. In both surveys, on average there were around 13 percent of the respondents that thought inadequate assistance was provided by FAO on the NAPs but no explanations were provided.
35. Under effectiveness, both respondent groups were asked to rate changes noticed across key outcomes associated with the FAO Action Plan 2016–2020 (FAO-AP) over the past five years in their countries (where 1 was decreased, 2 is remained the same, 3 is increased and 4 is fully increased). For both groups most improvements were noticed across focus area

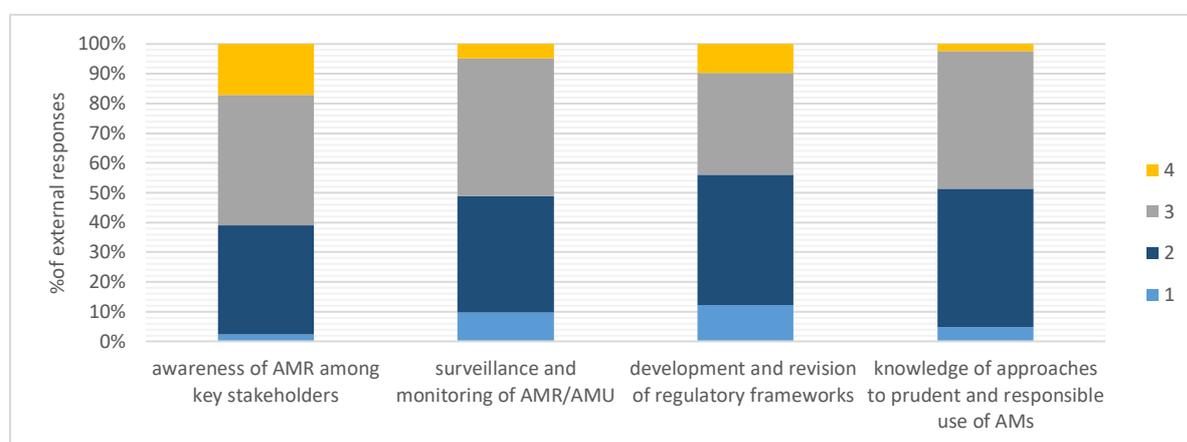
one of the FAO-AP. For focus areas two and three around 50 percent agreed some improvements over the past five years but a large percentage of respondents also suggested that the surveillance and monitoring activities, as well as the development of regulatory frameworks had decreased on AMR over the past five years. There were mixed views across the two groups for focus area four with approximately 70 percent of internal respondents acknowledging improvements, whereas less than 50 percent of the external respondents has similar views.

Figure 8: Internal survey: changes observed across outcomes of FAO Action Plan 2016–2020



Source: Evaluation team.

Figure 9: External survey: changes observed across outcomes of FAO Action Plan 2016–2020



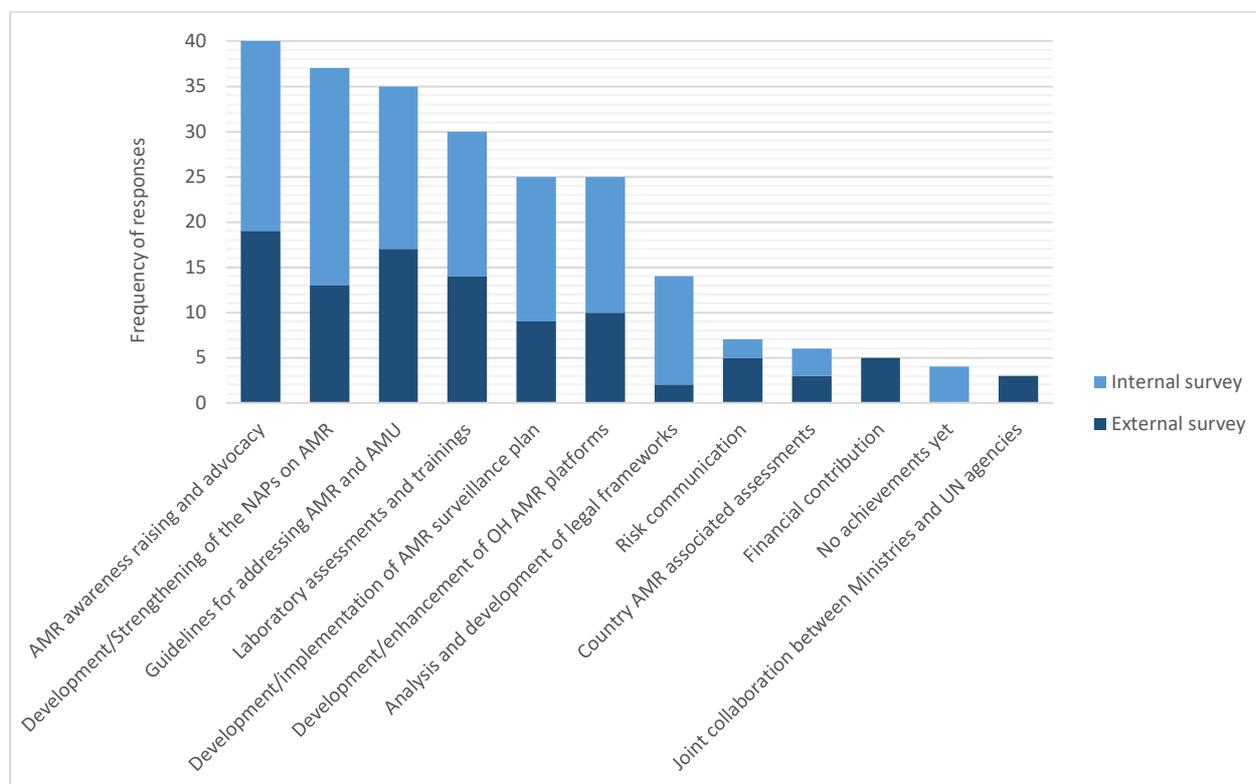
Source: Evaluation team.

36. For the internal FAO survey, respondents provided examples to support the observed changes for the four focus areas. Key activities mentioned under focus area one were World Antimicrobial Awareness Week (WAAW) activities, set up of AMR networks, direct work at the farmer level in raising AMR awareness and the future AMR survey to be conducted in some REU countries was also mentioned. Other examples from Ghana included media practitioners capturing AMR issues on radio, television and in social media spaces, and participation of delegates in the established quarterly ministerial meetings on AMR. From Kenya the county level AMR steering committees formed were mentioned.

