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Food and Agriculture
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Продовольственная и
сельскохозяйственная организация
Объединенных Наций

Organización de las
Naciones Unidas para la
Alimentación y la Agricultura

منظمة
الغذية والزراعة
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PROGRAMME COMMITTEE

Hundred and Twenty-fifth Session

Rome, 12-16 November 2018

Progress report on FAO's Action Plan on antimicrobial resistance (AMR)

Executive Summary

This document is presented in response to a request by the 124th Programme Committee for an update on ongoing activities and how they are linked to the FAO Strategic Framework, specifically three of the five Strategic Programmes and the FAO Action Plan, with its four focus areas or work.

Guidance sought by the Programme Committee

The Programme Committee may wish to take note of progress on FAO's Action Plan on antimicrobial resistance (AMR).

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Background

1. The 39th session of FAO Conference (June 2015) adopted Resolution [4/2015](#) on Antimicrobial Resistance (AMR) which recognized that AMR poses an increasingly serious threat to public health and sustainable food production, and that an effective response should involve all sectors of government and society. The resolution urged “increased political awareness, engagement, and leadership to ensure continued access to antimicrobial drugs through the prudent and responsible use of antimicrobials in agriculture.”
2. To support the implementation of Resolution 4/2015, FAO developed the [Action Plan on Antimicrobial Resistance](#) (the Action Plan) which addresses four major focus areas: (1) improve awareness on AMR and related threats; (2) develop capacity for surveillance and monitoring of AMR and antimicrobial use (AMU) in food and agriculture; (3) strengthen governance related to AMU and AMR in food and agriculture; and (4) promote good practices in food and agricultural systems and the prudent use of antimicrobials.
3. This Action Plan supports the WHO-led Global Action Plan on Antimicrobial Resistance in highlighting the necessity of adopting a “One Health” approach, with the involvement of public health and veterinary authorities, the food and agriculture sector, financial planners, environmental specialists, and consumers. The objective is to assist countries to develop and implement multisector National Action Plans to combat AMR. FAO works closely with its international partners in a tripartite initiative with the World Health Organization (WHO) and the World Organisation for Animal Health (OIE), as well as with other partners (private sector, academia, civil society, financial institutions). It recognizes that a collaborative approach between different sectors, and both political and economic entities and disciplines, is essential in order to address AMR effectively. FAO recognizes and would welcome closer complementarity with UN Environment.
4. The adoption of resolution 4/2015 and the Action Plan on AMR 2016-2020 has enabled FAO to embed AMR-related activities into FAO’s Strategic Programmes and to engage as one of the leaders in global governance, tool development and national guidance. AMR initiatives contribute to a range of Outcomes under the Strategic Programmes, with the majority of Outputs under SP4, as well as under SP5 and SP2,¹ as further outlined below.

I. Cooperation with other agencies and activities

5. FAO works closely with the World Health Organization (WHO) and the World Organisation for Animal Health (OIE) under the banner “Tripartite” for several decades, with an Executive Meeting held each year to discuss issues of common interest and search for complementary activities and consensus. In addition, FAO hosts the Codex Alimentarius Secretariat which is closely involved in key AMR activities. FAO is also a member of the AMR Inter-Agency Coordinating Group that was established by the UN Secretary-General in September 2016,² and brings together the major UN agencies, the World Bank Group, OIE, the Organisation for Economic Co-operation and Development (OECD), and some 15 specialists representing governments’ agencies, medical professionals, academia, and civil society organizations.
6. In addition, FAO is finalizing a process of recognizing 11 Reference Centres on the subject matter to complement other specialist areas on food safety, veterinary epidemiology, aquaculture biosecurity, diagnostic laboratories or information technology.

