

Antimicrobial Resistance (AMR) Multi-Partner Trust Fund

Combatting the rising global threat of antimicrobial resistance through a One Health approach

Proposal submission by MADAGASCAR

1. Full proposal overview

Project title	AMR MPTF: Strengthening AMR control efforts in Madagascar through a "One Health" Approach
Implementation entities (Quadripartite)	WHO, WOA, FAO and UNEP
Time frame	36 months (August 2022¹)
Quadripartite lead	
Full name:	<i>Falihery Razafindrabe</i>
Agency	<i>WHO</i>
Title	<i>Pharmaceutical advisor</i>
E-mail	<i>razafindrabef@who.int</i>
Telephone number (include country and city code)	<i>+261 32 03 303 19</i>
Address:	<i>Maison commune des Nations Unies – Enceinte de la galaxie – Andraharo – 101 Antananarivo, Madagascar</i>
Quadripartite focal points	
Full name:	<i>Dr Jobert Tchuidjang</i>
Agency	<i>FAO</i>
Title	<i>Veterinary Expert</i>
E-mail	<i>jobert.tchuidjang@fao.org</i>
Telephone number (include country and city code)	<i>Tel.: (261) 34 76 280 41</i>
Full name:	<i>Dr Mohamed Sirdar; Dr Ilo Tsimok'Haja Ramahatafandry</i>
Agency	<i>WOAH</i>

Please note that the programme starts officially on the date of disbursement

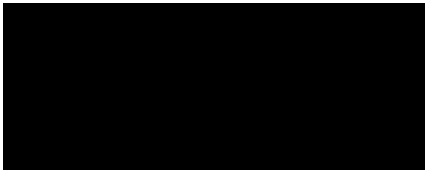
Title	<i>Sub-regional Programme Officer; Focal Point for veterinary products – AMR</i>
E-mail	<i>m.sirdar@woah.org; ilotsimokhaja@gmail.com</i>
Telephone number (include country and city code)	<i>+267 74 37 00 70 ; +261 34 04 374 74</i>
Full name:	<i>Levis Kavagi</i>
Agency	<i>UNEP</i>
Title	<i>Regional Coordinator, Ecosystems and Biodiversity</i>
E-mail	<i>levis.kavagi@un.org</i>
Telephone number (include country and city code)	<i>+254 73 89 349 38</i>
Other implementing partners	The programme will be implemented in close collaboration with the relevant ministries (Ministry of Public Health, Ministry of Agriculture and Livestock, Ministry of Environment and Sustainable Development, Ministry of Fisheries and the Blue Economy, Ministry of Water Resources, Sanitation and Hygiene, Ministry of Higher Education and Research), and the AMR Multisectoral Coordination Committee (CMC-RAM).
Budget	
<i>Total amount (USD) shown in the attached budget summary</i>	US\$ 999 411.00 (including lead agency's coordination budget of US\$ 60 000.00)
<i>Total amount (USD) allocated to each Tripartite partner and UNEP</i>	WHO: US\$ 349 141.00 WOAH US\$ 290 215.00 FAO US\$ 289 970.00 UNEP US\$ 70 085.00
Background	Aware of the danger posed by AMR, the Malagasy Government in 2016 signed the political declaration of the high-level meeting of the United Nations General Assembly on AMR. In 2018, the AMR Multisectoral Coordination Committee (CMC-RAM) was established and the National Action Plan on AMR (AMR NAP) was developed. Today, the level of implementation of the AMR NAP is quite low due to the lack of financial resources, although initiatives have been carried out, namely: the development of strategies and policies (infection prevention and control (IPC) for health facilities, National Action Plan for Health Security), participation in the collection of AMU data in the human and animal sectors.

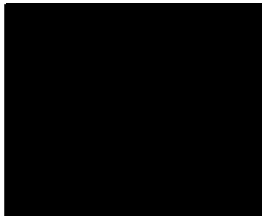
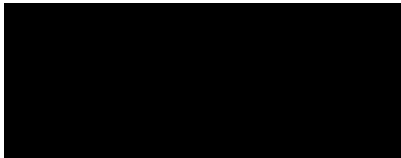
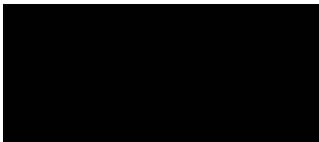
	In the area of human health surveillance, Madagascar has been involved in the WHO Global Antimicrobial Resistance Surveillance System (GLASS) network since 2017. Madagascar is among the Member States of the African Region which have adopted the regional IDSR Integrated disease surveillance and response strategy through the Ministry of Public Health's Directorate of Health and Epidemiological Surveillance and Response (DVSSER), a cross-cutting department with branches in 22 regions and 114 health districts, which collates data on the 28 diseases and events of significance to public health surveillance in Madagascar. Madagascar is one of the 196 signatories to the International Health Regulations (IHR) and boasts epidemiologists and public health specialists who are able to provide the necessary data to guide decision making. The Ministry of Public Health has set up resistance surveillance systems for certain programmes, such as: multidrug-resistant tuberculosis (MDR-TB) surveillance in partnership with the Institut Pasteur; surveillance of antimalarial drug resistance and efficacy. The Madagascar Medicines Agency maintains data on adverse drug reactions. In the area of animal health, Madagascar participates in seven (7) WOA global surveillance systems for antimicrobial use. The Directorate of Veterinary Services (DSV) is the implementing authority for the WOA measures under the Ministry of Agriculture and Livestock. As such, it conducts animal disease surveillance through the MADSUR (Madagascar Animal Disease Surveillance) network, with support from the Indian Ocean Commission (IOC). Major zoonoses such as rabies and cysticercosis are monitored jointly with the Ministry of Health. Surveillance is conducted annually for antibiotic residues and chemical contaminants in food of animal origin subject to export, including honey. The authority responsible for fishery products within the Ministry of Fisheries and the Blue Economy is the Fisheries Health Authority (ASH), which is decentralized to ten health inspection posts for fishery and aquaculture products. It has a product safety department which implements a formal monitoring plan for drug residues and environmental chemical contaminants in aquaculture products each year. Work is under way to develop a Southwest Indian Ocean coastal monitoring plan. In the environment sector, Madagascar, acting through the Ministry of Environment and Sustainable Development, has ratified and implemented international conventions on the management and disposal of substances, harmful products and hazardous wastes such as
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	antimicrobials (Stockholm Convention on Persistent Organic Pollutants, Rotterdam and Basel Conventions on Chemicals and Hazardous Wastes). The National Office for the Environment (ONE), a body under the Ministry, is the country's focal point for environmental assessment. It is responsible for the implementation of the decree for environmental compliance of investments (MECIE), ultimately aimed at reducing or eliminating the negative impacts of investments on the environment. In the area of agriculture, the country has a list of approved pesticides for pest control. In this regard, the Directorate for Plant Protection (DPV) of the Ministry of Agriculture and Livestock could be involved in monitoring. All large-scale agriculture and livestock projects are subject to environmental assessments that use a multisectoral approach as a window of opportunity for AMR control. A case in point is the 'Mionjo' project, the implementation of which was subject to an environmental impact assessment. Ongoing AMR interventions include: the extended spectrum beta-lactamases (ESBL) <i>E. coli</i> TRICYCLE project, the results of which were published in 2019 and carried on from 2019 through 2022 by the TRluMPH project: <i>"Project Improving the TRicycle protocol: upscaling to national Monitoring, detection of Carbapenemase-producing Enterobacteriales (CPE) and whole genome sequencing (WGS) pipelines for One Health Surveillance"</i>; the RAMSES project studying the socio-economic factors of the spread of AMR in 2022-2024 in collaboration with AVIESAN and CIRAD; and the SEGA ONE HEALTH network, which coordinates disease surveillance activities in the Indian Ocean region under the coordination of the IOC. Madagascar reports annually to the GLASS network and participates in the One Health-Tripartite AMR country self-assessment survey (TrACSS). The World Bank is also involved in the country's AMR activities through technical assistance for the establishment of the One Health operational exchange/coordination platform, as well as in the operation and support of this coordination platform for a period of two years beginning in 2022. The MPTF will provide an opportunity to scale up planned activities by addressing some of the gaps to effectively contribute to AMR control efforts through the One Health approach.
Status of national action plan on AMR	Developed in full alignment with the WHO Global Action Plan on Antimicrobial Resistance, Madagascar's National Action Plan on AMR (AMR NAP) was validated in 2019. It includes the following strategic thrusts: (i) awareness raising, communication and training on the risks of AMR; (ii) strengthening the knowledge and evidence base through surveillance; (iii) reducing the incidence of infection through efficient sanitation, hygiene and infection prevention measures; (iv) optimizing antimicrobial use in human, animal and plant health; (v) promoting and supporting research and other alternative solutions.