37. Under the Focus Area two, examples were provided of both development of national surveillance plans as well of surveillance activities carried out in the field. The examples given were:
- i. 'The surveillance system for AMR in the animal sector is being established and being linked with human health and environment surveillance systems; the laboratories under Veterinary and fisheries departments have been assessed using FAO Assessment Tool for Laboratories and AMR Surveillance Systems (ATLASS) and the staff have received training in antimicrobial susceptibility testing (AST); the animal health sector is involved in the tricycle project working on Extended-spectrum beta-lactamase (ESBL), E. coli and other organisms'.
 - ii. 'INFAAR network is doing lab-based surveillance of AMR'.
 - iii. 'Beside implementing the surveillance/piloted surveillance supported by partners and doners, the National Animal Health and Production Research Institute of the government has also conducted the AMR surveillance under national budget'.
38. For the development and revision of regulatory frameworks, for multiple countries examples were provided of legislative reviews, and for some countries the recommendations were already made to the governments. However, the overall work is still considered to be in the preliminary stages. Few quoted examples:
- i. Based on the legislation review, a regulatory guidelines on drug use in animal health sector was developed but pending endorsement at Ministry level.
 - ii. Currently efforts are on the way to review legislations connected to AMR after a study carried by FAO.
 - iii. Regulatory frameworks are starting, but still a lot of work to be done. Colistin ban and AGP bans were good examples.
 - iv. Through the FAO AMR project GCP/GLO/710/UK, different pieces of legislation were reviewed and recommendations were made. These recommendations aims at strengthening the regulatory frameworks once implemented.
 - v. Bills have been presented to the parliament for review and approving.
39. For focus area four, even though a majority of the respondents gave a score of three (i.e., improved), limited examples were provided to support the score. The key examples given were of the knowledge, attitudes and practice (KAP) study carried on the use of antimicrobials, work done through the farmer field schools and of the Bangladesh AMR Response Alliance (BARA). Few quoted examples:
- i. Bangladesh AMR Response Alliance (BARA) developed responsible AMU poultry guidelines, trained vets on it, distributed it to field vets and they are trying to follow it.
 - ii. This is done through distribution of awareness messages and training of farmers through the farmer field school model under the FAO AMR project.
40. In addition to these questions, each respondent also listed three key FAO achievements/contributions. All responses were coded across the categories developed based on the responses and are listed in Figure 10. Key achievements/contributions were listed were around focus area 1, as AMR awareness raising and advocacy and development and strengthening of NAPs. There was also some variation observed across regions, with responses from RAF concentrated around 'development and strengthening of NAPs' and

'AMR awareness raising and advocacy', from RAP around 'Laboratory assessments and trainings', 'Guidelines for addressing AMR and AMU' and 'AMR awareness raising and advocacy', for REU around 'Laboratory assessments and trainings', 'Guidelines for addressing AMR and AMU' and 'Analysis and development of legal frameworks', and for RLC around 'guidelines for addressing AMR and AMU', 'development and strengthening of NAPs' and 'risk communication'. In most cases these are aligned with the outcomes described in the project documents of key projects within each region. For example, the NORAD project in RLC had a strong component on AMR risk communication. Few respondents across the two surveys in RAF and RAP also mentioned FAO's contributions through specific publications.

Figure 10: Internal and external survey: key AMR achievements and contributions



Source: Evaluation team.

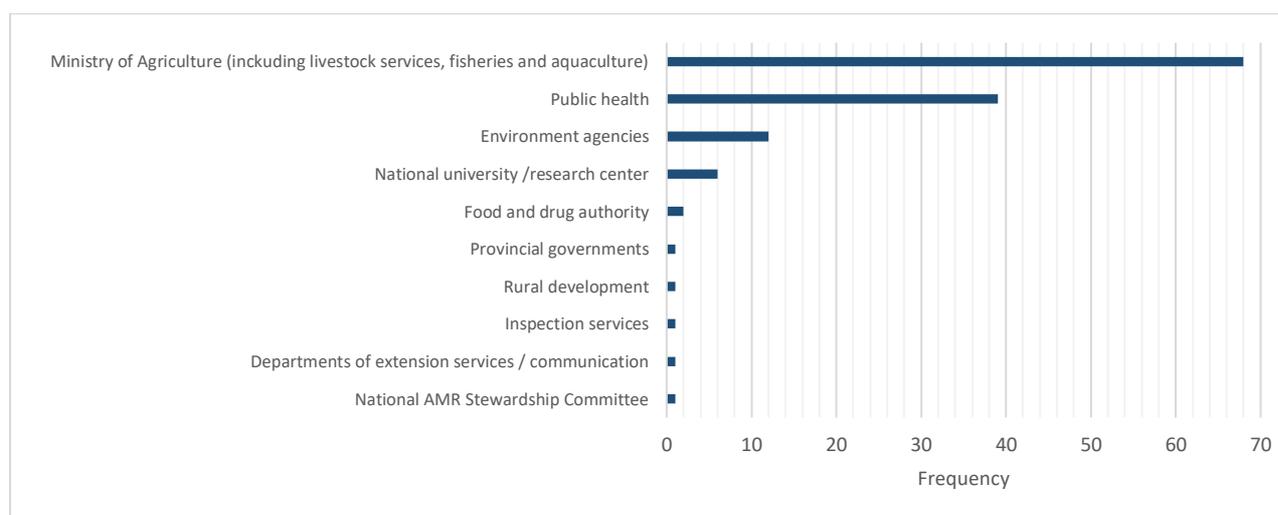
2.3 Partnerships

41. Overall, the Ministry of Agriculture, its departments and equivalents were listed as the most important partners by internal respondents. Other key partners were the Ministry of Health, WHO/ Pan American Health Organization (PAHO) and universities and research centres. External respondents scored FAO as a very strong partner with the most important attribute of being able to provide technical support and training on AMR.
42. Internal respondents were asked to list up to three key partnerships within the government and three outside of the national government. Figures 11 and 12 categorise partnerships listed by FAO respondents. These are simple frequencies of partnerships listed by the respondents. The partnerships outside the government also varied slightly across regions, with veterinary associations mainly listed as a key partner in REU and OIE in RLC and RAP. Other partnerships were consistent across regions. Examples of NGOs involved in AMR

activities included FIND (for their support in the design of the One Health Data platform), Oxfam (as a partner in doing field surveys on AMU and agro-pesticides), and ReAct.

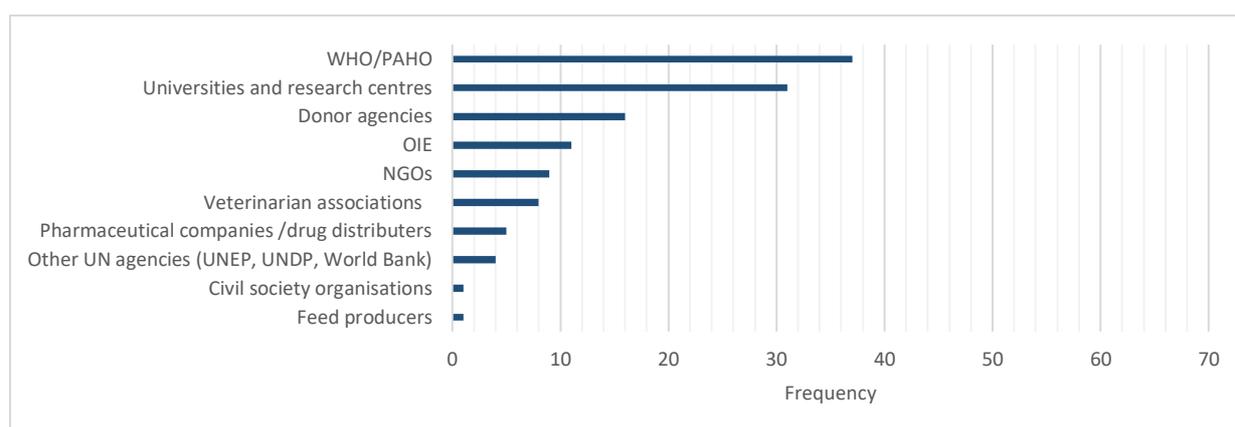
43. Additionally, 40 percent of FAO respondents said that key partnerships were missing. Key missing partnerships listed were the Ministry of Environment by countries in RAP and REU, the private sector including the poultry sector, pharmaceuticals and feed manufacturers in RAP and 'farmers (livestock, fish, crop), consumers, veterinary medicine sellers, private veterinary professionals' in RAF. County/ state governments, veterinary associations, non-governmental organizations (NGOs), UNEP and regulatory authorities were also listed as missing partnerships by individual respondents in their respective countries.