¹ *Enable more inclusive and efficient agricultural and food systems (SP4); Increase the resilience of livelihoods to threats and crises (SP5); Make agriculture, forestry and fisheries more productive and sustainable (SP2)*

² https://digitallibrary.un.org/record/842813/files/A_71_L-2-EN.pdf

II. Resource mobilization efforts and pipeline

7. Currently, FAO is engaged in a number of activities to support action on AMR by member countries. The following activities are supported by several funding partners, including Canada, France, Russian Federation, United Kingdom and the United States of America:

- Engaging the food and agriculture sectors in sub-Saharan Africa, South and Southeast Asia in the global efforts to combat antimicrobial resistance using the One Health approach (regional/select countries in Asia and sub-Saharan Africa)
- Reducing the advance of antimicrobial resistance (AMR) in food and agriculture (Armenia, Republic of Belarus, Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan)
- Addressing antimicrobial usage in Asia's livestock production industry (regional Asia and the Pacific)
- Supporting the joint FAO/WHO Scientific Advice Programme: JMPR, JEMRA, JEMNU³ (global)
- Support to the organization of a specialist consultation meeting on FAO Progressive Management Pathway (PMP) on antimicrobial resistance

8. In addition, a number of governments support the implementation of the programme through secondments (Sweden, UK and Netherlands) and Associate Professional Officers (China and Germany).

9. Negotiations are underway to secure additional funding [(Norway, the Animal Production and Health Division (AGA) and the Fisheries and Aquaculture Policy and Resources Division (FIA)] to support activities on risk communication, risk analysis, legislation reviews, as well as biosecurity in aquaculture production.

III. Implementation arrangements

10. FAO has internally established an AMR Working Group, with participation of 25 FAO professional staff (Regular Programme and Project Staff) from AMR-related areas (across departments, Strategic Programme and decentralized offices). Efforts are being made to increase FAO's technical support staff, especially at country level and key gap areas at headquarters.

IV. Progress made by focus area of FAO's Action Plan on AMR

Focus Area 1 – Improve awareness on AMR and related threats

11. The Organization is taking action to raise awareness of AMR at global and national levels, supporting international governance mechanisms in recognizing that the impact of AMR needs to become an integral part of the food and agricultural policy environment. Key activities are outlined below (various Outputs under SP2, SP4 and SP5).

12. Broad AMR awareness and advocacy coalition building with UN and other partner organizations and through outreach to private sector, Tripartite collaborations on global campaigns to raise awareness about AMR and to encourage responsible use of antimicrobials, and providing advocacy tools to stakeholders such as:

- a) Yearly Annual campaign for World Antibiotic Awareness Week in November
- b) [FAO AMR YouTube Playlist](#)

³ Joint FAO/WHO Meeting on Pesticide Residues (JMPR); Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA); Joint FAO/WHO Expert Meetings on Nutrition (JEMNU)

- c) Global Soil Symposium (May 2018)
- d) [Tripartite Trello Digital Communication ToolKit](#) (videos, publications, social media cards)
- e) [Tripartite Interactive Platform](#) (test knowledge on how to use antibiotics responsibly and interactive map to share events on AMR)
- f) [Tripartite One Health AMR Infographic](#)
- g) (FAO) AMR Listserve e-blasts and social media campaigns to encourage advocacy during key events such as [World Veterinary Day](#)
- h) Recent video case studies on finding and promoting solutions: [AMR in the UK: Vets & Farmers Working Together](#); [AMR in Bangladesh: A One Health Approach](#); [AMR in Kenya: Rising to the Challenge](#); [Working Together Towards Responsible Antimicrobial Use](#)

Focus Area 2 - Develop capacity for surveillance and monitoring of AMR and antimicrobial use in food and agriculture

13. FAO supported data generation and data sharing, as well as integrated systems of surveillance and monitoring at local and global levels. Key activities are outlined below (Output 5.1.1).

- a) The *Assessment Tool for Laboratories and AMR Surveillance System* (ATLASS) was developed to assist countries in assessing their surveillance and laboratory diagnostic capacity. ATLASS has been implemented in 14 countries in Asia and Africa⁴ and will continue to be rolled out to other countries. FAO is [providing training](#) to build the community of assessors.
- b) FAO is also supporting the development of national and regional surveillance strategies, as well as developing guidance on surveillance methodologies.
- c) FAO has identified 11 institutes that are in the process of becoming *FAO Reference Centres for AMR*,⁵ which will support FAO and countries in the implementation of activities outlined in the FAO Action Plan. Work plans between FAO and each institute are currently in development.
- d) To improve the knowledge on the impact of AMR on the environment, the FAO Animal Health Service, Land and Water Division and the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture are working together to develop an isotopic analytical toolbox that provides information on the movements and fate of antibiotics through soil and water.

