



RADAAR Phase-1

A Summative Report of Key Activities, Achievements, and Lessons Learned

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Summative Report

RADAAR

Thematic Domain: Policy, Planning, and Advocacy

Background

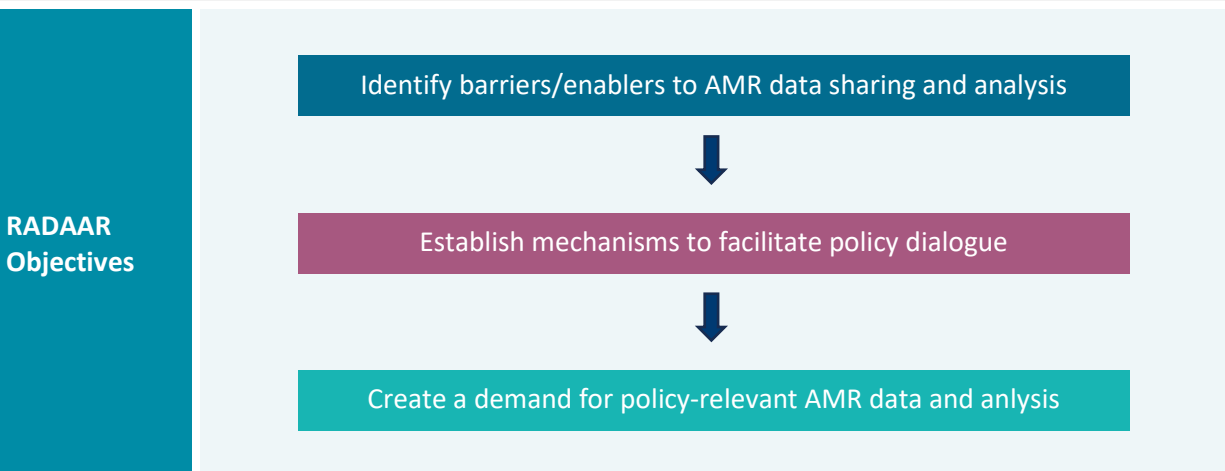
The International Vaccine Institute's 'Regional Antimicrobial resistance Data Analysis for Advocacy, Response and policy' (RADAAR) project focused on regional data-sharing and analysis to influence and facilitate evidence-based policymaking, advocacy, and response; enumerating data sources, identifying bottlenecks around data-sharing, and exploring potential pathways for its analysis and use; and providing Fleming Fund priority countries with support for planning, policy, and interventions.

The project anticipated working with data generators and policymakers to bring them together to look at what data is needed, what coordination mechanisms are most appropriate to utilise data across sectors and industries, what analyses are needed to generate the necessary information, how to interpret such data to provide quality information for policy, and what were the best mechanisms for sharing, analysis, and use of data to combat AMR.

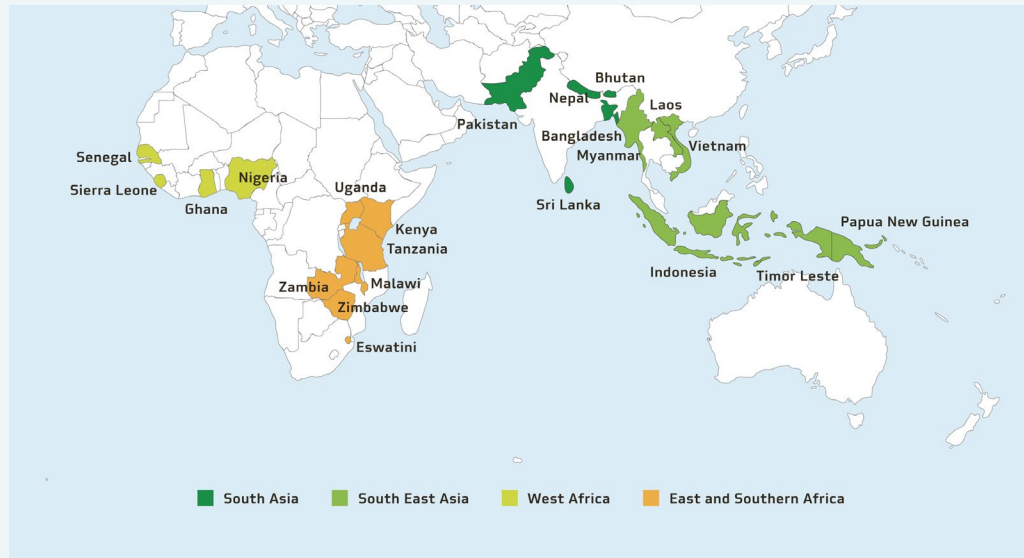
The thematic domain and remit of the RADAAR Project was 'Policy, Planning, and Advocacy'. In line with this mandate the RADAAR project focused and embarked on a series of developmental activities designed to advance an AMR policy and advocacy capacity-strengthening agenda. The RADAAR project continuously evolved and was responsive to the demands from countries and key national AMR stakeholders including through: RADAAR research, activities, and outputs (including focus group discussions [FGDs], key informant interviews [KIIs], an online survey, and regional data and policy workshops). This included a focus on translating AMR data and evidence into policy pitches and actions.

Background and Project Scope

RADAAR is the only 'policy grant' among nearly 70 Fleming Fund projects, that is fully dedicated to: 'AMR Policy, Planning, and Advocacy'



Geographical Scope



Project Approach

One Health, including Human, Animal, and Environmental health sectors
Besides antimicrobial resistance (AMR), the project will engage with the antimicrobial use (AMU) and consumption (AMC) dimensions