Figure 11: Internal survey: key partnerships within the government



Source: Evaluation team.

Figure 12: External survey: key partnerships outside the government



Source: Evaluation team.

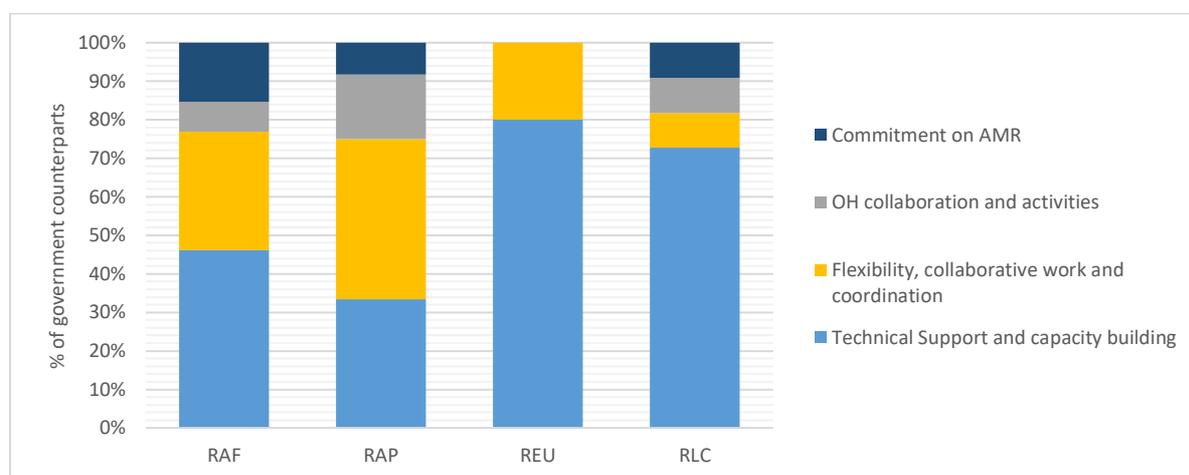
44. Similarly, for comparison across the two respondent groups, the government counterparts also listed their key partners besides FAO in the survey. Most of the partners overlapped and followed a similar pattern in frequency as for those listed by the internal respondents. However, a few key partnerships that were not found in the list by internal respondents is tabulated in Figure 13.

Figure 13: External survey: key partnerships not part of the FAO’s key partnerships

Type	Organizations
International and regional organisations	International Animal Welfare Program, United Nations Population Fund (UNFPA), International Atomic Energy Agency IAEA, South Asian Association for Regional Cooperation (SAARC), Regional International Organization for Plant Protection and Animal Health (RIOPPAH)
Pharmaceuticals	Gremios farmaceuticos aprovet, National Trade Federation of Colombia (FENALCO)
Producers and producer associations	Meat and milk livestock, pork and bird producers, Fedgan, Porkcolombia, Fenavi, Fedeacua
Research organizations	American Society for Microbiology, Burnet Institute, The Global Challenges Research Fund (GCRF)/UK Research and Innovation (UKRI) One Health Poultry Hub

45. Further, external respondents were also asked to score FAO as a partner. FAO was rated as strong partner with an average score of 3.3 on a scale of 1 to 4 between inadequate and very strong, which was consistent across regions, with a few low scores in countries in RAF and RAP. No justification was provided for the low scores. Figure 14 shows the distribution of the justification provided by external respondents for the score. The most valuable attribute of FAO as a partner included its ‘technical support and capacity building’ initiatives, and its ‘flexibility collaborative work and coordination’.

Figure 14: External survey: Responses to ‘what do you value most in FAO’s partnership’



Source: Evaluation team.

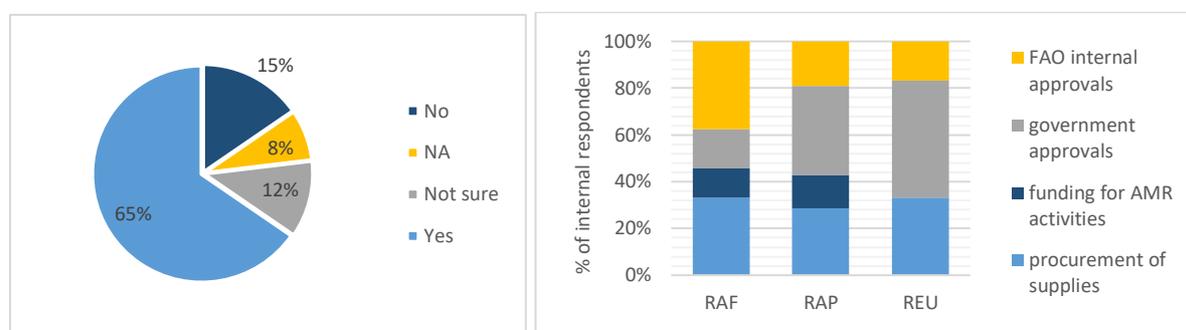
2.4 Efficiency

46. The survey for FAO respondents also included a few questions on internal efficiency of AMR project delivery. Ninety percent of the internal respondents believe that the Coordination between headquarters, regional and country offices on AMR and the Technical support from FAO on AMR is effective or fully effective, and 85 percent believe that the Working group on AMR at the headquarters/regional level is effective/fully effective. These scores are consistent across regions. However, 25 percent indicated that there are technical gaps in FAO’s capacity that do not allow FAO to meet AMR related

demands in their country. Nearly all of the stated issues relate to HR/financial constraints affecting FAO's technical capacity. Specific technical areas mentioned by individual respondents for these gaps on AMR were associated with crops and environment, social sciences and legal/policy aspects.

47. Further, internal respondents were asked to assess whether, there were any delays in delivering on AMR projects. As seen in Figure 15(a) 65 percent of the internal respondents confirmed that there were some delays in the delivery of the projects. The reasons indicated for these delays varied across regions, Figure 15(b). For RAF, it was mostly to do with FAO internal approvals and delays in procurement of supplies. For RAP and REU, it was mainly due to delays in getting government approvals, however, for both regions, procurement delays were also indicated. Other key reason stated for the more recent delays were issues associated with the COVID-19 pandemic.