Focus Area 3 - Strengthening governance related to AMU and AMR in food and agriculture

14. FAO is supporting the development of international standards and regulatory frameworks relevant to AMR, as well as generating evidence and scientific basis for sound standards setting, as well as for the generation of evidence-based policies. Key activities are outlined below (Outputs 4.1.1, 4.1.2, 4.2.1, and 4.4.1).

- a) The FAO Development Law Service (LEGN) has developed a methodology to assess and make recommendations to improve national legal frameworks in all AMR-related areas, including veterinary legislation, food safety, environment, water and waste. FAO and OIE are collaborating on further developing this methodology.
- b) [A Regional Workshop](#) on Legislation and AMU/AMR was conducted in March 2018 in Bangkok, bringing together regulators and experts from the region, as well as experts from WHO, OIE and ASEAN. A similar workshop is planned for other regions, aiming at regional harmonization of legislation and how it is to support improved management of AMR.

⁴ Ghana, Kenya, Senegal, Tanzania, Zambia, Zimbabwe in Africa; Cambodia, Indonesia, Lao PDR, Myanmar, Philippines, Singapore, Thailand and Viet Nam in Asia.

⁵ In process for official recognition

- c) FAO is conducting research on regulatory frameworks relevant for AMR, taking into consideration also water legislation (including water as an input to agriculture/aquaculture, water contamination). The research is used as basis for comparative legal analysis and capacity development field projects in Africa, Asia and Eastern Europe.
- d) FAO legal experts are working to identify AMR-relevant legislations and policies within and across countries and modifying FAOLEX (a comprehensive *national legislative and policy database*) so that these can be more readily identified and analyzed.

Focus Area 4 - Promoting good practices in food and agriculture systems and the prudent use of antimicrobials

15. FAO is focusing in generating knowledge products that lead to the development and implementation of practices that positively contribute to address AMR from a multidimensional perspective, especially at country level. Key activities are outlined below (Outputs 2.4.1, 4.2.1, 5.3.1, 5.3.2, 5.4.1, and 5.4.2.).

16. FAO is working in resource-limited [countries in Africa and Asia](#) to develop behaviour change pilot projects promoting good practices and prudent use of antimicrobials.

17. FAO is combining technical health and social science expertise to support country teams in designing and implementing pilot projects to map and shift stakeholder practices to tackle AMR and optimize antimicrobial use. As an example, FAO Bangladesh has supported the [Bangladesh Antimicrobial Resistance Response Alliance](#) (BARA) to develop treatment guidelines for common poultry diseases to encourage appropriate selection and use of antimicrobials. FAO Bangladesh is also piloting a mobile application and training program that supports veterinarians and physicians in improving their prescription practices. Regional treatment guidelines are also being produced for poultry and swine for the [Eastern Europe](#) and Central Asia region.

18. FAO is developing a stepwise approach for AMR management called the *Progressive Management Pathway* (PMP), which expresses stages and develops in-country competencies to improve progressively better actions for targeted surveillance or improved governance structures, establishes best practices that are sector specific, or ensures that there is a growing awareness of the AMR threat and changing behaviours.

19. FAO has completed expert consultations and finalized the following summary reports for imminent online publication:

- Antimicrobial use, resistance data, and consequences in horticulture;
- Biocide use and antimicrobial resistance in food processing,
- Antimicrobial residues and resistance in the environment.

20. FAO is developing various guidelines and publications for aquaculture and fisheries including guidelines for management of deadstock in aquaculture, risk based fish inspection and management of waste from fish processing plants. Additionally, a publication is being written on the *Responsible Management of Bacterial Diseases in Aquaculture*. Biosecurity brochures for important aquaculture species (carp, tilapia and shrimp) are also being developed.

21. FAO issued a call for guidance on good practices across various sectors; this resulted in submission of over 350 documents, which are currently under review to assess their supportive evidence base, following which the repository will be made available to all member countries.

V. FAO Secretariats and Conventions

22. Codex Alimentarius Commission - Codex re-established its ad hoc Task Force on AMR. Their first meeting was convened in December 2017 hosted by the Republic of Korea. The Task Force will analyse and revise its existing Code of Practice to minimize and contain antimicrobial resistance as well as developing new guidance for countries on surveillance of foodborne antimicrobial resistance. An expert meeting was held at FAO on 11-15 June 2018 on the role of the food production environment (including crops) on foodborne AMR to deliver scientific advice to the *ad hoc* Task Force on AMR.
23. Global Soil Partnership (GSP) - AMR is an emerging soil and water pollutant and was recently discussed as such as the Global Soil Symposium,⁶ hosted at FAO in May 2018.