Project Architecture and Resources

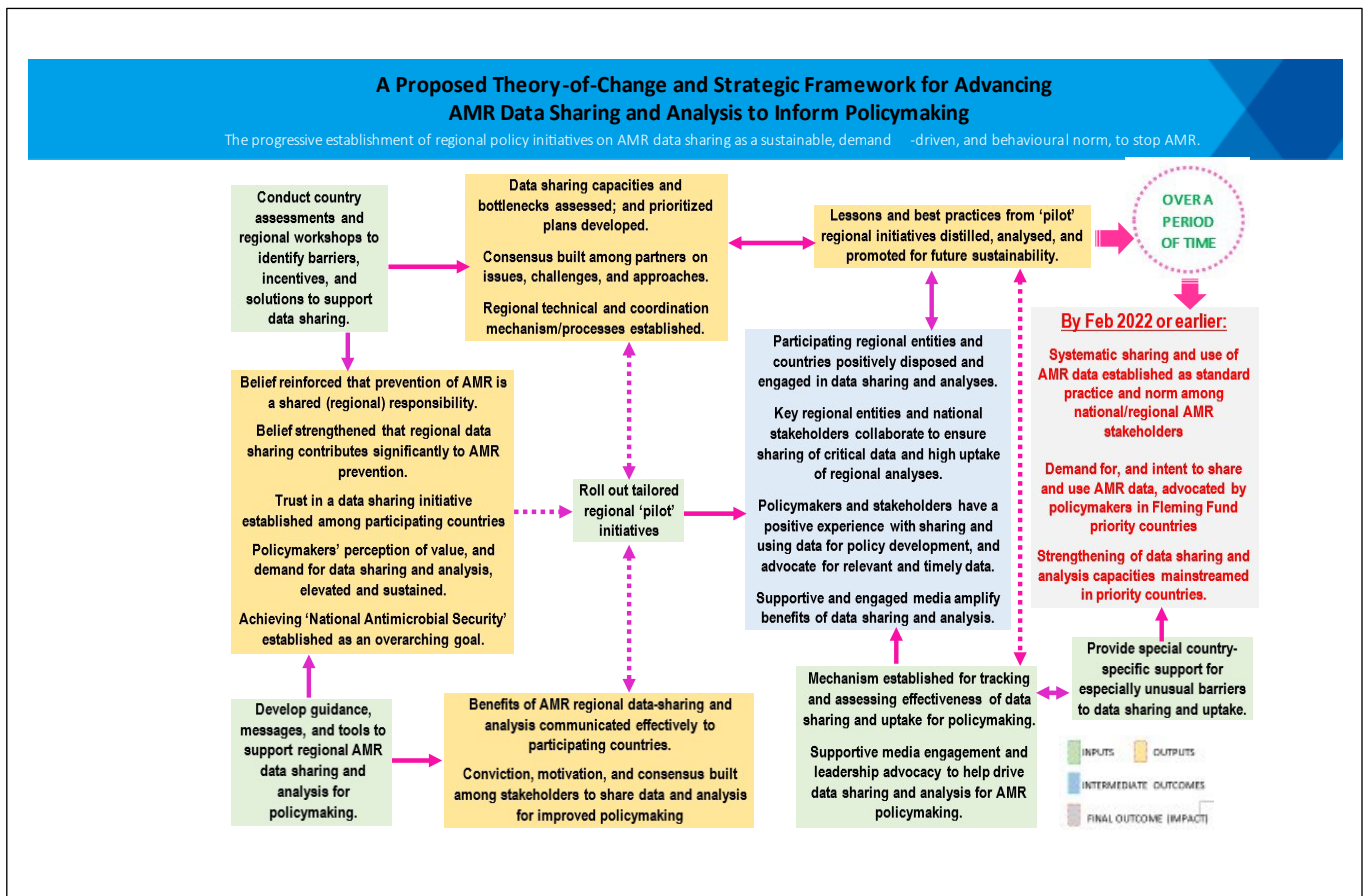
The project commenced with the formation of a Technical Working Group (TWG) to guide operational decisions throughout the project; a Scientific Advisory Group (SAG), to oversee the project and ensure high-quality scientific work; and the Project Team:

- The Technical Working Group (TWG): constituted by the leads of each consortium partner: Dr. Vittal Mogasale (International Vaccine Institute [IVI]); William MacWright (Public Health Surveillance Group [PHSG]); John Stelling (WHONET); and Dr. David Aanensen (Big Data Institute [BDI]), with three additional members from IVI, Dr. Florian Marks, Dr. Marianne Holm and Mr. Satyajit Sarkar. Its role was to provide day-to-day oversight to the project team. Dr. Mogasale was initially the principal investigator (PI), with IVI overseeing agency liaison with Mott MacDonald, and responsible for overall management of the grant.
- The Scientific Advisory Group (SAG): comprised five eminent members with strong technical/scientific credentials, policy advocacy expertise, and recognition in the regional and international AMR and 'One Health' realm. They represented Africa and Asia, as well as the Tripartite stakeholders (WHO-FAO-OIE). The key role of SAG was to advise on: (1) Best practices to approach and work with in-country and regional stakeholders; (2) Project procedures including qualitative interviews, online surveys, and regional workshops; (3) Appropriate policy-relevant data-sharing and analysis approaches including regional data analysis methodology, region-specific plan, and strategy to increase demand for regional AMR data; and, (4) Dissemination activities of project findings and recommendations. The SAG members were: Dr. Mirfin Mpundu (Head of ReAct Africa, Kenya); Dr. Pascale Ondo (African Society for Laboratory Medicine, [ASLM]); Dr Carmen Pessoa-Silva (World Health Organization [WHO] HQ); Katinka DeBalogh (Food and Agriculture

Organization [FAO] Regional Office for Asia and the Pacific, Thailand); and Dr Tikiri Priyantha (World Organization for Animal Health [WOAH/OIE]).

- The Project Team: consisted of the four institutional lead investigators, experts in the fields of policy and economics, communication and advocacy, epidemiology, and data management/statistics, together with program managers, administrative assistants and project managers.
- Following several rounds of extended discussions and email correspondence in 2020, the contractual arrangements and deliverables were agreed between IVI (lead grantee) and the sub-grantees PHSG, WHONET, and BDI, and sub-agreements signed. In 2022, IVI also established a collaborative agreement with EVIPNet/WHO for strengthening country capacities in translating AMR data/evidence into effective policies.

Figure 1. RADAAR Theory of Change (as originally conceived in Nov 2019 during the planning phase)



Project Workplan and Activities

Project activities were conducted in a stepwise and phased manner. However, due to severe travel restrictions and delays due to the COVID19 global pandemic, several no-cost extensions (NCEs) were agreed with Mott McDonald resulting in a new end-date of April 2023 (which is currently being further extended till August 2023 to accommodate transitioning into RADAAR Phase-2).

The single and most important impact of COVID19 and the international travel restrictions that followed was that the implementation of the entire RADAAR project had to be converted from in-person/in-country interventions into online/virtual activities, conducted from remote (Seoul). Indeed, throughout the project period no country visits could be conducted (except for participation in a single joint RADAAR-CAPTURA mission to Nepal and Bangladesh in 2022). These unanticipated restrictions severely constrained as well as re-shaped the project completely. Despite these challenges, RADAAR adapted to the situation and successfully responded to the challenges.