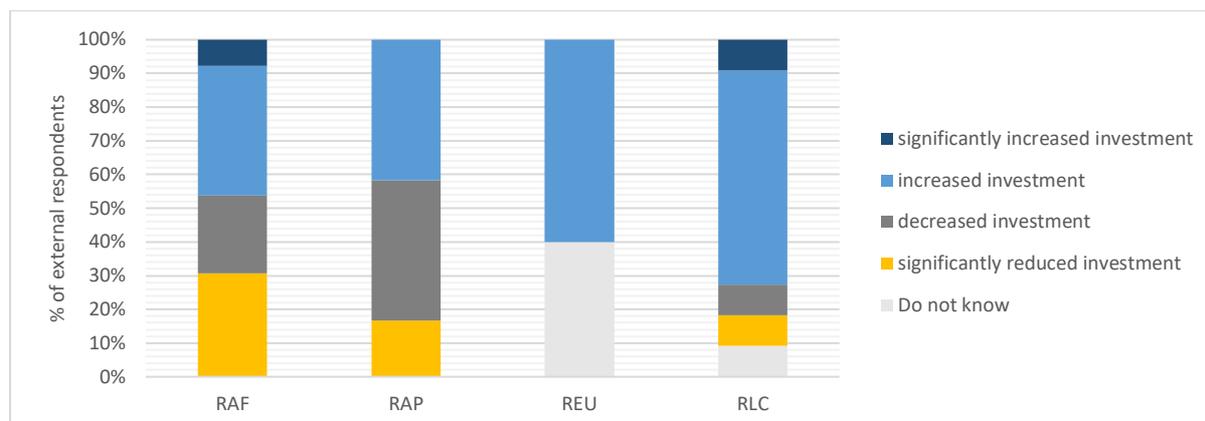
Figure 15: Internal survey: (a) delays in delivering on AMR projects and (b) key reasons for the delay by region



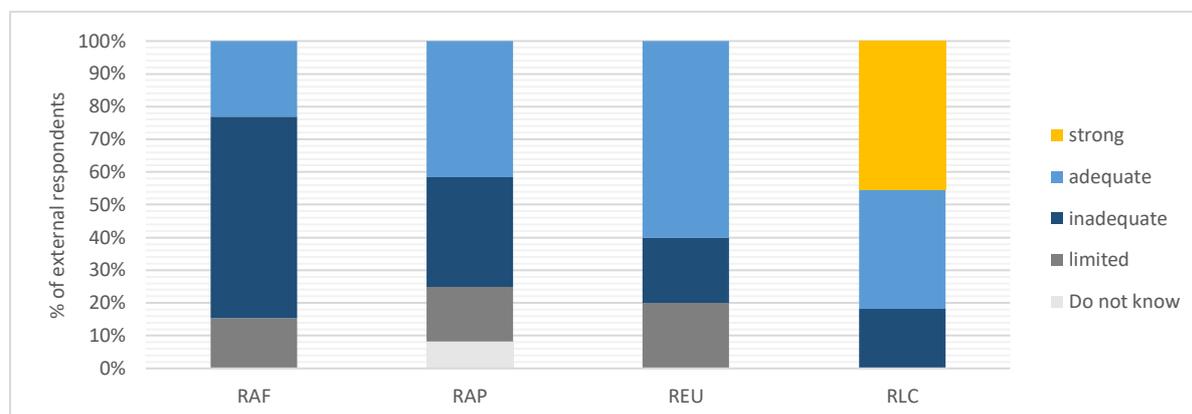
Source: Evaluation team.

2.5 Sustainability

48. The external survey covered questions on national commitment to AMR through observed changes in the government's resource allocation and its capacity to continue the work on key components of AMR work without FAO projects. The components for the questions used were (a) development of NAPs (b) AMR awareness raising and behaviour change (c) surveillance systems and lab capacity for detection of AMR (d) development and enforcement of regulations on antimicrobial production and usage and (e) workforce capacity to implement a One Health approach across ministries. The scores did not vary significantly across components, only component (b) had marginally higher scores, however all scores varied across regions. Figures 17 and 18 show the distribution of average score of the five components across the regions. Greater changes are observed in investment across REU and RLC, however, we should also note the relatively smaller sample sizes for the two regions (sample size of 5 and 11 respectively). The overall picture of sustainability of the AMR work for RAF and RAP, the two regions with larger sample sizes, is not very promising.

Figure 16: External survey: Distribution of average score for changes in government's resource allocation

Source: Evaluation team.

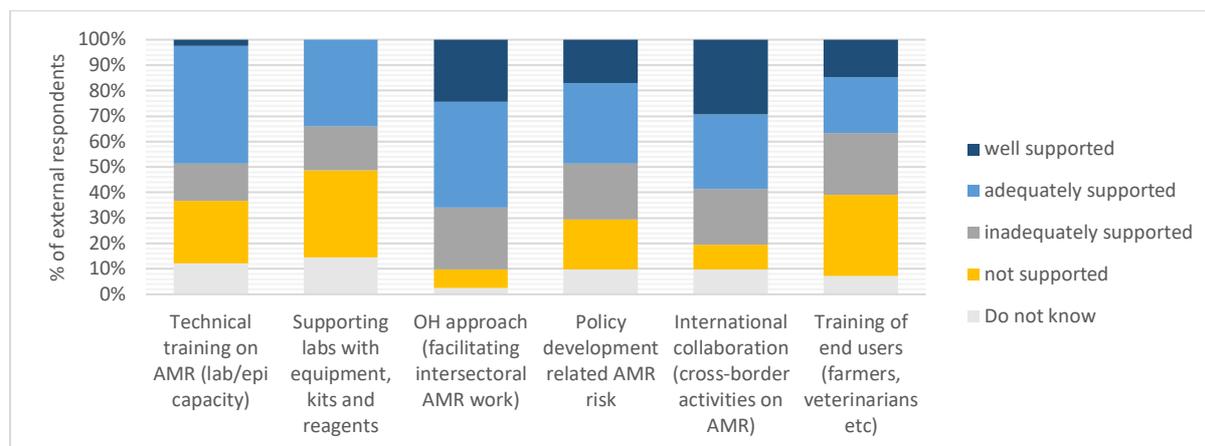
Figure 17: External survey: Distribution of average score for the government's capacity to continue work on AMR without FAO support

Source: Evaluation team.

49. Further, the survey also covered FAO's capacity development activities associated with AMR for both respondent categories. For the external survey, each respondent provided a score from one to four across the six categories in Figure 18. The scores were consistent across regions with relatively lower levels of overall support for laboratories and training of end users. For the internal survey, FAO respondents were asked to provide examples of capacity development initiatives. The responses were focused around the set up and development of cross sectoral AMR coordination groups in all regions except RLC, which corresponds to the higher scores in Figure 18 on One Health collaboration. Other examples provided for RAF and RAP were around the WAAW activities and improved collaboration between ministries. Few examples from the survey results:

- i. Capacity development on AMR has brought about strong collaboration between animal and human health sectors as well as environment sector in sharing data information and expertise on the AMR/AMU, AMC at the One Health symposium, workshop etc.
- ii. Bangladesh AMR Response Alliance (BARA) formed, and it is a group of professionals from vets, physicians, academicians, pharmacists, microbiologists, policy makers etc actively working under One Health approach.