VI. Tripartite efforts to support countries in tackling AMR across sectors

24. In May 2018, a Memorandum of Understanding (MoU) was signed by the Tripartite (FAO-OIE-WHO) to formalize and strengthen cooperation on areas of work related to the human-animal-environment interface, including AMR. Following the signature of the MoU, FAO, OIE, WHO and the United Nations Environment Programme (UNEP) ("Tripartite Plus") worked jointly towards the development of a concrete two-year work plan in support of the Global Action Plan on AMR (GAP). The implementation of the AMR "Tripartite Plus" Work Plan 2019-2020 will assist countries to adopt a One Health approach to address:
- a) **awareness and behavioral change** by supporting effective communication to translate evidence, guidance and policy into action towards behavior change;
 - b) **surveillance and monitoring of antimicrobial resistance and antimicrobial use** by providing technical support to establish and run integrated surveillance systems and promoting data sharing across different sectors at local, regional and global levels;
 - c) **stewardship and optimize use** by preserving the effectiveness of antimicrobials through promotion of research and development;
 - d) **implementation of National Action Plans (NAPs) and legislation** by ensuring effective coordination and assistance in understanding the economic impact and political drivers to prioritize action and identify needed legislative and regulatory options;
 - e) **monitoring and evaluation** to allow key stakeholders to assess whether they are collectively achieving change.
25. The Tripartite is also actively involved in the Inter-Agency Coordination Group (IACG) on Antimicrobial Resistance – mandated by UN General Assembly Resolution A/RES/71/3 – to ensure sustained and effective global action to address AMR. The IACG will submit a report on its conclusions and recommendations to the Secretary-General by March/April 2019, who in turn is to report to the UNGA in September 2019.
26. FAO, OIE, WHO are developing a *Monitoring and Evaluation* approach to track progress towards both the implementation and the impact of implementing the Global Action Plan on AMR.
27. Countries are being supported to develop One Health *National Action Plans*. The Tripartite is monitoring the progress of Member States in implementing their National Action Plans through an annual self-assessment survey with a database established by WHO.
28. The Tripartite is also developing a *Global Framework for Development and Stewardship to Combat AMR*, which guides the development, control, distribution and judicious use of new antimicrobial medicines, promote investment in point-of-care diagnostic tools, quality vaccines and other interventions, and is also designed to protect current medicines and promote affordable access.

⁶ The meeting report is available at: <http://enb.iisd.org/download/pdf/sd/enbplus206num6e.pdf>

VII. Next steps and upcoming events (2018-2019)

29. FAO will:

- Continue its active engagement in AMR international coordination mechanisms, such as the *ad hoc* IACG on AMR, the Tripartite and Tripartite Plus plans.
- Develop or contribute to drafting recommendations for the IACG Report and the review of all contributions to the Report to the Secretary General of the IACG.
- Inform member countries on a regular basis on developments related to AMR or upon request.
- Continue to support the Geneva-based IACG Secretariat with an officer.
- Step up efforts on resource mobilization to assist countries in implementing country National Action Plans and convene stakeholders at national and regional level.
- Step-up efforts on resource mobilization for Tripartite (plus UN Environment) activities to implement joint work in stewardship/governance, integrated surveillance, database and information management, communications, national action plan and legislation frameworks, and a monitoring and performance platform.
- Conduct piloting exercises of FAO tools at country level (i.e., Progressive management Pathway for poultry production, biosecurity in aquaculture)
- Provide advice to Codex taskforce(s) as required.
- Due preparations for World Antibiotic Awareness Week (November 2018 and 2019)

30. Recent and Upcoming Events:

- 12-13 September - Tripartite Workplan meeting on AM Use and AMR to support the Memorandum of Understanding (Rome)
- 17-18 September – Future governance on AMR (IACG subgroup meeting, Stockholm)
- 28 September – Vide-Consultation with Tripartite partners and Civil Society Organizations (organized by ReAct)
- 1-2 October –WHO Member State Consultation on the Global Framework for Development and Stewardship to be held at WHO HQ (Geneva)
- 16-17 December Meeting of the Interagency Coordination Group on AMR at FAO headquarters