	The plan also includes a situation analysis that provides background information on AMR in the country. It specifies the creation of the AMR Multisectoral Coordination Committee, with membership from the human and animal health and environment sectors. The plan mentions the technical working groups, the AMR focal point and the sectoral focal points, and further describes the implementation structure at different levels. The strategic plan provides guidance on priority actions, specific objectives, interventions, and key activities to be carried out under each strategic objective, with 13 priority actions identified. The operational plan details how each activity will be conducted and includes sub-activities, timelines, level of implementation, cost of implementation, source of funding and indicators. The monitoring and evaluation framework includes indicators that will be measured during implementation. The COVID-19 pandemic delayed the implementation of activities. The planned two-year mid-term review was not conducted. Accordingly, the plan needs to be updated. However, in 2021-2022, FAO conducted an assessment of laboratories involved in AMR surveillance using the FAO-ATLASS tool, including a situational assessment of AMR and AMU. The CMC-RAM institutionalization process, which began in 2019, has been halted due to the pandemic. However, the related terms of reference have been developed and sent to the authorities and advocacy campaigns conducted for validation. Currently, only surveillance activities are visible through the ESBL <i>E. coli</i> TRICYCLE project, the results of which were published in 2019 and carried on from 2020 through 2022 by the TRIuMPH project: <i>“Project Improving the TRicycle protocol: upscaling to national Monitoring, detection of Carbapenemase-producing Enterobacterales (CPE) and whole genome sequencing (WGS) pipelines for One Health Surveillance”</i>; and the SEGA ONE HEALTH network, which coordinates disease surveillance activities in the Indian Ocean region under the coordination of the IOC. Madagascar participates in the GLASS network, the TrACSS, and the global surveillance system for AMU. In addition, a recent FAO PMP RAM evaluation in 2022 showed a low AMR NAP implementation rate (22%), allowing the various stakeholders to identify key and priority actions. These actions have been included in this project to support more effective implementation of the AMR NAP. An ongoing activity is the development of the surveillance protocol with IDDS/USAID funding: surveillance of resistant pathogens, use and consumption of antibiotics, and estimation of the presence or absence of antibiotic residues in food. The International Atomic Energy Agency (IAEA) conducted antimicrobial residue contamination monitoring through a PCT project.
Project summary	

Impacts	1. Explicit AMR commitments by Madagascar (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data. 2. AMU-associated behaviours and practices sustainably improved in critical sectors
Outcomes	1. Improved and comprehensive data on antimicrobial resistance (AMR) and antimicrobial use (AMU) to inform policies and benefit sectors implementing rational antimicrobial use practices 2. Risks and benefits of AMR reflected in national budgets and in development/multi-lateral partner sector-wide investments 3. Improved understanding of AMR risks and response options by targeted groups 4. Use of antimicrobials optimized in critical sectors
Project outputs and key activities	1. Systems for generating, analyzing and interpreting data on resistance and consumption/use patterns developed or strengthened 1.1. Monitoring and evaluation, data sharing and lessons learned Lead: FAO (contribution from WHO, WOA and UNEP) 1.2. AMU monitoring in various sectors using reliable data Lead: WOA-WHO (contribution from FAO and UNEP) 1.3. Improve AMR surveillance in all sectors using reliable data Lead: FAO – WHO (contribution from UNEP and WOA) 1.4. Strategy for antimicrobial traceability and assurance of future use Lead: FAO, WOA, WHO (contribution from UNEP) 2. Improved countries capacities for designing and implementing AMR-related policy frameworks, investment plans and programmes 2.1 Strengthen the governance of AMR management Lead: FAO, WOA, WHO, UNEP 3. Improved capacity to design awareness-raising, behaviour-change and educational activities. 3.1 Raise awareness of AMR and implement interventions to promote behaviour change Lead: FAO, WOA, WHO, UNEP 4. Systems for biosecurity and IPC strengthened 4.1 Combat AMR and promote best practices Lead: FAO – WOA – WHO (contribution from UNEP) 4.2 Reduce the incidence of infection through efficient sanitation, hygiene and infection prevention measures Lead: OMS (contribution from FAO, WOA, UNEP)

Link to national action plan	The proposal focuses on outcomes and outputs related to the impact created in terms of behaviour change, including improved infection prevention and control, the use of antimicrobial alternatives, and the rational use of antimicrobials. It also addresses some of the main areas of concern in Madagascar, namely the use of illicit, substandard and falsified medicines across sectors. It thus contributes to promoting the rational use of antimicrobials, in accordance with the AMR NAP. It also proposes an innovative approach to reduce the use of antimicrobials by supporting mass immunization of at-risk populations. It emphasizes AMR surveillance and AMU monitoring in priority areas. Based on the Multisectoral NAP Assessment workshop that was held in February 2022, key activities were identified for implementation in the next 2-years. These activities included awareness and training campaigns in priority sectors, multisectoral monitoring and surveillance of AMR and AMU, strengthening governance and operationalisation of technical thematic groups, mapping of stakeholders, benchmarking initiative and KAP studies. This proposal was developed in line with the identified priority areas and aims to complement all efforts towards combating AMR by the guidance of the AMR-NAP.
Link to country's development priorities	The proposal was developed as part of the AMR NAP and aligns with the NAPHS, the country's UNSDCF, the WHO Country Cooperation Strategy 2022–2026, the WOAHS Strategy on Antimicrobial Resistance and Prudent Use of Antimicrobials, and the FAO Country Programming Framework.
We the responsible officers of the quadripartite organizations take responsibility for the efficient delivery of this proposal. We confirm that the proposal has been developed in close collaboration with government counterparts and that it is aligned with the wider agenda around the Sustainable Development Goals. We will work to ensure that addressing AMR is appropriately included in the United Nations Sustainable Development Cooperation Framework, and that there is a strategy to sustain and scale up the outputs of this work.	
Signature of the responsible officers representing the Quadripartite	
Last name: Dr Mbuli Charles Boliko FAO Representative in Madagascar, Comoros, Mauritius and Seychelles	

Last name: Dr Moetapele Letshwenyo WOAH Subregional Representative for Southern Africa	
Last name: Dr Laurent Musango WHO Representative in Madagascar	
Last name: Mr Frank Turyatunga UNEP Regional Director and Representative for Africa	
<i>NB: Government approval of the programme is required before the proposal is submitted to the Steering Committee. Please send a letter of support from the government along with this proposal.</i>	

Joint programme description

1 Baseline and situation analysis

1.1 Problem statement (max 1 page)

Antimicrobial Resistance (AMR) is a rising global threat to humans, animals and the environment because of the inappropriate and/or abusive use of these products. AMR could claim more lives than cancer by 2050.

Mindful of the danger posed by AMR and the challenge it presents for the future, the Government of Madagascar in 2016 signed the political declaration of the high-level meeting of the United Nations General Assembly on AMR and is one of the African countries involved in the Global Antimicrobial Resistance Surveillance System.

The AMR Multisectoral Coordination Committee (CMC-RAM) was then established with representatives from across the relevant sectors.

In 2018 and 2019, the two-year comparative results of the integrated ESBL-producing *E. coli* survey (the Tricycle project) showed a significant increase in the prevalence of ESBL *E. coli*, particularly in humans and animals from year 1 through year 2 of study. A major driver of resistance was the increased consumption of antimicrobials in the human and animal sectors.

These findings informed the development of the AMR NAP, which outlines a systematic way to address the growing problem based on available evidence and best practices. The following key strategic objectives were identified in the AMR NAP:

1. Awareness raising, communication and training on AMR risks
2. Strengthen the knowledge and evidence base through surveillance
3. Reduce the incidence of infection through efficient sanitation, hygiene and infection prevention measures
4. Optimize use of antimicrobial medicines in human, animal and plant health
5. Promote and support research and other alternative solutions.

Implementation of planned AMR activities has been slow, mainly due to financial constraints arising from a sluggish economy. The Quadripartite will build on existing programmes to support national efforts with a package of synergistic activities through a “One Health” approach to address the following major issues, which form the basis of the proposed intervention:

- Limited antimicrobial alternatives
- Suboptimal practices/behaviours
- Inadequate infection prevention and control (IPC) systems
- Insufficient/low quality data on AMR/AMU

In February 2022, Madagascar assessed the country’s implementation of the AMR National Action Plan and analysis of AMR and AMU in the animal health, agriculture, environment and food safety sectors using the FAO Progressive Management Pathway (AMR-PMP) Tool. The assessment revealed slow implementation in all of the four pillars of awareness, evidence, governance and good practice. The main reason for this outcome was lack of financial and human resources and the negative impact of the pandemic that dragged implementation. Fortunately, the assessment allowed identifying key areas for prioritization, setting time frames and exploring possible resources to elevate the level of implementation. On a positive note, Madagascar has been an active participant in the collection and monitoring of antimicrobial use in animal health (WOAH annual reports on AMU) and Tripartite AMR Country Self-assessment Survey (TrACSS). In 2018 and 2019, Madagascar was also one of the first African countries to implement the TRICYCLE project on an integrated survey of *E. coli* producing extended spectrum beta-lactamases (ESBLs) using a “One Health” approach. This proposed AMR-MPTF Madagascar project will assist with strengthening AMR governance and enhancing the implementation of the AMR NAP.