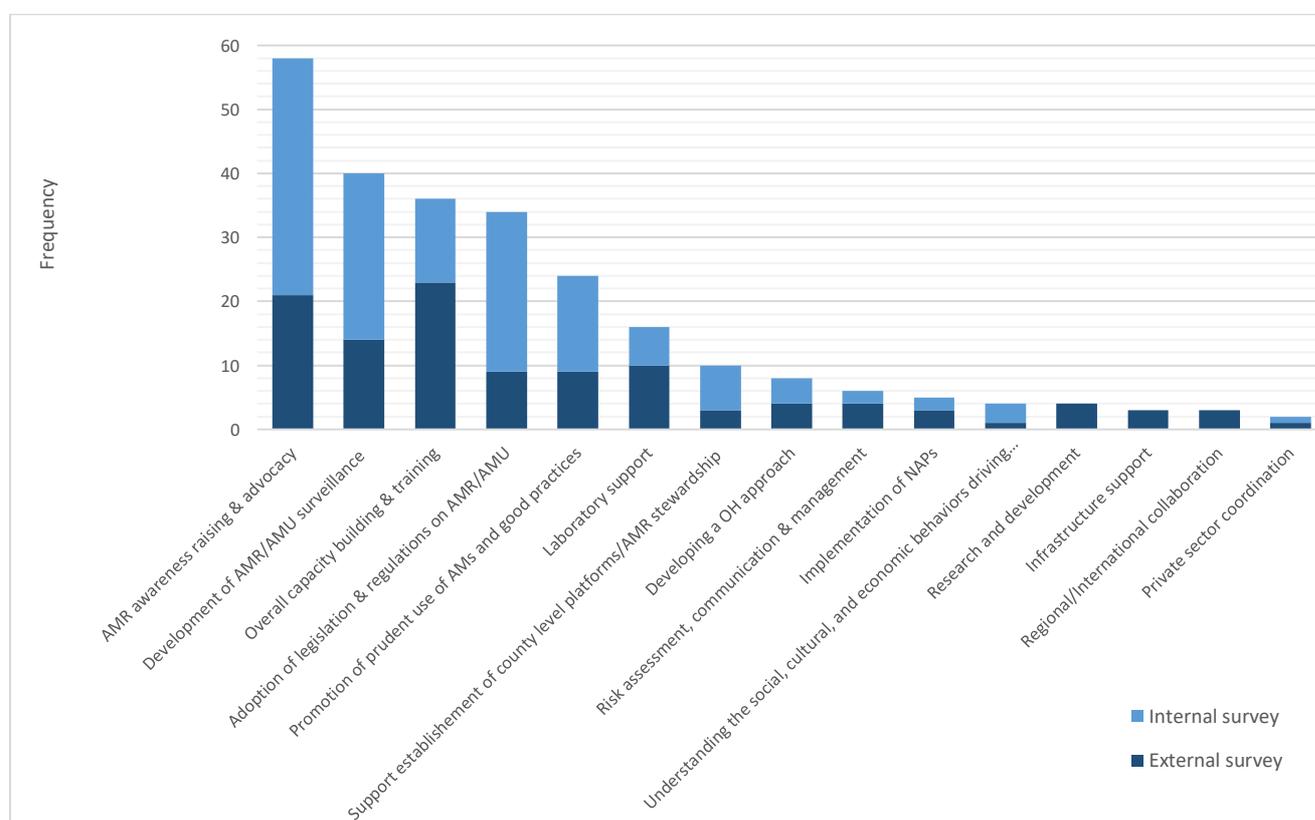
Figure 18: External survey: distribution of scores on AMR capacity development components



Source: Evaluation team.

50. Lastly, both respondent groups were asked to list three key FAO priorities to reduce threat of AMR in future. Figure 19 shows the sum of response frequencies across the two groups. The most often stated priority was AMR awareness raising and advocacy, then AMR/AMU surveillance, capacity building and training (as an umbrella term and the support on AMR/AMU legislation/regulations. These in essence capture the four focus areas of the 2016–20 FAO Action Plan on AMR. Apart from the priorities that are part of the Action Plan, a few respondents also mentioned the importance of understanding the social, cultural and economic context of AMU and of private sector coordination.

Figure 19: Tabulation of FAO's three key priorities to reduce AMR threat



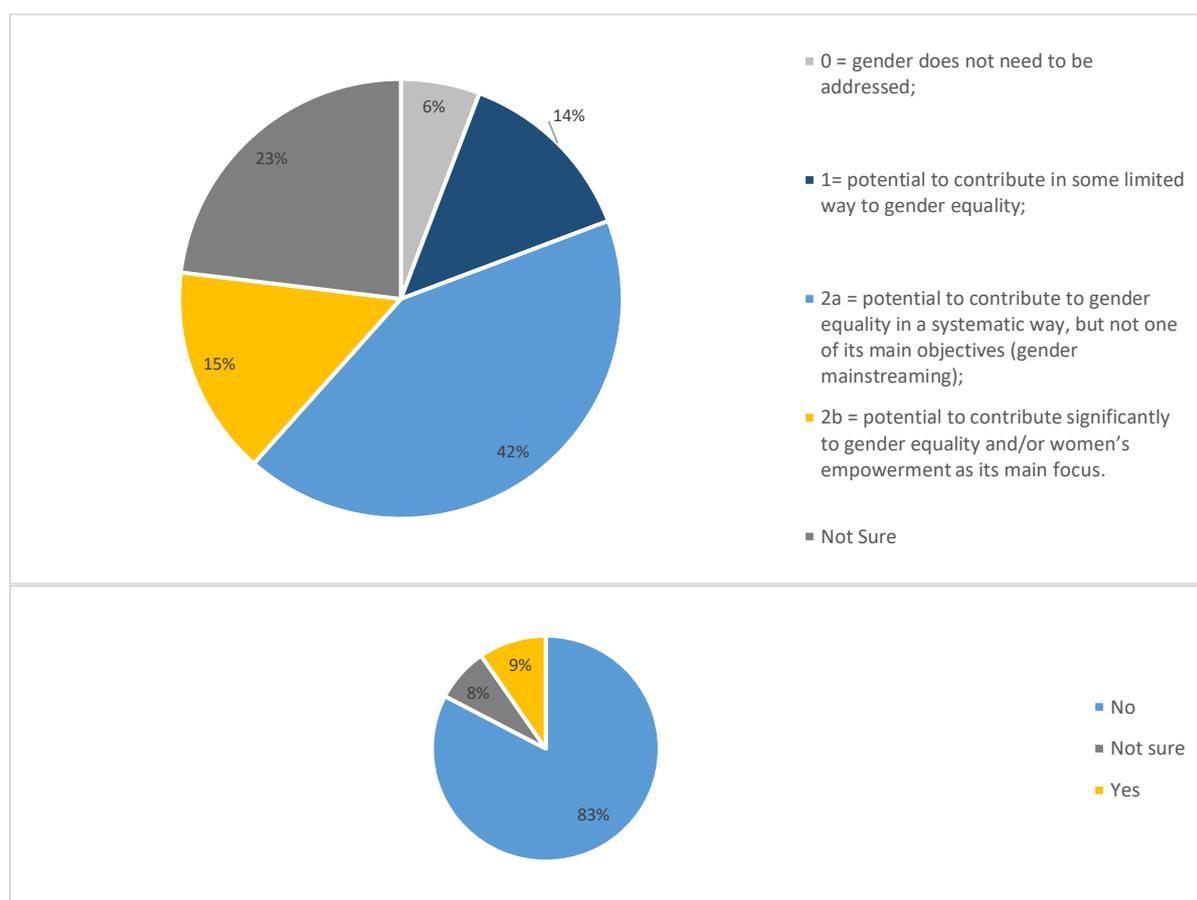
Source: Evaluation team.