Summary of Workplan (as originally conceived, and which was subsequently substantially changed)

Activity number and Phase	Planned Tasks
4.2.1. (Phase I)	<p>Development of workplan/budget based on accepted broad concept with Mott MacDonald (MM)</p> <ul style="list-style-type: none"> • Recruitment of core consortium staff/consultants; • Recruitment of a Technical Working Group (TWG) and a Scientific Advisory Group (SAG) for technical oversight and scientific decision-making; • Terms of reference for Phase II and phase III positions • Conduct rapid desk review and generate a policy landscape report; • Develop project workplan and budget in consultation with consortium partners and Mott Macdonald; • Finalization of workplan and budget in meeting with MM.
4.2.2. (Phase II)	<p>Identify policy bottlenecks around data sharing for regional analysis, and assess which approaches to data collection and analysis would be most beneficial for policy discussions based on:</p> <ul style="list-style-type: none"> • Teleconferences with FF regional grantees, international organizations and tripartite agencies • Site visits to 7 countries and interaction with partners (3 in Africa, 4 in Asia): COVID-19 restrictions prevented this item. • Key informant interviews in 7 countries • Online survey of AMR data generators & potential policy users • Data sharing and policy bottleneck analysis
4.2.3. (Phase III)	<p>Develop regional plans to improve data sharing and analysis, respecting national ownership and addressing concerns regarding confidentiality and safeguarding of data based on Phase II lessons and</p> <ul style="list-style-type: none"> • Regional data sharing workshops (2 in Asia, 1 in Africa) • Expert consultations on data-sharing and potential regional plans • Develop regional plans to improve data sharing and analysis • Develop indicators on data use in policy for monitoring and evaluation, and track periodically

	<ul style="list-style-type: none"> • Pilot implementation of data sharing plan • Evaluation of pilot implementation • Documentation of lessons
4.2.4. (Phase III)	<p>Develop plans for identifying an optimal number of reference laboratories to obtain quality data to inform regional analysis. This could be based on more patient-focused surveillance, including identifying a minimal, informative patient data set. This will be based on Phase II learnings and the following activities:</p> <ul style="list-style-type: none"> • Identify laboratory networks within countries and regions through partner agencies • Map and list data sharing laboratories within each network • Assess quality of data collected/shared in the network • Review country-specific AMR/AMU data generation and sharing policies. • Expert consultation meetings/ calls • Develop recommendations on desired laboratory network
4.2.5. (Phase III)	<p>Develop plans to increase demand for data and promote uptake of regional policy analysis. This will be based on Phase II learnings and the following activities:</p> <ul style="list-style-type: none"> • Data analysis and visualization to create demand • Advocacy and data demand generation with UN agencies and regional bodies through consultations • Advocacy and demand generation meetings around conferences • Demand generation among policy makers through policy workshops • Development of advocacy and data demand strategy for sustainability

Activities

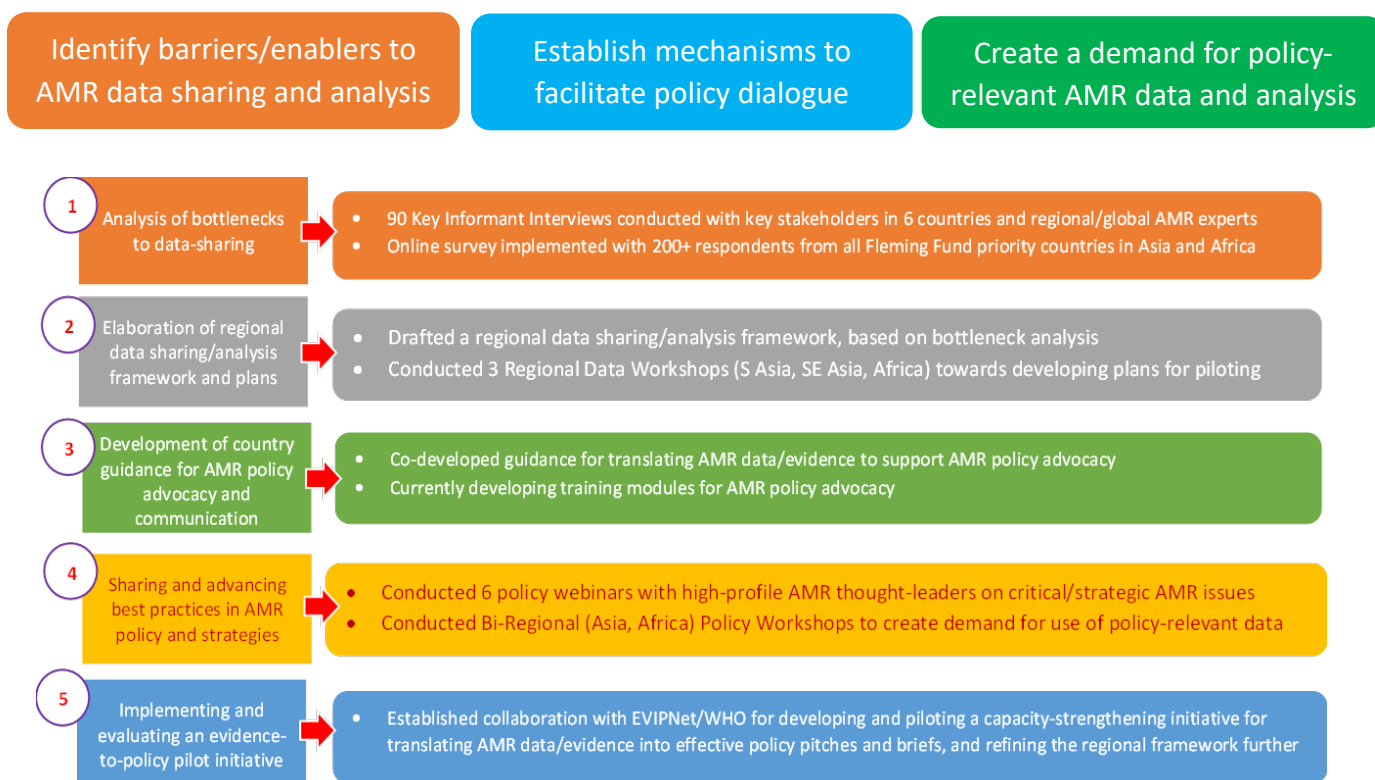
RADAAR developed capacities and guidance, and produced documents and reports around advocacy on AMR data generation and its use in policy and planning. It also produced frameworks/mechanisms/approaches to facilitate data-sharing and use, brought together partners through meetings, webinars, and workshops, and monitored data-generation and use, and policy changes. The activities aimed to have a long-term impact on data generation, sharing and its use in policy, although the impact was difficult to measure given the relatively short duration for implementation of the project.