1.2 AMR MPTF results matrix (please refer to Appendix 3)

Outcomes	Outputs	Activities	Indicators
1. Improved evidence base/representative database on AMR & AMU for decision makers and sectors implementing AMU practices	1.1. Systems for generating, analysing and interpreting data on resistance and consumption/use patterns developed or strengthened	1.1.1. Monitoring and evaluation, data sharing and lessons learned - Develop a specific monitoring and evaluation system for better project implementation (FAO, UNEP and WOAHA) - Work with key national stakeholders to assess the results and lessons learnt from AMR and AMU activities (FAO and WHO)	Data availability and utilization
		1.1.2. AMU monitoring in various sectors using reliable data - Conduct pilot activities for routine collection of data on antimicrobial sales in priority sectors - Human sector (WHO) - Animal sector: aquatic (shellfish), beekeeping (WOAH) - Agriculture and plant sector (FAO) - Conduct ad hoc (pilot) surveys on the prevalence of antimicrobial use in hospitals (WHO) - Conduct (pilot) antimicrobial consumption surveys (community hospitals/farms) across the country. - Human sector (WHO) - Animal sector: terrestrial (poultry, small ruminants) and aquatic (shellfish), (WOAH) - Agriculture and plant sector (FAO)	% of sales/imports of drugs classified by WHO and WOAHA as critical antimicrobials and critical veterinary antimicrobial agents for human and animal use, respectively. % of consumed drugs classified by WHO and WOAHA as critical antimicrobials and critical veterinary antimicrobial agents for human and animal use, respectively - Volume of pesticides used to repel, destroy or control bacterial or fungal diseases in plants - Number of peer-reviewed reports and articles published

		1.1.3. Improve AMR surveillance systems in all sectors with the use of reliable data ▪ A multisectoral AMR surveillance system established and launched for the human and animal health and agricultural and environment sectors (FAO; WHO) ▪ A multisectoral AMR surveillance system established and launched for the human and animal health and agricultural and environment sectors, including strategy development (FAO; WHO) ▪ Strengthen the surveillance capacity (staff, training, reagents) of diagnostic laboratories for AMR detection: - Human sector (WHO) - Veterinarians, food safety (FAO) - Environment (UNEP) - Establish initial databases including one in each animal sector: terrestrial (cattle, poultry, swine) and aquatic (shellfish), beekeeping (FAO and WOA)H) - Agriculture and plant sector (FAO) - Environment sector (UNEP) ▪ Work closely with the human sector to support the establishment of an epidemiological unit to receive AMR and AMU data from the AMR surveillance system for the animal, agricultural and environmental health sectors, including the development of a central AMR inventory website for all AMR-related data, activities and documents; to be linked to the websites of all relevant sectors (WOAH).	▪ Number of databases ▪ Multisectoral AMR surveillance system ▪ Guidelines, surveillance tools, protocols, SOPs ▪ Number of peer-reviewed articles published
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		- Conduct pilot surveillance activities on target bacterial species in priority animal and environment sectors: - Poultry and dairy cows (FAO) - Small ruminants and shrimp (WOAH) - Environment (UNEP)	
		1.1.4. Strategy for antimicrobial traceability and assurance of future use - Map the supply and distribution chain of antimicrobials for human, veterinary, and phytosanitary use, including illicit trade in substandard and falsified medicines, to understand the underlying issues and develop interventions and monitor/report substandard and falsified medicines and other health products including diagnostics - Human use (WHO) - Veterinary use: terrestrial and aquatic and development of a database of information on counterfeit antimicrobials (WOAH) - Phytosanitary use: plants and agriculture (FAO)	- Number of databases developed, and number of maps generated - Number of reports issued
2. Risks and benefits of AMR reflected in national budgets and in development/multi-lateral partner sector-wide investments	2.1. Improved capacities for designing and implementing AMR-related policy frameworks, investment plans and programmes	2.1.1. Governance of AMR management strengthened - A functional national AMR Multisectoral Committee meets regularly, reviews data from AMR, AMC, AMU, recommend policy changes, and is empowered to request policy changes and resources from the Government to implement the NAP - Support the establishment of a fully functional AMR Secretariat to support effective multisectoral work in the country, within One Health approach	- Operations of the AMR Multisectoral Committee - AMR governance and legislation assessments

		- Contribute to the inventory and assessment of relevant policies, regulatory frameworks and legislation dealing with AMU (including industry, import, WMA quality control) and AMR - Human sector (WHO) - Animal (terrestrial and aquatic), plant, environment sectors (WOAH & FAO)	
3. Improved understanding of AMR risks and response options by targeted groups	3.1 Improved capacity to design awareness-raising, behaviour-change and educational activities.	3.1.1. Awareness of AMR raised, and behaviour change interventions implemented - Conduct a baseline survey to first understand the level of awareness and use LSHTM survey for human and animal health to test specific stakeholders periodically and gauge progress every 3 years. - Develop a national advocacy/communication strategy (WHO) - Compile an inventory of available AMR and AMU training programmes for producers and health professionals in all sectors. - Human sector (WHO) - Animal sector (terrestrial and aquatic) (WOAH) - Agriculture and plant sector (FAO) - Environment sector (UNEP) - Training of health professionals and secondary school students and youth: - Human sector (WHO) - Animal sector (aquatic and terrestrial) (WOAH) - Agriculture and plant sector (FAO) - Environment sector (UNEP)	- Number of surveys conducted - National awareness and communication strategy developed - Number of available training programmes on AMR - Number of awareness campaigns launched and implemented - Number of stakeholders trained - Number of press releases and newspaper articles published on AMR awareness campaigns

		▪ Train producers (breeders/farmers) in the rational use of antimicrobials for value chains - Poultry, pork, beekeeping, small ruminants, aquaculture, plants and agriculture (FAO & WOA) ▪ Conduct AMU and AMR public awareness campaigns targeting students, breeders, veterinarians, doctors, agricultural and environmental professionals, health professionals, pharmacists, drug depot managers, etc. (WHO, FAO, WOA and UNEP) ▪ World Antimicrobial Awareness Week observed every year (multisectoral) (WHO)	
4. Optimized use of antimicrobials in critical sectors	4.1. Strengthening biosecurity and IPC systems	4.1.1. Combatting AMR and promoting good practices ▪ Promote and implement a good hygiene practice at the level of slaughtering slabs or cutting workshop (butchery) of supermarkets for the animal sector (FAO & WOA) and at the level of collective catering for the human sector (WHO) and environmental professional (UNEP) ▪ Conduct specific KAP surveys to identify the most common illnesses associated with increased antimicrobial use - Human sector (WHO) - Animal sector: land (small ruminants, poultry, pigs) and aquatic (shellfish), apiculture (WOA) - Agriculture and plant sector (FAO) ▪ Develop and implement biosecurity and hygiene principles in targeted farms.	▪ Number of farmers/butchers and breeders implemented good biosecurity practices ▪ Number of good practice guidelines on antimicrobial resistance (biosecurity) adopted ▪ Number of peer-reviewed reports and articles published in publications on findings from KAP surveys

		▪ Develop good practice guidelines on livestock farming - Poultry sector: broiler chicken (FAO) - Aquaculture: shellfish (WOAH & FAO)	
		4.1.2. Reduce the incidence of infection through efficient sanitation, hygiene and infection prevention measures ▪ Ensure/assess the implementation of the national IPC/WASH programme, national IPC guidelines and training programme, including antimicrobial stewardship, to strengthen evidence-based practices in order to combat AMR transmission (WHO) ▪ Coordinate existing IPC practices and support a pilot system for monitoring hospital-acquired infections in some health facilities (WHO) ▪ IPC inventory practice in the food and agriculture sector - Animal sector: land and aquatic (FAO) - Plant and agriculture sector (FAO) - Environmental sector (UNEP) ▪ Promote the use of vaccines to prevent irrational use of antimicrobials - Animals (FAO & WOAH) - Humans (WHO)	▪ National IPC/WASH programme with guidelines implemented/assessed ▪ Number of health workers trained ▪ Number of hospitals surveyed on hospital-acquired infections ▪ Number of farmers' days organized ▪ % of professional stakeholders trained on extension (agriculture and livestock farming) on good practices

2 Programme strategy

2.1 Overall strategy

The anticipated impact of this project is to achieve a sustainable improvement in AMU-associated behaviours and practices across all critical sectors. This objective will be achieved through a series of multi-faceted but mutually reinforcing activities aligned with the priorities and initiatives of the Global Action Plan on AMR, which presents a roadmap for halting the spread of AMR and sustainably strengthening reliance on AMU in promoting public, animal, plant and environmental health. The GAP identifies five strategic objectives:

- Improve awareness and understanding of antimicrobial resistance;
- Strengthen knowledge through surveillance and research;
- Reduce the incidence of infection ;
- Optimize the use of antimicrobial medicines; and
- Develop the economic case for sustainable investment that takes account of the needs of all countries, and increase investments in new medicines, diagnostic tools, vaccines and other interventions.