2.6 Cross-cutting issues

2.6.1 Gender

51. The survey included two questions on issues of gender for the internal respondents. One on whether systematic gender reviews were conducted to inform the work on AMR and the other on the respondent's perception of FAO's AMR work from a gender focused approach. Only 9 percent of the respondents suggested that systematic gender assessments were conducted. Of these 9 percent, no clear examples specific to AMR were presented to support their answer. These were either justified by wider gender assessments in the agriculture sector conducted by FAO that were not specific to AMR or by the numbers of women participating in AMR project activities. For the second question, majority of the respondents believed that the FAO projects either had 'potential to contribute to gender equality in a systematic way (gender mainstreaming)' or the 'potential to contribute significantly to gender equality and/or women's empowerment as its main focus'.

Figure 20: Internal survey: (a) were systematic gender reviews conducted to inform the work on AMR (b) perception of FAO's AMR work from a gender focused approach



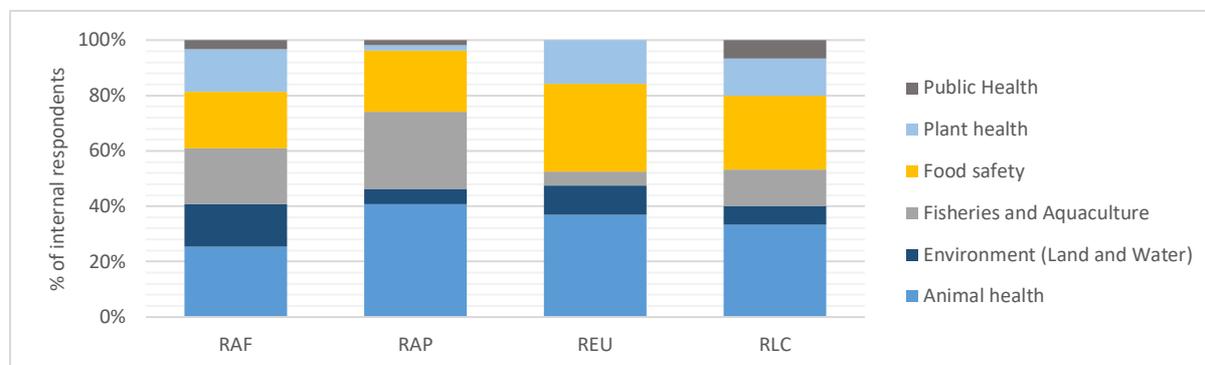
Source: Evaluation team.

2.6.2 One Health

52. For One Health, both surveys had questions incorporated on key sectors that FAO has been working with on AMR. The responses were consistent across FAO personnel and government counterparts. Figure 21 tabulates the distribution of responses for the internal

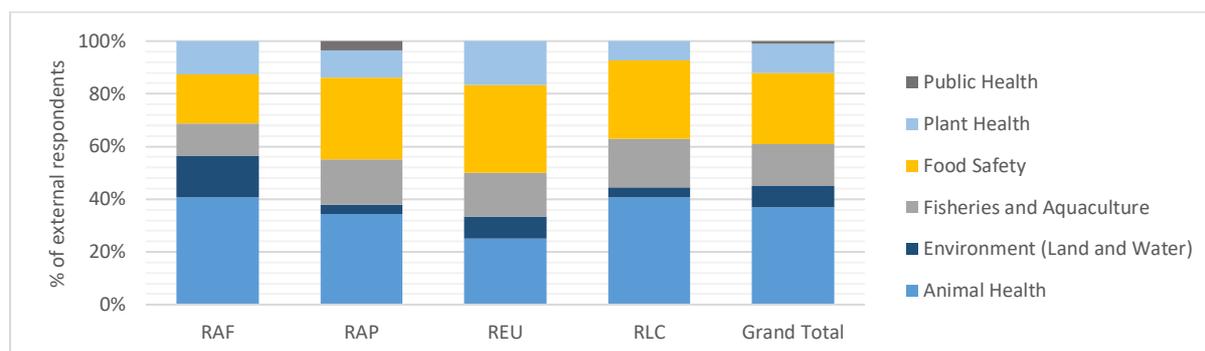
survey, where there is limited engagement of plant health and environment. The pattern is consistent across regions and is followed in Figure 22 for the external survey, however, RAF seems to have a slightly more even distribution across key AMR areas as compared to all other regions.

Figure 21: Internal survey: distribution of sectors FAO is working with on AMR



Source: Evaluation team.

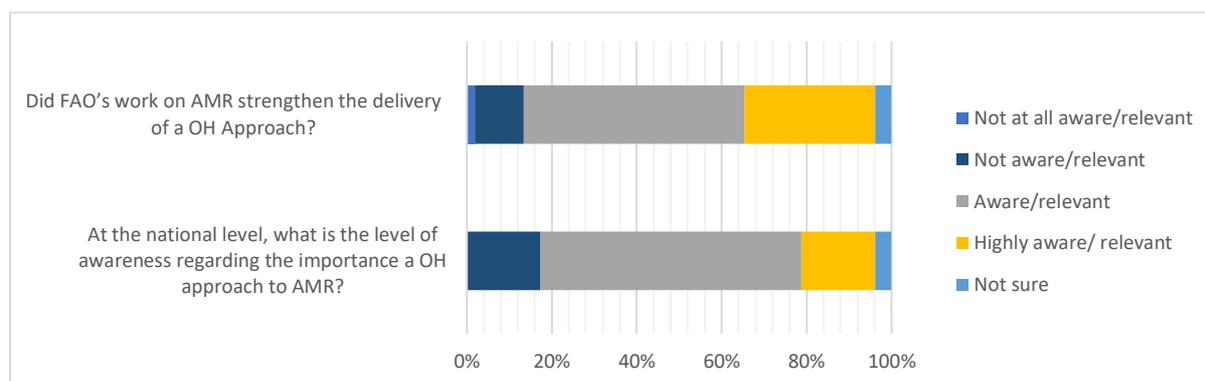
Figure 22: External survey: distribution of sectors FAO is working with on AMR



Source: Evaluation team.

53. Further, from the internal survey, as seen in Figure 23, most of FAO respondents felt that the national stakeholders were aware of the importance of the One Health approach and that FAO's work has been relevant for the delivery of the One Health approach. However, only around 20-30% suggested the awareness and relevance levels to be high. These scores were consistent across the regions.