4.2.1. Key Preparatory Activities

As a preparatory step for ‘bottleneck analysis’, the RADAAR project consortium – led by PHSG – developed an initial methods plan; developed a list of commonly used definitions of One Health components from leading international agencies to clarify use of terms for RADAAR; and conducted a literature review summarizing current global and/or regional AMR policies, identifying the strategic gaps that hinder

progress. The literature review helped identify key regional and country AMR policy stakeholders. Moreover, the consortium reached out to international organizations – including the WHO, FAO, and the WOA (formerly OIE) – and relevant non-governmental organisations (NGOs), such as ReACT – with the aim of enhancing civil society engagement to advance the AMR agenda and create a demand for data-sharing and analysis. Consultations and communications also involved Fleming Fund regional grantees and other international organizations. A framework for conducting the bottleneck analysis was developed including: indicators to be used for analysis, definitions of each indicator, what information would need to be collected to assess each indicator, and methodologies to assess each indicator.

Figure 2. Thematic Domain: Policy, Planning, and Advocacy



The project also conducted a policy landscape review to summarize existing barriers to data-sharing and list enabling factors to facilitate translation of data into policy actions. The analysis of current AMR policy identified six broad priority action items which guided RADAAR’s activities in Phase I: (1) Creating a demand for data-sharing and translation research to drive national AMR policymaking; (2) Overcoming barriers to implementation of the One Health approach; (3) Reframing the AMR response as assuring ‘National Antimicrobial Security’; (4) Prioritizing and advancing an AMR-focused social and behavioural science research agenda; (5) Reframing AMR communications and advocacy; and, (6) Scoping and exploring innovations for combatting AMR using new data technologies and methods. The policy landscape analysis was used to garner continued technical and financial support for regional/global AMR data analysis to inform policy. A key finding from the policy landscape review was the lack of robust engagement of civil society organisations (CSOs) in supporting and driving the global AMR prevention, data sharing, analysis, and policymaking agenda. The engagement of CSOs is critical, both for accelerating implementation of NAPs, as well as, ensuring sustainability through, for example, a demand for strengthening relevant national legislation and improved evidence-informed policymaking. As an initial

step and contribution towards fostering the engagement of CSOs in AMR, the project aimed to engage with the ReACT Network and its regional chapters in Asia and Africa, to explore collaborative opportunities.

4.2.2. Working with national/regional bodies to understand policy bottlenecks for data-sharing for regional analysis

The ‘bottleneck analysis’ aimed to gather information from local, national, and regional One Health AMR/C/U experts to identify: (i) barriers and facilitators to collecting, collating, and analysing quality AMR/C/U data; (ii) technical and political barriers and facilitators to sharing available data; (iii) national and regional policies and practices that support or hinder data-sharing; and (iv) potential pathways to improve data-sharing and developing stronger regional surveillance networks. A framework was used to assess the elements – with stakeholders including decision-makers – that contribute to regional data-sharing for creating a successful surveillance network: legal context; political will; trust; communication and coordination; data sharing and data access; data availability, quality, and format; database management and having a trained workforce; perceived risks of sharing data; benefits and expectations; and funding and sustainability.

To gain a better understanding of the key elements that generate bottlenecks, information was collected from AMR stakeholders in three regions – South Asia, Southeast Asia, and Africa - as part of the assessment:

1. In April 2021, RADAAR conducted an online survey with key stakeholders and country experts involved in shaping AMR prevention and control efforts, to inform the design and content of a series of regional data and policy workshops in Asia and Africa. The survey covered 10 topic areas with 24 questions for Human Health sector respondents and 25 questions for Animal Health/Agriculture sector respondents. A total of 205 respondents from 22 Fleming Fund priority countries completed the survey. RADAAR also organized three webinars for south/ southeast Asia and Africa to facilitate the completion of the survey.
2. In-depth bottleneck assessments were conducted with key stakeholders in seven countries to provide more depth and context to the information collected through the questionnaires. Countries were selected based on: varied size and demographics; One Health AMR/C/U surveillance efforts at different levels of development for comparison; political feasibility for collaboration; working relationships from Round 1 Regional Grants efforts (MAAP/CAPTURA); and with input from Fleming Fund/Mott MacDonald, regional grantees, and regional coordinators. Brief in-depth visits with regional organizations (e.g., FAO, WOA) with a key role in AMR and a unique perspective on regional policies were planned, but occurred remotely due to COVID-19 restrictions.
3. During 2020-21, RADAAR conducted 60 key informant interviews (KIIs) with stakeholders from Bangladesh, Nepal, Malawi, Timor-Leste, Uganda, and Viet Nam (online due to COVID-19 restrictions). A further 30 interviews were conducted at the regional/global level, with experts or those coordinating major initiatives, projects, and networks. The aim was to: inform the content/design for three regional data workshops in south/southeast Asia and Africa, and policy workshops for Asia and Africa; and to identify existing regional platforms for data-sharing and analysis between countries. Participants included: regional stakeholders including WHO (AFRO/SEARO/WPRO), FAO, WOA, African Union (AU)/Africa CDC, MAAP/CAPTURA, and other

established AMR networks; and national government stakeholders and ministries for human, animal, and environmental sectors, including high-level decision makers, legal agents, data managers, representatives from reference laboratories, drug regulatory authorities, pharmacy representatives, academic/research institutions, Fleming Fellows, and the private sector.

RADAAR consortium member PHSG in close consultation with IVI, developed the tools (11 guides) necessary for the assessment, trained RADAAR team members on how to implement the methods, developed report templates, a micro-plan for carrying out Phase II activities, jointly developed and contributed to refining stakeholder lists for Global/Regional Stakeholders and for Nepal/ Bangladesh/Malawi/Uganda. Subsequently, a trained RADAAR team member led each KII/FGD, with another taking notes (including utilising the audio recording subsequently as needed). The data collected was 'deidentified', kept in a secure location, and the audio subsequently deleted. Coding and analysis of the KIIs was led and completed by PHSG.