The proposed activities are clearly aligned with the priorities and initiatives of the Global Action Plan, and cover all five strategic objective areas. They also offer fresh insights on how to achieve some of the expected outcomes of the AMR NAP, while innovatively engaging interest in other key areas of health. One of the main drivers of resistance has been increased human and animal consumption of antimicrobials.

The AMR MPTF project will be implemented at country level by the Quadripartite in collaboration with the competent authorities in human, animal, plant and environmental health, under the coordination of the AMR Multisectoral Coordination Committee (CMC-RAM) in order to overcome knowledge and institutional capacity challenges in tackling AMR. The project will adopt a collaborative approach, working hand-in-hand with government institutions, which will in turn take over the management of activities to ensure continuity. The proposed activities will build on existing and ongoing programmes implemented by government institutions, and will therefore rely on the same human resources already deployed to continue implementing the programmes at the end of the project.

This project is aligned with national strategic plans such as the WHO Country Cooperation Strategy 2016-2020 (CCS); the FAO Country Programming Framework 2021-2025 and the WOAHA Strategy for AMR and Prudent Use of Antimicrobial Agents. Activities are also firmly rooted in local priority plans such as the Madagascar Emergence Plan (PEM), thereby further anchoring activities in government programmes.

The project seeks to incorporate capacity building, successes and lessons learned from previous and ongoing interventions, as well as behaviour change to better combat antimicrobial resistance.

The MPTF project supports projects of other development partners working in Madagascar. All activities under this project will be carried out following the AMR NAP guiding principle, namely engagement of the entire society through the “One Health” approach that encompasses an integrated and unified multisector effort, touching on the crosscutting nature of AMR. A key component of this proposal is the KAP survey and behavioural studies to improve understanding of AMR risks and underlying factors. This will ensure that interventions are tailored and targeted to address and mitigate the actual challenges facing the country. Activities implemented under this project will focus on transformative behaviour change.

Under this project, the Quadripartite will strive to build the capacity of the CMC-RAM for effective coordination of activities to combat AMR and inappropriate use of antimicrobials, as well as to strengthen the “One Health” approach by providing the necessary sectoral coordination.

The proposed activities are likely to build synergies with ongoing “One Health” initiatives, thereby ensuring sustainability and value for money.

2.2 Theory of change

The Quadripartite acknowledges that designing and managing AMR interventions entails a variety of intermediate results and requirements. The theory of change is premised on the Quadripartite’s understanding of the underlying challenges of AMR. As regular participants in One Health and AMR fora, the Quadripartite is fully conversant with the various projects and initiatives being implemented in Madagascar and will build on same to avoid duplication.

The “Combating AMR through a One Health Approach” project in Madagascar’s Theory of Change (TOC) illustrates three stages of change pathways.

- Firstly, after identifying and prioritizing the issues to be addressed, the Quadripartite identified the project’s anticipated impact as sustainably improved AMU-associated behaviours and practices in critical sectors.
- Secondly, the Quadripartite identified examples of programme outcomes from the matrix that will contribute to sustainably improve AMU-associated behaviours and practices in Madagascar’s critical sectors. Different contexts, varying capacities, specific resource endowments, and different sectoral needs will require a different set of tailor-made capacity-building interventions. Three outputs have been identified as key to the pathway. The core activities aimed at achieving each of the outputs have been identified. The outputs and activities needed to achieve the selected outcome are as follows:
 1. Systems for generating, analyzing and interpreting data on resistance and consumption/use patterns developed or strengthened
 - Develop a specific monitoring and evaluation system for better project implementation
 - AMU monitoring in various sectors using reliable data
 - Improve AMU monitoring in various sectors using reliable data
 2. Improve capacity for designing and implementing AMR-related policy frameworks, investment plans and programme
 - Strengthen the governance of AMR management
 3. Improve capacity to design awareness-raising, behaviour-change and educational activities/materials
 - Develop and promote the One Health platform, and conduct an inventory and assessment of relevant AMU policies, regulatory frameworks and legislation
 - Raise awareness of AMR and implement interventions to promote behaviour change
 - Conduct an inventory of existing training on AMR and AMU, and train health workers
 - Organize the World Antimicrobial Awareness Week every year
 4. Strengthening biosecurity and IPC systems
 - Conduct KAP surveys, develop and implement biosecurity and hygiene principles in targeted livestock farms.

- Ensure the implementation of the national IPC/WASH programme in the 1st year and assess the level of implementation through healthcare facilities by the 2nd and 3rd year.
- Thirdly, the Quadripartite identified the outcomes to be achieved and the causal pathways towards those outcomes. The project's theory of change posits that four critical outcomes must be achieved in order for AMU-associated behaviours and practices to be sustainably improved in critical sectors. These outcomes will be demonstrated by an improved understanding of the risks associated with inappropriate AMU and response options to mitigate risks by the targeted groups, thereby resulting in optimal antimicrobial use. The selected outcomes are identified as follows:
 - I. Improved AMR/AMU evidence base and representative data for policy makers and sectors implementing AMU practices
 - II. Risks and benefits of AMR reflected in national budgets and in development/multi-lateral partner sector-wide investments
 - III. Improved understanding of AMR risks and response options by targeted groups
 - IV. Use of antimicrobials optimized in critical sectors

Each of the key outcomes will be thoroughly assessed by the Quadripartite and project partners over time, using developed baseline indicators.

The theory of change can thus be summed up as follows:

IF: Biosecurity and IPC systems, as well as systems for generating, analyzing and interpreting data on resistance and consumption/use patterns developed are strengthened (output 4 and output 1)

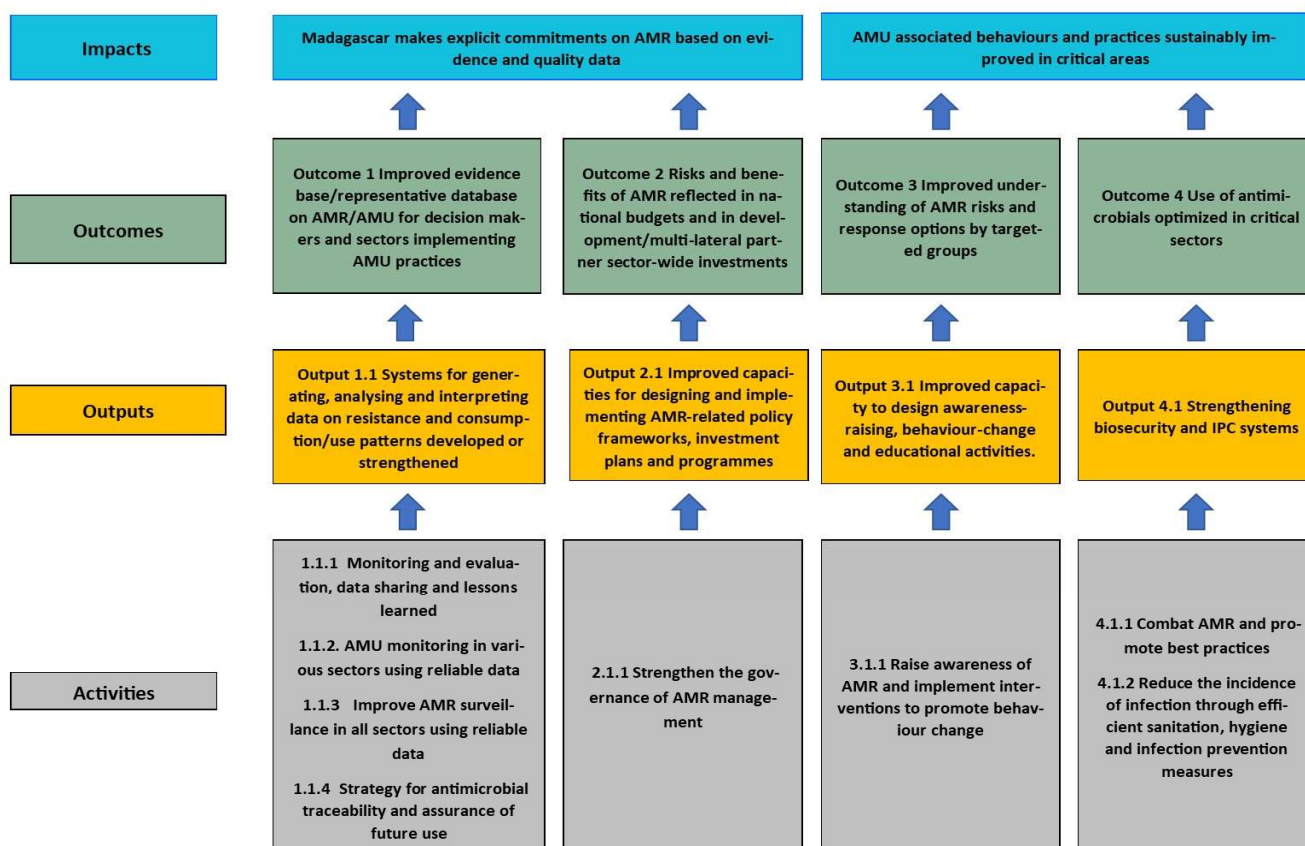
And IF: Capacity to design awareness-raising, behaviour-change and educational activities and capacity for designing and implementing AMR-related policy frameworks, investment plans and programmes have been improved (output 3 and output 2)