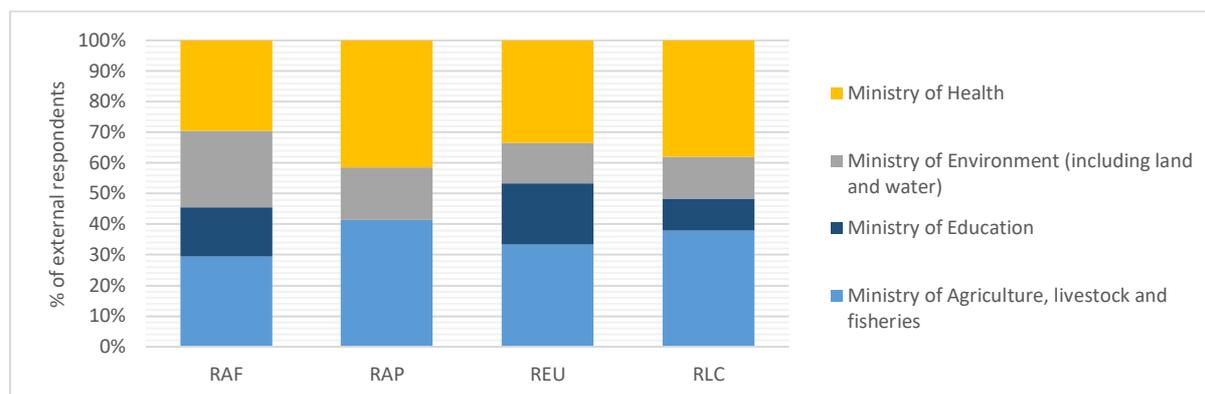
Figure 23: Internal survey: questions on the One Health approach



Source: Evaluation team.

54. For the external survey, there was also a multiple-choice question included on the key ministries/sectors involved on AMR. The responses were consistent with the earlier graphs on sectors that FAO is being engaging with, with ministries of environment and education at relatively lower levels of engagement. There is some mention of the involvement of the ministry of education across countries, however, FAO does not seem to be directly engaging with them on AMR.

Figure 24: External survey: key ministries working on AMR at the national level



Source: Evaluation team.

2.6.3 Monitoring and evaluation

55. For monitoring and evaluation, the question was supposed to focus on the monitoring and evaluation of FAO's AMR project and was only asked to internal respondents. However, the question was partly misunderstood, and some of the respondents answered based on the wider monitoring of antimicrobial use and resistance. Since only a few respondents provided justifications for their scores that had a mixed understanding of the question, the responses could not be used for the analysis. Although, two individual responses from RAP and RAF indicated the need for relevant M&E frameworks for FAO AMR projects.

Appendix 1. FAO Members survey

Antimicrobial Resistance (AMR) is a major global threat to human and animal health and of increasing concern to plant health. It has implications for both food safety and food security and the economic wellbeing of millions of farming households. The health consequences and economic costs of AMR are respectively estimated at 10 million human fatalities a year and a 2 to 3.5 percent decrease in global Gross Domestic Product (GDP), amounting to USD 100 trillion by 2050.²

FAO's engagement on AMR issues can be traced back to 2000.³ key activities on AMR started in 2014⁴ with FAO's contribution to the development of the Global Action Plan on AMR (GAP) and the commitment of FAO Members to work on AMR, confirmed by the adoption of Resolution 4/2015 at the 39th Session of the FAO Conference.

FAO's Office of Evaluation is currently carrying out an evaluation in response to a request from the Programme Committee covering the entire work of FAO on AMR as well as its positioning and role. More details on the evaluation can be found in the linked [Terms of Reference](#).

This survey is one of the methods of collecting information on the global relevance of FAO's work on AMR and will contribute to the overall findings of the evaluation.

All responses will be treated confidentially.

The survey should not take more than 5 minutes to complete.

1. How would you rate the importance of AMR in comparison to other global threats in the food and agriculture sector? Please support your score with a brief justification.

Antimicrobial Resistance (AMR)

- a. Not at all important
 - b. Not important
 - c. Important
 - d. Extremely important
 - e. Not sure
2. In your view, to what extent is FAO the right organization to work on AMR in the food and agriculture sector? Please support your score with a brief justification.

FAO's relevance to AMR

- a. Not at all relevant
 - b. Not relevant
 - c. Relevant
 - d. Extremely relevant
 - e. Not sure
3. Do you see any challenges for FAO in delivering its work on AMR? Please describe briefly.
 4. Do you have any suggestions on the way forward for FAO on AMR that you would like to share with the evaluation team? Please describe briefly.

Please select the country you represent. (Optional – only to be used by the evaluation team to better understand the context of your response)

² O'Neil, J. 2016. *Tackling drug-resistant infections globally: final report and recommendations*.

³ WHO. 2000. *Who global principles for the containment of antimicrobial resistance in animals intended for food*. WHO/CDS/CSR/APH/2000.4

⁴ FAO. 2015. Status report on Antimicrobial Resistance, 39th Session, 6-13 June 2015. C 2015/28 Rev.1.

Appendix 2. Survey instruments – national level

A. Internal survey

FAO's Office of Evaluation is currently carrying out an evaluation of FAO role and work on AMR. This survey is one of the methods of collecting information and evidence on project performance, including lessons learned, challenges and good practices. It will contribute to the overall findings of the evaluation and will help assess the current and future national relevance, effectiveness and coherence of the Organization's work on AMR.

Responses will be treated confidentially.

The survey should take around 10-15 minutes to complete.

1. Which country are you working in? (If selected 'Other', please specify)
2. What is your area of expertise? (please select all that apply)
3. What proportion of your working time is dedicated to AMR related activities over the past 12 months?
(Less than 10%, 10-50%, 50-90%, >90%)
4. Were you engaged or consulted during the design of the:
 - a) FAO Action Plan on AMR (2016-20) (Yes / No, if yes how)
 - b) AMR projects in your country (Yes / No, if yes how)
 - c) National Action Plan on AMR (Yes/No/NA, if yes how)
5. To what extent did FAO contribute to the development and/or strengthening of the National Action Plan on AMR? [where 1 is no assistance/effect and 6 is fully assisted; NA: no National Action Plan on AMR exists or is being developed]
6. Please list up to three most important achievements of FAO's work on AMR in your country since 2015
7. Are there adequate monitoring and evaluation frameworks in place for AMR (Yes/ No if No how could it be improved?)
8. In your country over the past five years, to what extent have you noticed the following changes in the food and agriculture sectors (where 1 is decreased, 2 is remained the same, 3 is increased and 4 is fully increased; NA) (please support scores above 2 with an example):
 - a) awareness of AMR among key stakeholders including national governments
 - b) surveillance and monitoring of antimicrobial resistance
 - c) surveillance and monitoring of antimicrobial use
 - d) development and revision of regulatory frameworks drug production, including quality, marketing and use
 - e) awareness and knowledge of approaches to prudent and responsible use of antimicrobials
9. In your view, what should be the three key FAO priorities to reduce threat of AMR in future? Please list and provide examples in the order of importance.
10. Who are your main partners for the work on AMR at national level
 - a) Within the government (names of ministries and directorates) Please list in order of importance and provide details of the key achievements of the partnerships.