4.2.3. Develop regional plans to improve data sharing and analysis: Catalyzing the Potential of Regional Action to Combat AMR

The RADAAR initiative aimed to support the development of regional frameworks for the sharing of One Health AMR/AMU/AMC data to the regional level, towards guiding regional and national policy and planning to combat AMR. Well-coordinated surveillance strategies and information-sharing platforms are critical in generating evidence that can be used to reduce the impact of AMR at the local, national, regional and global level. AMR and AMU/C national surveillance systems have been systematically strengthened in low- and middle-income countries (LMICs) through the Fleming Fund programme and other global initiatives, however, regional-level action in enhancing collaboration, coordination, and information to mitigate AMR issues had not received the same attention. The RADAAR initiative aimed to build the information necessary to support the development of a regional framework for the sharing of One Health AMR and AMU/C data to the regional level, towards guiding regional and national policy and planning to combat AMR.

The sharing of data and information remained a challenge and is limited by barriers at different levels. To address this issue, the RADAAR assessments aimed to:

- Identify barriers across the animal and human health sectors to the sharing of One Health AMR and AMU/C data,
- Map current data pathways
- Assess current gaps and impediments where regional level involvement could add value
- Collect thoughts and ideas from national, regional and global decision-makers and implementers on the utility and expectations of a regional level data foundation.

Through the information collected, including KIIs, in-depth country assessment reports were generated for each country. PHSG also developed a Regional and Global results matrix, divided by region with the global interviews cutting across all regions. This involved pulling coded portions of interviews into the results matrix and developing regional themes in separate tabs. Regional reports for South Asia, Southeast Asia, and Africa were drafted, and which included results from the respective country KIIs, as well as the regional/global KIIs. Three regional reports – developed by PHSG – provided critical insights on data-sharing and the use of One Health data in Africa, south Asia, and southeast Asia.

The regional reports can be found here: [Africa](#) [South Asia](#) [Southeast Asia](#)



During this period several other documents were also developed by the consortium, contributing to and informing the work of RADAAR, including:

- *Accelerating policy development and implementation in LMICs through regional AMR data sharing and analysis - A rapid policy landscape analysis.* (IVI)
- *Supporting One Health policymaking across animal and human health sectors: The importance of regional data analysis and visualization to national action plans.* (BDI)
- *Executive Summary - Supporting One Health policymaking across animal and human health sectors: The importance of regional data analysis and visualization to national action plans.* (BDI)
- *Potential models of AMR data sharing platforms, methods, and agreements: Discussion and Options Paper* (BDI)
- *Data sources to support public health policy to contain antimicrobial resistance* (WHONET).

Regional Data Workshops

RADAAR organised/hosted three regional workshops on AMR data-sharing and analysis: to share findings from qualitative interviews; discuss potential interventions for addressing the identified bottlenecks; and inform the creation of a draft regional framework for AMR data-sharing and analysis. Keynote addresses came from 27 highly recognized and eminent AMR technical experts with strong international advocacy experience. Key country and regional stakeholders participated, including country stakeholders, government entities, WHO, FAO, WOAHO/OIE, academic institutions, donor agencies, Mott MacDonald, and Fleming Fund representatives. Overall, there were 525 registrants and an average of 112 participants per day.

Region	Workshop Overview
<p>South Asia</p>	<p>The first regional workshop took place from June 8th – June 10th for the South Asia region (Bangladesh, Bhutan, Nepal, Pakistan and Sri Lanka). A total of 135 participants registered for the event – of which 117 participated on Day 1, and 97 each on Days 2 and 3 – including country stakeholders, regional experts, and consortium members. The workshop included presentations from speakers on topics ranging from the genomics behind the emergence and spread of AMR, to the role of AMR data quality to support formulation of evidence-based policy/actions, to the unique challenges faced by LMICs in AMR policy-making. It was also a forum for discussion on topics related to AMR, including the inclusion</p>

	and prioritization of different types of data and approaches to effective data-sharing and analysis.
Africa	RADAAR hosted the second workshop on antimicrobial resistance (AMR) data-sharing and analysis for the region of Africa, involving Eswatini, Ghana, Kenya, Malawi, Nigeria, Senegal, Sierra Leone, Tanzania, Uganda, Zambia, and Zimbabwe, from 29th June – 1st July. A total of 245 participants registered for the event – of which 172 participated on Day 1, 129 on Day 2, and 124 on Day 3 – including country stakeholders, regional experts, and consortium members. The workshop included presentations from speakers on topics ranging from the African experience of capacity development in genomic sequencing for AMR, to the enablers and barriers to collaborative development and implementation of AMR control policy, to collecting and analyzing AMR/AMC data and lessons learned in Africa, and country perspectives. The workshop facilitated discourse on how best to improve the visibility of AMR, so that it is put on the political mandate, and highlighted the importance of building public and political awareness of the issue.
Southeast Asia	RADAAR hosted the third workshop on antimicrobial resistance (AMR) data-sharing and analysis for the region of Southeast Asia, involving Indonesia, Lao PDR, Myanmar, Papua New Guinea, Timor-Leste, and Vietnam from 13th July – 15th July. A total of 145 participants registered for the event – of which 98 participated on Day 1, 91 on Day 2, and 81 on Day 3 –including country stakeholders, regional experts, and consortium members. The workshop included presentations on topics ranging from the use of retrospective AMR data to influence policy and advocacy, to the EQASIA initiative and its work in laboratory quality assurance. The workshop facilitated discourse on how best to engage the community in tackling AMR and highlighted the need to research into the cost-effectiveness of different policy options and the mechanisms through which environmental pollution contributes to AMR.

A core input into the workshops was the draft regional framework for regional data sharing and analysis, co-developed by John Stelling (WHONET) and IVI. Findings from the KIIs and the online survey and options for a regional data foundation using One Health systems thinking developed by BDI, comprised the other major inputs to the workshop.