THEN: Target groups' understanding of AMR risks and intervention options will improve, then AMU in critical areas will be optimized, and the completeness of AMR and AMU data for policy and sectors implementing rational antimicrobial use practices will be improved and risks and benefits of AMR will be reflected in national budgets and in development/multi-lateral partner sector-wide investments (outcomes)

And THEREAFTER: Madagascar will make explicit commitments (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data

And AMU-associated behaviours and practices will be sustainably improved in critical areas. (Impacts).

Madagascar Theory of Change Diagram



2.3 Expected outcomes and narrative

The prioritization process for selecting key activities and crafting the final proposal was informed by One Health principles, technical feasibility, long-term sustainability, and short-term impact.

- In terms of scope: the selected activities are consistent with the “One Health” approach. Sectoral interventions are evenly assigned to each sector: animal, human, environmental and plant health.
- In terms of type of activities: budget allocations are balanced to address issues related to governance/stewardship/Monitoring & Evaluation, research and surveys to generate data and evidence, information and education programme, staff training, WASH, sanitation and biosafety, laboratory services, and the legal framework.
- In terms of the Global Action Plan objectives: Budget allocations are primarily geared towards: building knowledge, optimizing AMU, improving awareness and understanding, and reducing the incidence of infections.
- In terms of expected outcomes, from a budgetary standpoint, allocations are broken down as follows: strengthen stakeholder engagement, generate data and information for improved situational and contextual analysis, strengthen technical expertise in AMR and related areas, and develop guidelines and standards. Part of the budget is earmarked for developing sustainable funding mechanisms at country level to address AMR issues.

Additionally, in order to maximize the relevance of the MPTF proposal and its contribution towards achieving the objectives of the global AMR agenda, each activity is aligned to:

- One of the objectives/outcomes/outputs of the AMR MPTF matrix;
- One of the Quadripartite guidelines on AMR;
- One of the strategic pillars advocated by the Quadripartite to fight AMR
- One of the five objectives of the Global Action Plan
- And Madagascar’s AMR NAP 2019-2023

Accordingly, the project will embrace a gender approach in implementing all activities that foster women and youth participation. Further consideration will be given to utilising available information on population diversity to target and refine behaviour change among the general population and/or the priority sectors identified in the proposal by using a gender and equity focus. The WHO guidance on AMR and Gender will be consulted during the planning and implementation phases (Tackling antimicrobial resistance (AMR) together. Working paper 5.0: Enhancing the focus on gender and equity. Geneva: World Health Organization; 2018 (WHO/HWSI/AMR/2018.3).

The project will proceed to deliver the following project outputs:

1. Systems for generating, analyzing and interpreting data on resistance and consumption/use patterns developed or strengthened; while implementing the following activities:

- Conduct an international consultation within one month to support the implementation of an integrated national surveillance network and information system for monitoring and generating data on AMR and antimicrobial use: in human, animal , environmental and plant health; design and implement an information system and a national data exchange platform to share relevant information in a timely manner among the different sectors, purchase hardware (computer servers

software) and share data through WHONET and regular reporting to the WHO GLASS surveillance network; also for the WOA database, FAO INFARM, and ATLAS and TrACSS, and probably for TISSA.

- Support the implementation of integrated surveillance (the TRIuMPH Project aims at improving the TRicycle protocol: upscaling to national Monitoring, detection of carbapenemase-producing Enterobacteriaceae (CPE) and for whole genome sequencing (WGS) pipelines for One Health Surveillance in human faecal waste, in chicken caeca, and human wastewater to the determined community prevalence

2. Improve capacity for designing and implementing AMR-related policy frameworks, investment plans and programmes, through the following main activities:

- Strengthen the governance of AMR management : a functional national AMR Multisectoral Committee meets regularly, sustained flow of AMR/AMC/AMU data , recommend policy changes, and is empowered to request policy changes and resources from the Government to implement the NAP
- Support the establishment of a fully functional AMR Secretariat to support effective multisectoral work in the country, within One Health approach
- Contribute to the inventory and assessment of relevant policies, regulatory frameworks and legislation dealing with AMU (including industry, import, WMA quality control) and AMR

3. Improve capacity to design awareness-raising, behaviour-change and educational activities/materials by implementing the following activities:

- Carry out a countrywide consultation in order to conduct a knowledge, attitudes and practices (KAP) survey on AMU and AMR prevention in medical and animal health practices, and agriculture.
- Carry out a countrywide consultation to support the dissemination and implementation of national standards and guidelines for responsible and appropriate antimicrobial use in the 23 regions of Madagascar.
- Organize the annual World Antibiotic Awareness Week including a session with decision makers.
- Organize awareness campaigns for professionals in different sectors.
- Organize information campaigns for farmers in critical food sectors (poultry, aquaculture and dairy production), as well as plant protection and environmental stakeholders.

4. Strengthen biosecurity and IPC systems through the following activities:

- Carry out a countrywide consultation to provide support for a national survey on prevalence of health care associated infections.
- Carry out a countrywide consultation to improve implementation of the national strategic plan on prevention of healthcare-related infections.
- Provide capacity building for the aquaculture, poultry and dairy sectors respectively to build capacity of professional organizations in development and implementation of standards and good practice guidelines.
- Organize biosafety training workshops for professional organizations in critical sectors.
- Organize regional training sessions on biosecurity for professional organizations: veterinarians and value chain players in critical sectors (aquaculture, poultry and dairy production).
- Organize capacity building workshops for government veterinarians (Office of Veterinary Services - DSV) on official controls.

- Organize a training workshop on the AMR assessment and management programme for the registration of plant protection products.

The project will support the establishment of a fully functional AMR Secretariat office to support effective multisectoral work in the country. This will improve multisectoral coordination of AMR activities and strengthen the One Health approach.

Towards the end of 2025 when the AMR MPTF investment comes to an end, we anticipate the following scenarios:

Various KAP surveys and behaviour change studies with targeted stakeholder groups have been conducted, and AMR risks and mitigation measures documented.

Appropriate interventions incorporating changes in behaviour and practices in the community have been designed and tested.

Understanding of AMR risks and intervention options has improved, as evidenced by adoption of more preventive strategies for disease control.

A fully functional AMR secretariat is in place and multi-sectoral coordination of AMR activities has improved.

The national IPC policy and strategic plan, national IPC guidelines, and the training programme have been revised to strengthen evidence-based practices in order to combat antimicrobial resistance transmission.

AMR mitigation measures have been incorporated into the training programme for human and animal health workers at village level and beyond.

Broiler chicken farmers have been trained and have adopted good farming practices to improve biosecurity and hygiene standards as a tool for disease prevention and control.

AMU has declined drastically and waiting periods for medicines are observed.

There are coordinated efforts between government authorities and the *Agence du Médicament de Madagascar* (Madagascar Medicines Authority) leading the way as national regulatory authority in preventing the importation of unregistered, falsified and substandard medicines, with the effective collaboration of the customs administration.

Madagascar's AMR NAP has been revised and updated as reported during the exit assessment.