- b) Outside the government (WHO, other donor programmes, NGOs, universities etc.) Please list in order of importance and provide details of the key achievements of the partnerships.
11. Are there key partnerships that are missing?
Yes / No. If Yes, please specify what you could achieve with them.
12. In your view, how effective are the following mechanisms in delivering on **AMR**: (where 1 is not effective and 4 is fully effective)
- a) Coordination between the headquarters, regional and country offices on AMR
 - b) Working group on AMR at the HQ/regional level
 - c) Technical support from FAO on AMR
13. In which of the following sectors has FAO been working on **AMR** in your country? (please select all that apply)
- a) Animal health
 - b) Environment (Land and Water)
 - c) Fisheries and Aquaculture
 - d) Food safety
 - e) Plant health
 - f) Others
14. Are there any technical gaps in FAO's capacity that do not allow FAO to meet AMR related demands in your country?
Yes / No [If Yes- name them]
15. Have there been any delays in delivering on the AMR projects (Yes/No)? If Yes, what have been the reasons for these delays (please select all that apply):
- a) procurement of supplies - please give example(s)
 - b) funding for AMR activities - please give example(s)
 - c) government approvals - please give example(s)
 - d) FAO internal approvals - please give example(s)
 - e) Others - please give example(s)
16. Are there examples of capacity development on AMR leading to the following: (*multiple choice tick box... with option to add detail for those boxes ticked*)
- a) Stronger government commitment through investments in surveillance systems, awareness activities, laboratories etc. (provide an example if ticked)
 - b) New AMR associated policies being adopted (provide an example if ticked)
 - c) New legislation for drug production, including quality, marketing and use of antimicrobials or for antibiotic residues in food products and the environment (provide an example if ticked)
 - d) One health approach (facilitating intersectoral collaboration) (provide an example if ticked)
17. At the national level, what is the level of awareness regarding the importance of adopting a One Health approach to AMR? (where 1 is not aware at all and 6 fully aware)
18. Did FAO's work on AMR strengthen the delivery of a One Health Approach at:

- a) National level (Score 1 – 6) where 1 is not relevant and 6 is highly relevant]
 - b) Sub-national level (Score 1 – 6) where 1 is not relevant and 6 is highly relevant]
19. Were systematic gender reviews conducted to inform FAO’s work on AMR? (Yes / No, if yes what were the gender issues identified?)
20. How would you rate the FAO’s AMR work from a gender focused approach?
- 0 = gender does not need to be addressed;
 - 1= potential to contribute in some limited way to gender equality;
 - 2a = potential to contribute to gender equality in a systematic way, but not one of its main objectives (gender mainstreaming);
 - 2b = potential to contribute significantly to gender equality and/or women’s empowerment as its main focus.

B. External survey

FAO’s Office of Evaluation is currently carrying out an evaluation of FAO role and work on AMR. This survey is one of the methods of collecting information and evidence on project performance, including lessons learned, challenges and good practices. It will contribute to the overall findings of the evaluation. It will help to assess the current and future national relevance, effectiveness and coherence of the Organization’s work on AMR. In particular, the survey will help the evaluation team get more perceptions and feedback about FAO’s performance on AMR and priorities of partners.

Responses to this survey will be treated confidentially.

The survey should take around 10-12 minutes to complete.

1. Which country are you working in? (If ‘Other’ is selected, please specify)
2. Name of your Organization:
3. On a scale of 1 to 6 how familiar are you with FAO AMR activities? (Where 1 is not familiar at all and 6 is very familiar)
4. To your knowledge, in which sub-sectors has FAO worked on AMR in your country? (please select all that apply)
 - a) Animal health
 - b) Environment (Land and Water)
 - c) Fisheries and Aquaculture
 - d) Food safety
 - e) Plant health
 - f) Others_____
5. How would you score the importance of the following threats in your country: (Where 1 is not important and 6 is very important; Don’t know; NA)
 - a) Zoonotic diseases
 - b) Antimicrobial Resistance
 - c) Other threats (please name and score them)
6. Were you engaged or consulted during the design of the:

- a) FAO AMR projects in your country (Yes / No, if yes how)
 - b) Your country's National Action Plan on AMR (Yes/No/NA, if yes how)
7. Which of the following ministries / sectors are engaged on the work on AMR? (please select all that apply)
- a) Agriculture, livestock and fisheries
 - b) Education
 - c) Environment (including land and water)
 - d) Health
 - e) Other _____
8. Please assess how your government changed budget/resource allocations over the last 5 years for the following areas (where 1 is significantly reduced investment and 6 is significantly increased investment; NA)
- a) Development of National Action Plan for AMR
 - b) AMR awareness raising and behaviour change:
 - c) Surveillance systems and laboratory capacity for the detection of AMR
 - d) Development and enforcement of regulations on antimicrobial production and usage
 - e) Workforce capacity to implement a One Health approach across ministries
9. Did FAO's work on AMR adequately assist the development and strengthening of the National Action Plan on AMR? [where 1 is no assistance/effect and 6 is fully adequate; NA: no NAP on AMR exists or is being developed]
10. How would you rate the importance of FAO's AMR Focus Areas to the needs of your country (where 1 is not important and 6 is very important)
- a) Awareness raising on AMR
 - b) Increased surveillance for AMR
 - c) Improved legislation and governance for AMR
 - d) Introduction of good farming practises and prudent use if antimicrobials
11. In your country over the past five years, to what extent have you noticed changes in the following:
- a) awareness of AMR among key stakeholders including national governments
(where 1 is decreased/remained the same, 6 is fully increased; NA)
 - b) surveillance and monitoring of antimicrobial resistance and use
(where 1 is deteriorated/remained the same and 6 is fully improved; NA)
 - c) development and revision of regulatory frameworks drug production, including quality, marketing and use
(where 1 is remained the same and 6 is fully improved; NA)

- d) awareness and knowledge of approaches to prudent and responsible use of antimicrobials
(where 1 is decreased/remained the same and 6 is fully improved; NA)
12. What are FAO's most significant contributions with regards to AMR risk reduction? Please provide up to three contributions.
13. In your view, what should be the three key FAO priorities to reduce threat of AMR in future? Please list and provide examples in the order of importance.
14. How would you score FAO as a partner in the reduction of AMR associated risks? (where 1 is inadequate and 6 is strong)
15. What do you value most in FAO's partnership?
16. Could you please list any other partners that you work with on AMR?
17. Among the following capacity development activities, please indicate which ones FAO has supported? (1 is not supported and 6 is very well supported)
- a) Technical training of staff on AMR (laboratory/epidemiological)
 - b) Supporting laboratories with new equipment, kits and reagents
 - c) One Health approach (facilitating intersectoral AMR work)
 - d) Policy development related AMR risk
 - e) International collaboration (cross-border activities on AMR)
 - f) Training of antimicrobial end users (farmers, veterinarians etc.)
 - g) Other
18. If FAO's support for your country ends this year, how would you score the capacity of the government to continue to work on AMR? (where 1 is limited and 6 is strong)
- a) Development of National Action Plan for AMR
 - b) AMR awareness raising and behaviour change:
 - c) Surveillance systems and laboratory capacity for the detection of AMR
 - d) Development and enforcement of regulations on antimicrobial production and usage
 - e) Workforce capacity to implement a One Health approach across ministries
 - f) Others_____ -