Further details of the Regional Data Workshops can be found through the below link:
<https://www.ivi.int/what-we-do/disease-areas/amr/radaar/dataworkshop/>

4.2.4. Develop plans for identifying an optimal number of reference laboratories to obtain quality data to inform regional analysis

The consortium collaborated with regional grantees, including MAAP/CAPTURA, to identify and list the number of laboratories per country’s national reference laboratory (NRL); provide guidance on estimating the optimal number of reference laboratories for AMR containment in a country; and review the number, distribution, representation, and quality of the laboratories participating in the national networks. The consortium also reviewed national strategies and templates for AMR surveillance which address a range

of public health objectives including ongoing detection of, and response to, emerging threats and outbreak; guidance on local, regional, and national standard treatment guidelines; public health advocacy for resistance containment interventions; and any available time-limited public health research surveys. The considerations included: the number of facilities, and their geographic and demographic representation of patient populations; laboratory test quality standards and sample volumes; and the sustainability of efforts reliant on routinely available versus non-routinely available patients, samples, and laboratory test results. Moreover, this project element also reviewed the laboratory materials, efforts, and tools developed by WHO-GLASS, FAO-ATLASS, and OIE-PVS to obtain the status required of NRLs, including guiding principles, characteristics, and quality standards and obligations of NRLs; and work conducted by Fleming Fund projects EQASIA, CAPTURA, and MAAP to obtain further information on NRLs in countries where Fleming Fund projects are executed.

The rationale for data analysis for resistance included:

- Laboratory capacity-building: reviewing testing practices (e.g., which antimicrobials), testing quality (looking for unexpected individual results, like VRSA, or combination results, like ampicillin susceptible and imipenem resistant). The volume of testing, and the ability to isolate and speciate fastidious or difficult strains, will also be taken into consideration.
- Local and national treatment guidelines: first- and second-line treatment options
- Awareness of new and emerging threats, including outbreaks: including new/emerging threats at facility, subnational, national, or regional levels.
- Benchmarking of experiences, which is helpful in identifying outliers, for example data biases due to patient populations served (university/tertiary car/urban), high antimicrobial use, poor hygiene/infection control, laboratory test quality, or other contributors. This can be used to guide investigations into contributing factors and possible interventions.

4.2.5. Develop plans to increase demand for data and promote uptake of regional policy analysis

Under the domain of ‘Policy, Planning, and Advocacy’, RADAAR organised high-profile activities and events. RADAAR participated in global/regional/national meetings, symposia, workshops, and webinars to increase visibility and to build momentum on increasing demand for data and uptake for policy formulation.

Policy Advocacy and Demand Generation

The RADAAR project is the only Fleming Fund regional project fully dedicated to the thematic domain of policy, planning, and advocacy. RADAAR undertook a comprehensive literature review of AMR policy advocacy to identify gaps in policy; developed tools, guidance, and capacity-building workshops on AMR policy advocacy; and organised events. RADAAR also co-developed the ‘Advocacy to Drive AMR Policy: A Country Guide’ with country, regional, and global AMR stakeholders.

(i) Policy webinars: ‘The Gamechangers’ (2021)

RADAAR organised a series of six policy webinars featuring AMR experts and thought-leaders – ‘The Gamechangers’ – the overarching theme of which was to explore innovative ways to leverage policy-

relevant data to drive AMR policy. The purpose of the webinars was to catalyze fresh, more strategic, and innovative thinking among national, regional, and global stakeholders in the AMR response.

Each speaker and webinar attempted to answer five key questions in relation to AMR, through a multiplicity of disciplinary lenses: 1) Where are we today? 2) Where do we need to go? 3) How do we get there? 4) What works? 5) How much is it going to cost?

Over the six webinars there was an average attendance of 38 countries (with a high of 43; and low of 27) and 139 participants (high of 277; low of 51) per webinar. The number of registrants was significantly higher. Participants included governments, NGOs, private sector, academia, and the media. An evaluation survey of each webinar consistently drew a highly positive response from participants

The Gamechangers: RADAAR AMR Policy Webinar Series (Complete Program)	
September 16, 5:00-6:00pm KST Critical Reflections: The Global AMR Response	<ul style="list-style-type: none"> • Speaker: Lord Jim O’Neill, Member of House of Lords of the United Kingdom • Discussant/Moderator: Dr. Catrin Moore, Global Research on Antimicrobial Resistance (GRAM) Project
September 23, 5:00-6:30pm KST AMR Surveillance: Past, Present, and the Future	<ul style="list-style-type: none"> • Speaker-1: Dr. John Stelling, Brigham and Women’s Hospital • Speaker-2: Dr. David Aanensen, Big Data Institute, Oxford University • Discussant/Moderator: Dr. Pascale Ondo, African Society of Laboratory Medicine (ASLM)
October 8, 5:00-6:30 pm KST AMR: Linking the ‘technical’ and the ‘social’	<ul style="list-style-type: none"> • Speaker-1: Professor Olivier Rubin, DSSB, Roskilde University • Speaker-2: Professor Clare Chandler, LSHTM • Discussant/Moderator: Dr. Will Parks, UNICEF
October 15, 5:00-6:30 pm KST The Public and the Private Sectors: Points of intersection, points of departure	<ul style="list-style-type: none"> • Speaker-1: Bruce Altevogt, Pfizer • Speaker-2: Dr. Catrin Moore, Global Research on Antimicrobial Resistance (GRAM) Project • Discussant/Moderator: Dr. Gemma Buckland Merrett, Wellcome Trust
October 22, 5:00-6:30 pm KST One Health and AMR Surveillance: Approaches and Options	<ul style="list-style-type: none"> • Speaker-1: Dr. Frank Møller Aarestrup, Technical University of Denmark • Speaker-2: Dr. Thomas van Boeckel, ETH Zurich • Discussant/Moderator: Professor Sabiha Essack, University of KwaZulu-Natal
October 28, 9:00-10:30pm KST Disruptive Methodologies: Artificial Intelligence, Machine Learning, and AMR	<ul style="list-style-type: none"> • Speaker-1: Dr. Jonathan Stokes, MacMaster University • Speaker-2: Dr. Brian Hie, Stanford University • Discussant/Moderator: Dr. John Stelling, Brigham and Women’s Hospital



Webinar 1. Critical Reflections: The Global AMR Response

“We need to make sure that AMR is part of the discussion when we talk about pandemics. As we all call it the ‘silent pandemic’, it needs to be louder, it needs to have a voice here.” (Dr Catrin Moore).

Dr Catrin Moore (University of Oxford) introduced: (i) **Lord Jim O’Neill** (Pan-European Commission on Health and Sustainable Development, Chair of the 2014-16 AMR Review, and formerly Goldman Sachs) who addressed antibiotic demand-reducing aspects and supply side issues, as well as focusing on key areas of the challenge in addressing AMR.

“Without finance being directly in the heart of thinking about health all the time, I think the simple reality is we are not going to be in a position to stop global health threats causing the problems that we are witnessing around the world through this pandemic” (Lord Jim O’Neill).