The Quadripartite acknowledges the vital role played by all social and gender groups, especially women and youth and other vulnerable groups (pastoralists, famers) in AMU. Poultry, fish, beekeeping and small ruminant production is mainly carried out by these groups of people. To guarantee the participation of women and other disadvantaged groups in AMR mitigation, gender and vulnerability analysis will be included in KAP surveys and behaviour change studies to fully assess the role played by different social and gender groups in AMU and AMR mitigation. The project will develop and implement action plans and also address customs/practices that undermine the participation of certain gender groups in AMR mitigation. Throughout implementation, the project management will be attentive to the relationships and constraints for women and men by contributing to a women empowerment plan that addresses gender biases and constraints in AMR control. Training and activity planning will accommodate the daily and seasonal schedules of different gender groups to ensure inclusion.

2.4 Budget, sustainability and value for money

- Better value for money (VfM) will be achieved when all outputs and, to some extent, outcomes and impact for the money invested are realized. Value-for-money considerations will be incorporated into project management processes by adopting implementation models that combine quality, cost-

effectiveness and fairness. A key approach to achieving VfM will be to assemble a multidisciplinary team. The Quadripartite will avoid duplication of activities implemented by other projects, by working to coordinate the AMR core group. This will create cost-effective synergies with such projects to achieve better value for money. This means that only identified and actual gaps will be funded under this project.

- This proposal was developed in collaboration with technicians from the AMR NAP signatory ministries. The government has made a firm commitment to incorporate AMR activities into the routine activities of these ministries. The project will be implemented in collaboration with government institutions. This project will also support capacity building for CMC-RAM via a project coordinator hired on full-time basis.
- We acknowledge that the sustainability approach can include Public-Private Partnerships, revolving funds, cost recovery among others. However, the sustainability of the impact and benefits of this project at this stage will depend on the ability to continue mobilizing adequate resources to sustain core activities and have an anchor of AMR understanding for all stakeholders. Most of the activities stipulated in this project contributes to raising awareness, solidifying governance, generating baseline data for policy and action, which can be used after the successful implementation of this project to mobilise the national private sector to form fruitful partnerships.
- The Madagascar Medicines Authority (DAMM) is entitled to charge the costs of the regulatory services it provides and to retain the revenues needed to finance its activities. All AMR activities implemented through the National Quality Control Laboratory fall under a funded regulatory mandate and will ultimately contribute to self-funding.
- The National Health Security Action Plan (PANSS) incorporates the design of a national AMR communication and awareness strategy that proposes inter alia to use print and electronic media, online and social media platforms, newspaper articles, and other forms of media to reach out to the general public. The messages to be generated in this programme will be taken into account in these future programmes. This will ensure that messages will continue to be disseminated beyond the end of MPTF funding.
- For local authorities, the national AMR programme works closely with the National Environmental Office (ONE), which is statutorily responsible for monitoring environmental health.

2.5 Stakeholder engagement and partnership

- Stakeholders in the health and agriculture sectors include healthcare professional associations (physicians, veterinarians, pharmacists, dentists, nurses, etc.), the Consumer Association, farmers, fisherfolk, value chain stakeholders and regulatory authorities. Stakeholder engagement will mobilize public and private entities.
- The Ministry of the Environment and Sustainable Development through the National Office of Environment (ONE) will be involved in the strengthening of the National IPC Strategic Plan and will collaborate in education and awareness through training of local authorities and farmers.
- The Ministry of Economy and Finance will be involved with the World Bank in the implementation of the multisectoral project (PPSB) where the establishment and operation of a One Health exchange/coordination platform is planned.
- Laboratories responsible for, resistance monitoring and the coordinating or oversight structure for these laboratories.
- Operators in key value chains for AMR, e.g., dairy, poultry, small ruminants, honey and aquaculture value chains. Support will be provided to producers through training on improved practices to minimize antimicrobial use and transmission of resistance. Public sector entities, such as veterinary

services and food inspection services, will also benefit as they oversee the implementation of good practices.

- Private health service providers to improve prescription behaviour and their contribution to the monitoring system.
- Local pharmaceutical production for human and animal health.
- Consumers (patients, farmers) who require a prescription for antimicrobials, such as antibiotics or consume over-the-counter antibiotics.

2.6 Implementation of Programme amidst COVID-19

Although the pandemic lingers, signs of control are visible owing to a vaccination drive. Travel restrictions and quarantine are currently terminated. The Quadripartite will strive to conduct its business with the utmost respect for the safety and health of its employees, partners, suppliers and beneficiaries, and will implement a number of measures to mitigate COVID-19-related risks (in the event of a new outbreak) as follows:

- i. Risk assessment: Early in the project, the Quadripartite will engage a COVID-19 risk assessment based on basic regulatory requirements, guidelines, and recommended additional measures, and informed by current scientific information from reputable sources, such as WHO in order to develop a comprehensive management plan.
- ii. However, if the measures turn out to be insufficient: depending on how the pandemic has developed in the country, and if other measures are not considered adequate enough to fully ensure the safety of staff and/or partners, the Quadripartite will inform the financial partner and request the postponement of some activities or the temporary suspension of the project.

2.7 Communication, advocacy and learning lessons

Communication, advocacy and lessons learned on AMR and policy influence changes will be a priority for the Quadripartite and all implementing partners.

CAP studies covering all sectors (human, animal - terrestrial and aquatic - plant, environment) will be conducted to identify key drivers of AMR in different stakeholder groups. MPTF's behaviour change communications channels will be used as a platform for sharing best practices and developing specific interventions. Evidence will guide the customization of interventions, which may include highlighting: i) risks associated with risky AMU; ii) benefits of good practices; iii) alternative methods of combating AMR; and iv) improved biosecurity and hygiene in human health service delivery and environmental and animal production systems.

3 Programme implementation

3.1 Governance and implementation procedures

- To ensure a coordinated and timely implementation of project activities, a steering committee will be set up (Government Focal Points Quadripartite) to coordinate, facilitate and oversee the activities of participating organizations and institutions.

- The National Project Coordinator will be recruited by the Project and will, under the joint supervision of the Quadripartite, provide full technical, operational and administrative support for the implementation of the AMR MPTF project, the monitoring of activities and the security and execution of operations. He will be recruited for a period of 3 years and will undertake the following tasks:
 - coordinate project activities with relevant agencies or departments, the quadripartite Office of Programme Coordinators and project staff, including consultants, to ensure smooth collaboration in project implementation
 - facilitate the work of project staff by, among other things, liaising with the institutions involved and the people to be visited;
 - provide general guidance and supervision to project staff and liaise with international consultants who will undertake various project activities;
 - work hand in glove with international consultants in performing specific project tasks and implementing the workplan;
 - see to it that local project inputs are made in a timely manner, such as the provision of office and administrative facilities, equipment, staff, training and other operational funds, relevant data/information, and so forth.
 - make all necessary local arrangements and provide logistics for various project activities in accordance with the agreed workplan and schedule (including travel of project staff and consultants);
 - prepare half-yearly reports on the financial and technical status of the project;
 - assist in preparing the final report;
 - carry out any other project-related tasks as directed by the Quadripartite and relevant parties.
- The project working group will comprise focal points of ministries and representatives of FAO, WOA, WHO and UNEP and will be supported by headquarter units (HQ), regional, subregional and country offices.
- The Project will be implemented directly by the Quadripartite and will involve Headquarter units (HQ), regional, subregional and country offices and will be guided by a Memorandum of Understanding (MoU) to define the roles of each stakeholder.
- A separate budget breakdown for each Agency will be adopted. For each activity, the relevant lead UN agency (WHO) will provide the total budgetary expenditure required for implementation, regardless of the number of agencies engaged in the activity and the nature of their support. This arrangement is made possible by sound coordination between the Quadripartite and national stakeholders and will ensure economies of scale and streamline available human and financial resources.
- The project will focus on technical capacity building and creating an enabling environment in the country and is expected to result in: (i) improved awareness among key national stakeholders and the general public on AMR-related risks to humans, animals (terrestrial and aquatic) and plants and the environment, and the food and agriculture sector is actively involved in the implementation of the NAP-AMR; ii) improved capacity of target countries to assess and analyse existing AMR and AMU knowledge, and strengthened AMU-related capacities and regulatory frameworks in food, agriculture, fisheries and livestock; iii) integrated AMR surveillance systems supported by the assessment and capacity building of national laboratories to collect and share data on AMR and antimicrobial residues detection.

3.2 Monitoring, reporting and evaluation

The AMR MPTF project reports will be results-oriented and evidence-based. Each quadripartite organization will provide the organizing agent/lead partner with the following narrative reports prepared in accordance with the instructions and templates developed by the Joint Quadripartite Secretariat on AMR:

- Annual progress reports, to be submitted not later than three (3) months after the end of the calendar year, must include the results matrix, the updated risk log and the planned activities and results for the next 12-month funding period.
- Final consolidated narrative report, after completion of the quadripartite programme, to be submitted no later than three (3) months after the operational closure of the quadripartite programme of activities.

Regular progress meetings with the Joint Quadripartite Secretariat on AMR (usually every two (2) months at the beginning, and on a quarterly basis thereafter) will also be held, where countries will be invited to draw up tables on progress made since the previous meeting, activities planned for the next period, technical support required from the regions and/or headquarters, challenges encountered and lessons learned, and communication opportunities.

Additional information (such as policy papers, resource optimization analysis, case studies, infographics, blogs, success stories) may need to be made available upon request to the Quadripartite AMR Secretariat. The quadripartite programme will allocate monitoring and evaluation resources in the budget.

Information on additional funding received from other sources for activities supported by AMR MPTF, including in-kind contributions and/or South-South cooperation initiatives, should be included in reports throughout the year.

The Headquarters provides the Administrative Officer (UNDP MPTF Office) with the following statements and reports prepared in accordance with its accounting and reporting procedures, and consolidates the financial reports, as follows (information on the reports will be provided at a later date):

- annual financial reports as at 31 December of each year concerning the funds paid to it by the AMR MPTF, to be provided no later than four (4) months after the end of the applicable reporting period; and
- a final financial report, after completion of the activities financed by the AMR MPTF and including the last year of activities, to be provided no later than 30 April of the year following the operational closure of project activities.

In addition, regular financial execution updates may need to be provided upon request by the Fund Secretariat.

The quadripartite programme may be subject to a programme review (methodology to be determined) or a Joint Final Independent Evaluation (JFEI) by the United Nations Evaluation Group (UNEG) Norms and Standards for Evaluation in the UN System, using the Joint Evaluation Guidelines and relevant UNDP guidelines on evaluations. The results of the evaluation will be shared with the government, development partners, civil society and other stakeholders. A joint response from management will be produced at the end of the evaluation process and made available to the public on the evaluation or similar platforms of the United Nations Programmes.

3.3 Accountability, financial management and public disclosure

The AMR MPTF will use a pass-through fund management model in which the UNDP Multi-Party Trust Fund Office will act as the administrative agent (AA) through which funds will be channelled to the MPTF through the AA. Each tripartite and UNEP organization receiving funds through the transfer signed a standard memorandum of understanding with the AA.

Each quadripartite organization is fully responsible for the programmatic and financial accountability of the funds disbursed to it through the AA of the AMR MPTF (Multi-Partner Trust Fund Office). These funds will be managed by each quadripartite organization in accordance with its own regulations, rules, guidelines and procedures. Each Quadripartite organization will keep a separate ledger for the receipt and administration of funds paid to it by the AA.

Indirect costs of quadripartite organizations recovered through programme support costs will be 7%. All other costs incurred by each quadripartite organization in the discharge of its responsibilities under the Fund will be recovered as direct costs.

Procedures for financial transfers, extensions, financial and operational closure and related administrative matters are laid down in the annual AMR MPTF operations.

Each quadripartite organization will take appropriate steps to promote the AMR MPTF and give due credit to other quadripartite bodies. All publicity materials, official notices, reports and related publications submitted to the press or recipients of the Fund will acknowledge the role of the host government, donors, quadripartite partners, administrative agent and any other relevant entity. In particular, the AA will include and ensure recognition of the role of each participating organization and its partners in all external communications related to the AMR MPTF.

***Legal clause:** Please indicate whether a UNDAF or UNSDCF with information on the legal context currently exists in the country, and if so, please provide a copy; otherwise, please append the FAO legal provisions (annexes 2.1 and 2.2) to the document before signature with the government.

Yes ☐

No ☐

Annexes

Annex 1 - Logical Framework Template

AMR MPTF Logical Framework		Country name: Madagascar	
Impact 1. Madagascar makes explicit commitments (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data 2. Sustainable improvement of AMU-related behaviours and practices in critical sectors in Madagascar			
Objectives	Indicators	Sources of verification	Key assumptions and risks
MPTF outcome objectives 1. Improved AMR/AMU evidence based and representative data for policy makers and sectors implementing AMU practices 2. Risks and benefits of AMR reflected in national budgets	Indicator1: AMR and AMU monitoring systems	1. Government programmes and policies on AMR 2. Publications (official and scientific) 3. Baseline reports, pre- and post-intervention surveys. 4. Project reports, including evaluations by the government and the quadripartite	▪ COVID-19 pandemic does not impede project implementation ▪ Harsh weather conditions preventing travel during cyclone waves and tidal surge (November-April each year) ▪ There are no competing Government agendas that detract incentives from the coordination on AMR mitigation by potentially getting technical support from the different
	Indicator 2: AMR and AMU governance and legal frameworks		
	Indicator 3: sector-specific AMR awareness among stakeholder groups		

AMR MPTF Logical Framework		Country name: Madagascar		
Impact 1. Madagascar makes explicit commitments (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data 2. Sustainable improvement of AMU-related behaviours and practices in critical sectors in Madagascar				
Objectives	Indicators	Sources of verification		Key assumptions and risks
and in development/multi-lateral partner sector-wide investments 3. Improved understanding of AMR risks and intervention options by targeted groups 4. Optimized antimicrobial use in critical sectors	Indicator 4: Best practices for optimal AMU in critical sectors			levels of the quadripartite. ▪ Government remains committed to include AMR in the priority programmes ▪ Political situation allows normal operations ▪ Global Momentum on AMR remains high;
MPTF output objectives	Indicator	Source of verification	Key activities	Key assumptions and risks
Output A Systems for generating, analyzing and interpreting data on resistance and	Indicator A.1: % of sales/imports and consumption of medicines classified by WHO and WOH as critically important antimicrobials	A.1 Activity reports Quadripartite monitoring reports	Activities A: ▪ Conduct pilot activities for systematic collection of antimicrobial	High level of stakeholder involvement enabling regulatory environment for the

AMR MPTF Logical Framework		Country name: Madagascar		
Impact				
1. Madagascar makes explicit commitments (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data				
2. Sustainable improvement of AMU-related behaviours and practices in critical sectors in Madagascar				
Objectives	Indicators	Sources of verification		Key assumptions and risks
consumption/use patterns developed or strengthened	for human and animal use, respectively.	Import/sales data from regulatory agency Peer-reviewed publications	sales data in priority sectors Conduct ad hoc (pilot) surveys on the prevalence of antimicrobial use in hospitals (WHO)	collection of monitoring data
	Indicator A.2: Integrated AMR/AMU monitoring and surveillance systems, and data bases	A.2 Activity reports Government reports (laboratory reports) Quadripartite monitoring reports Peer-reviewed publications	- Conduct (pilot) antimicrobial consumption surveys (community hospitals/fields/farms) at country level - Establish and launch a multisectoral AMR surveillance system for the human, animal, plant and environmental health sectors (FAO; WHO) - Develop an integrated monitoring and surveillance strategy	

AMR MPTF Logical Framework		Country name: Madagascar		
Impact				
1. Madagascar makes explicit commitments (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data				
2. Sustainable improvement of AMU-related behaviours and practices in critical sectors in Madagascar				
Objectives	Indicators	Sources of verification		Key assumptions and risks
			- Strengthen the monitoring capacity (staff, training, reagents) of diagnostic laboratories on AMR detection: - Establish an integrated database for the collection and management of AMR data - Support the establishment of an epidemiologic al unit for AMR and AMU data - Conduct pilot surveillance activities on target bacterial species in priority animal and environmental sectors	
Output B Improved capacities for	Indicator B.1: AMR management and governance	B.1 Project reports	Activities B.1: Set up and promote the	The government is open to policy and institutional reforms

AMR MPTF Logical Framework		Country name: Madagascar		
Impact 1. Madagascar makes explicit commitments (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data 2. Sustainable improvement of AMU-related behaviours and practices in critical sectors in Madagascar				
Objectives	Indicators	Sources of verification		Key assumptions and risks
designing and implementing AMR-related policy frameworks, investment plans and programmes <i>Output C</i> Improved capacity to design awareness-raising, behaviour-change and educational activities.	One Health platform created and promoted Baseline value: 0 Target value: 1		One Health platform ▪ Design and create an inventory and assessment of policies, regulatory frameworks and legislation relevant to AMU and AMR	
	Indicator C.1: Number of actors sensitized in the different sectors, by gender	C.1 Activity reports Post-event assessment	Activities C.1: ▪ Develop a national advocacy/communication strategy ▪ Create an inventory of existing AMR and AMU training ▪ Train health workers ▪ Train producers ▪ Commemorate the Global Antimicrobial Awareness Week	
<i>Output D</i> Optimized antimicrobial use in critical sectors	Indicator D.1: Best practice in AMU and AMR	D.1 Activity report (survey)	Activities D: ▪ Conduct studies on knowledge, attitudes and	