- Full recording of Webinar 1 is available [here](#)

Webinar 2. AMR Surveillance: Past, Present and Future

“One of the good things in the last 20 years is the growing recognition and involvement of national health authorities in data collection and in data analysis and in data use.... there’s a much more holistic sense of bringing together all of the different sectors on the data collection side, but also on the data use side: the media, educators, researchers, industry, patient advocacy groups.” (Dr John Stelling).

Dr Pascal Ondo (African Society of Laboratory Medicine) introduced: (i) **Dr John Stelling** (Co-Director, WHO Collaborating Center for Surveillance of AMR, Brigham and Women’s Hospital in Boston, USA) whose work supports the public health infrastructure for laboratory services, including enhancing routine

surveillance; and (ii) **Dr David Aanensen** (Big Data Institute, University of Oxford, and Director of the Centre for Genomic Pathogen Surveillance) whose work focuses on data flow and use of genome sequencing for surveillance of microbial pathogens.

“I think our major focus should be on enabling local data generators to have access to the tools and own those tools and interpretation to be able to then leverage feeding into these bigger broader initiatives. It has to be bottom-up and top-down.” (Dr David Aanensen)

- Full recording of Webinar 2 is available [here](#)

Webinar 3. Linking the ‘technical’ and the ‘social’

“It’s very, very miniscule what has been produced of social sciences with regards to the AMR threat. And it’s a bigger problem because AMR is so obviously a problem that needs social science inputs, both on the global level, and the meso level and the local level.” (Professor Olivier Ruben)

Dr Will Parks (UNICEF) introduced: (i) **Professor Olivier Ruben** (Professor of Global Studies at Roskilde University, Denmark), who provided a perspective of the health and social sciences, and the tension between the two paradigms, and the importance of synergies in relation to addressing AMR; and (ii) **Professor Claire Chandler** (Co-Director of the Antimicrobial Resistance Centre, London School of Hygiene and Tropical Medicine) who described her research on antibiotic use, and the importance of social research for AMR.

“One thing that I would say, that from our analysis, it promotes this question of are we wanting to protect people or to protect medicines....a warning I would put out is that let’s be careful not to shift our entire kind of effort towards just saving the medicines. The reasons we’re saving medicines is still for the same end, which is to protect people and to provide the best quality care.” (Prof. Clare Chandler)

- Full recording of Webinar 3 is available [here](#)

Webinar 4. The Public and the Private sectors: Points of intersection, points of departure

“Our main goals were to build a comprehensive up-to-date, global synthesis of the data available, to really understand what was causing AMR, the selected bacteria and the resistance that we saw: to then use that data to understand the prevalence of resistance over time and space, so to perform the geospatial mapping”. (Dr Catrin Moore)

Dr Gemma Buckland-Merrett (Research lead for drug resistant infections, Wellcome Trust) introduced: **Dr Catrin Moore** (then Research Group Leader, Oxford Global Burden of Disease Project) who described the Global Research on Antimicrobial Resistance (GRAM) which produced health metrics and geospatial maps relating to the global disease burden of AMR; and (ii) **Dr Bruce Altevogt** (VP/Head of External Medical Engagement in Pfizer’s hospital business unit) who described Pfizer’s involvement in addressing AMR, and the role of public-private partnerships, including the ATLAS surveillance platform.

“...a scalable surveillance platform that’s supported by a robust public private partnership, and this is absolutely critical to expand AMR resistance data, strengthen public health capacity and most importantly, improve patient outcomes in low- and middle-income countries.” (Dr Bruce Altevogt)

- Full recording of Webinar 4 is available [here](#)

Webinar 5. One Health and AMR Surveillance: Approaches and Options

“When it comes to AMR, there’s also very often a case of resistant genes and resistant bacteria in all kinds of reservoirs in healthy humans that’s not become recognized by this narrow-minded focus on clinical infections at hospitals. There is all the evolution that has taken place in wildlife, in livestock transmissions, into healthy populations, and we have very limited understanding of what’s actually happening there. And all of these things are important if we really want to tackle and control the problem of AMR.” (Professor Frank Møller Aarestrup)

Professor Sabiha Essack (Senior Implementation Research Advisor to ICARS) introduced: (i) **Professor Frank Møller Aarestrup** (Technical University of Denmark/Head of Division at the National Food Institute) whose research targets the association between the use of antimicrobial agents to farm animals and the emergence and spread of AMR in humans; and (ii) **Professor Thomas Van Boeckel** (Spatial epidemiologist at ETH Zurich) whose research includes developing maps of AMR and explores economic incentives to reduce AMU in animals.

- Full recording of Webinar 5 is available [here](#)

Webinar 6. Disruptive methodologies: Artificial Intelligence, Machine Learning, and AMR

What we need are new methods to discover novel antibiotics more rapidly and ideally less expensively than we have been, in order to outrun the global dissemination of resistance, and that’s what I hope ML [machine learning] has the capacity to help us with.” (Dr Jon Stokes)

Dr John Stelling (WHONet) introduced: **Dr Jon Stokes** (Asst. Professor, Department of Biochemistry and Biomedical Sciences, McMaster University, Canada) whose work focuses on understanding the relationships between antibiotic structure, bacterial cell physiology, and the extracellular environment; and (ii) **Dr Brian Hie** (Stanford Science Fellow, Stanford University School of Medicine) who develops algorithms and machine learning methods, with a focus on biological application.

- Full recording of the webinar is available [here](#)

From the webinars, RADAAR developed numerous products to be used for training and advocacy, including: Full-length videos of all webinars for training; shorter summary videos of all webinars for selective use in advocacy; Full (edited/cleaned) transcripts of all speakers for training and strategy development; Summary transcripts for selective use in advocacy; and Presentations of all speakers.

(ii) Regional Policy Workshop (2022)

RADAAR hosted a Bi-regional (Asia and Africa) AMR Policy Workshop from 12-14th April 2022, with the aim of contributing to strengthening capacities for evidence-informed AMR policy-making to support National Action Plan (NAP) implementation; and create/increase demand for regional AMR data, and to advocate for AMR data uptake in regional policymaking. AMR and policy experts provided insights, experiences, and current thinking on policy-relevant issues impacting AMR policymaking. International organizations, Tripartite agencies, academic/research institutions, representatives from Mott

MacDonald/Fleming Fund, and NGOs participated, as well as key national-level stakeholders in the field of AMR.