AMR MPTF Logical Framework		Country name: Madagascar		
Impact				
1. Madagascar makes explicit commitments (policies, investment plans, programmes, legal frameworks, resource allocation) based on evidence and quality data				
2. Sustainable improvement of AMU-related behaviours and practices in critical sectors in Madagascar				
Objectives	Indicators	Sources of verification		Key assumptions and risks
		Monitoring and Evaluation Reports Peer-reviewed publications	practices (KAP) surveys ▪ Develop and implement biosafety, biosecurity and hygiene principles ▪ Develop the national IPC/WASH programme ▪ Coordinate existing IPC practices ▪ Promote the use of vaccines	
	Indicator D.2: Percentage change in the incidence of infection	D.2 Activity reports Government reports Peer-reviewed publications		

Annex 2 - Risk matrix

Risk description	Risk category: Contextual Programmatic Institutional	Most adverse consequences for the project	Risk score		Mitigation measures	Action owner
			Impact	Likelihood		
COVID-19 pandemic wave during the project	Contextual	A new wave of pandemic and imposed lockdown	High	Low	Preventive measures Virtual means for some Reschedule timelines	Quadripartite Government
Unstable health situation	Contextual	Epidemic outbreaks leading to the implementation of quarantine measures and hindering the conduct of surveys and visits in target entities	High	Average	Preventive measures Reschedule timelines Redesign study	Quadripartite Government
Harsh weather conditions preventing travel during cyclone waves and tidal surge (November-April each year)	Contextual	Restricted travel to conduct activities resulting in a delay in implementation	Average	Average	Reschedule timelines	Quadripartite Government
Government commitment to include AMR in the priority programme	Institutional	Low level of stakeholder participation	High	Low	Engagement, consultation and feedback reports to government partners on projects early in	Quadripartite

					the planning phase	
Project management	Programmatic	Lack of collaboration and conflict between implementation stakeholders	High	Low	Training of civil servants on governance and multisectoral collaboration	Quadripartite Government
Timeline of activities	Programmatic	Deadlines not met by the Quadripartite	High	Low	Development and implementation of a plan, regular progress reports	Quadripartite
Political and civil unrest	Contextual	Delay or postponement of the project due to civil unrest	Average	Low	Steer clear from politics	Quadripartite
Poverty and economic instability – Ethical considerations	Contextual	High inflation and volatility of exchange rates and commodity prices - accountability issues	Average	Average	Develop a clear budgeting and accountability strategy for disbursement of funds	Quadripartite

Annex 3 - Budget plan

Categories	FAO	WOAH	WHO	UNEP	TOTAL
1. Staff and other employee costs ²	93 121	60 000	70 000	14 000	237 121
2. Supplies, Goods, Materials ³	8 412	88 119	41 700	12 000	150 231
3. Equipment, vehicles and furniture, including depreciation ⁴	0	0	0	0	0
4. Contractual services ⁵	17 200	25 500	60 000	0	102 700
5. Travel ⁶	51 204	75 140	50 000	9 000	185 344
6. Transfers and counterpart grants ⁷	0	0	85 600	24 500	110 100
7. General operating and other direct costs ⁸	101 063	22 470	19 000	6 000	148 533
Total direct costs	271 000	271 229	326 300	65 500	934 029
8. Indirect costs of support (max. 7% of overall budget) ⁹	18 970	18 986	22 841	4 585	65 382
Pre-Financing	0	0	0	0	0
TOTAL	289 970	290 215	349 141	70 085	999 411
Please indicate the organization that will benefit from a pre-financing facility ¹⁰					

²Staff and other employee costs: Includes all related staff costs and temporary staff costs, as well as basic salary, post adjustment and all staff entitlements. These include the costs of a full-time project coordinator, working either in one of the organizations or in the national coordination committee.

³Supplies, commodities, materials: Includes all direct and indirect costs (such as freight, transport, delivery, distribution) related to the procurement of supplies, goods and materials. Office supplies should be reported as "General Operations".

⁴Equipment, vehicles and furniture, including depreciation: the purchase of durable equipment is not allowed in the AMR MPTF and therefore this budget line should not be used.

⁵Contractual services: Services contracted by an organization that follow normal procurement processes. These are used to procure services that require the provision of intellectual or specialized services not provided for in work and construction contracts such as, but not limited to, maintenance, licensing, study, technical, training and consultancy services. These are governed by FAO policy MS 502 or MS 507 ruling.

⁶Trips Includes staff and non-staff travel paid by the organization which is directly related to a project.

⁷Transfers and grants to counterparts: Includes transfers to national counterparts and any other transfers to an implementing partner (for example, NGO) which is not similar to a commercial service contract as described above. Please refer to FAO policy MS 502.

⁸General operating and other direct costs: Includes all the general costs of running an office. Some examples are telecommunications, rents, financial charges and other costs that cannot be matched to other expenditure categories. In addition, the clerical work of the central administration (including that of the technical project officer) should also be included in these categories.

⁹Indirect costs of support: (No definition provided).

¹⁰Up to US\$ 25 000 can be used for pre-financing. More detailed information can be found in the guidelines

Annex 4 - Country workplan

Project name: Strengthening antimicrobial resistance control efforts in Madagascar through a "One Health" approach

Start date: August 2022 - Project end date: **JULY 2025**

	Tripartite organization and main UNEP	Implementing partner	YEAR 1												YEAR 2												
			m												mo												
			on	th	1	2	3	4	5	6	7	8	9	10	11	12	h	1	2	3	4	5	6	7	8	9	10
Output 1. Systems for generating, analysing and interpreting data on resistance and consumption/use patterns developed or strengthened																											
Activity 1.1 Monitor and evaluate, share data and learn lessons	FAO (contribution from WHO, WOA and UNEP)																										
Activity 1.2 AMU monitoring in different sectors using reliable data	WOAH - WHO (contribution from FAO and UNEP)																										
Activity 1.3 Improve AMR surveillance in all sectors using reliable data	FAO - WHO (Contribution from UNEP and WOA)																										
Activity 1.4 Strategy for antimicrobial traceability and assurance of future use	FAO, WOA, WHO (contribution from UNEP)																										
Output 2. Improved capacity for designing and																											

[illegible][illegible]

Systems for generating, analysing and interpreting data on resistance and consumption/use patterns developed or strengthened														
Activity 1.1 Monitor and evaluate, share data and learn lessons	FAO (contribution from WHO, WOA and UNEP)													
Activity 1.2 Monitor AMU in different sectors using reliable data	WOAH - WHO (contribution from FAO and UNEP)													
Activity 1.3 Improve AMR surveillance in all sectors using reliable data	FAO - WHO (Contribution from UNEP and WOAH)													
Activity 1.4 Strategy for antimicrobial traceability and assurance of future use	FAO, WOA, WHO (contribution from UNEP)													
Output 2. Improved capacity for designing and implementing AMR-related policy frameworks, investment plans and programme														
Activity 2.1 Strengthen the governance of AMR management	FAO, WOA, WHO, UNEP													
Output 3. Improved capacity to design awareness-raising, behaviour-change and educational activities/materials.														
Activity 3.1 Raise awareness of AMR and implement interventions to promote behaviour change	FAO, WOA, WHO, UNEP													
Output 4. Biosecurity and IPC systems strengthened														
Activity 4.1 Combat AMR and promote best practices	FAO - WOA - WHO (contribution from UNEP)													
Activity 4.2 Reduce the incidence of infection through sanitation, hygiene and infection prevention measures	WHO (FAO, WOA, UNEP will contribute)													

For planning purposes, it may be useful to incorporate the budget for each activity into the plan. However, in the version submitted to the Secretariat, this kind of detail is not necessary. The results should be aligned with the results matrix and the UNEP/Tripartite AMR log frame. This workplan should be aligned with the plans of the relevant organizations.

Annexes

The annexes are appended as separate attachments to the e-mail containing these guidelines.

- Annex 1 - Details of the budget template (Excel sheet)
- Annex 2 - Quadripartite results matrix

Pre-submission checklist

1. *Country proposal submission template*
2. *Log frame template (see Annex 1) (using SMART output from the methodology right down to activity level)*
3. *Risk matrix template (see Annex 2)*
4. *Overview of budget templates (see Annex 3)*
5. *Work plan template (see Annex 4)*
6. *Details of Budget Template (see Appendix 1)*
7. *Government approval letter*