A total of 16 speakers and 6 moderators/discussants, all internationally recognized AMR experts, provided the core content for the discussions on AMR policy. In total, 559 people from 60 different countries registered for the workshop, with participation of 273, 211, and 172 for each of the three days respectively. Fleming Fund national stakeholders made up a majority of participants, with 108 Fleming Fellows participating, with an average of around 50 per day. In terms of sectors, the government sector had the most 210 registrants, and an average of 89 participants. The human health was the most represented sector, followed by animal health, agriculture/food, and the environment sector.

Day-1

Session-1. Re-thinking the drivers of AMR emergence and spread

Professor David Aanensen (Big Data Institute, Oxford University) introduced the Keynote Address by **Professor Peter Collignon**, (Australian National University). A Q&A followed.

Session-2. One Health 'Integrated Analysis': Challenges and Options for LMICs

Dr Olafur Valsson (World Organisation for Animal Health) moderated the session, featuring a presentation by **Dr Gerard Moulin** (ANSES, France) on exemplars of One Health integrated analysis. The session was followed by a Q&A.

Session-3. Brief Informational Sessions on TISSA/QWARS

Session 3 was hosted by **Dr Holy Akwar** (IVI RADAAR project) and featured brief informational sessions of data systems: the Tripartite Integrated System for Surveillance on AMR/AMU (TISSA) by **Dr Arno Muller** (World Health Organization); and **Qualifying the Workforce for AMR Surveillance in Africa and Asia** (QWARS) by **Anafi Mataka** (ASLM). A Q&As with both presenters followed.

Day-2

Session-1. Panel Discussion: Policy Implications/recommendations from GRAM, CAPTURA, and MAAP

Professor Sabiha Essack (KwaZulu-Natal University/Co-Chair WHO STAG-AMR) moderated the session, focused on policy implications and recommendations from AMR-related projects. **Dr Catrin Moore** (St George's, University of London) presented 'Findings from the Global Research on Antimicrobial Resistance (GRAM)' project. **Dr Marianne Holm** (IVI CAPTURA) presented 'Findings from the Capturing Data on Antimicrobial Resistance Patterns and Trends in Use in Regions of Asia (CAPTURA)' project. **Edwin Shumba** (ASLM) presented 'Findings from the Mapping Antimicrobial Resistance and Antimicrobial Use Partnership (MAAP)' project. A Plenary/Q&A followed.

Session-2. Reflections: Mobilizing Domestic Resources for AMR Interventions

Tom Pilcher (Fleming Fund, DHSC, United Kingdom) moderated the session, reflecting on perspectives and experiences of resource mobilization. **Dr Nithima Sumpradit** (Ministry of Public Health, Thailand) provided a country perspective. **Dr Mirfin Mpundu** (ReAct Africa) gave the international independent network perspective. **Dr Yewande Alimi** (African Union/Centres for Disease Control) described a regional perspective. **Patrick Mubangizi** (Mott Macdonald E&S Africa Region) provided a Fund Manager perspective. A Plenary/Q&As followed.

Day-3

Session-1. More than Just About Money: A Journey from Patient to Policymaker

Dr Katinka de Balogh (FAO-HQ) introduced **Dr Nichola Naylor** (London School of Hygiene and Tropical Medicine) who presented on 'Economic concepts and analyses to support effective AMR policymaking'. A Plenary/Q&A followed.

Session-2. Strengthening Country Capacities to Translate AMR Data and Evidence into Effective Policies

Satyajit Sarkar (IVI RADAAR) introduced the session and presented/'soft-launched' the RADAAR (IVI) and EVIPNet (WHO) collaborative initiative. Mr Sarkar introduced **Tanja Kuchenmüller** (WHO EVIPNet), **Professor Fadi El-Jardali** (American University in Beirut), and **Dr Polonca Truden Dobrin** and **Dr Maja Šubelj** (National Institute of Public Health Slovenia). An introduction to the EVIPNet approach, methodology, and country engagement activities, for strengthening country capacities for translating AMR evidence-to-policy followed.

The workshop resulted in participants enhancing understanding and knowledge on approaches, analyses, methodologies towards strengthening capacities for evidence-informed AMR policymaking; improved understanding of current thinking on policy options for AMR containment; and increased knowledge of and a demand for capacity-strengthening in translating AMR surveillance data and evidence into effective policy pitches.

A post-workshop evaluation revealed that:

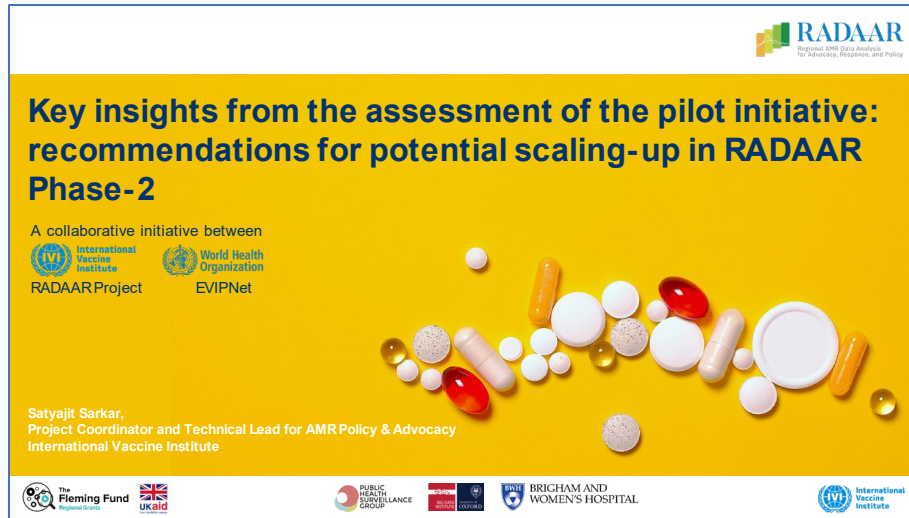
- 85% of participants evaluated each day of the workshop as "excellent" (rising to 90% for Day 1).
- 70% or more of those who attended each day stated that the workshop was "very helpful" in improving understanding of policy options for AMR containment (rising to 87% for Day 3).
- All participants (100%) agreed that they would attend similar workshops/webinars organized by the RADAAR project in the future.
- In terms of evaluation of each session, 'Strengthening Country Capacities to Translate AMR data and evidence into effective policies' received the highest rating, followed by 'Rethinking the drivers of AMR emergence and spread'.

For further details of the Regional Policy Workshop:

<https://www.ivi.int/what-we-do/disease-areas/amr/radaar/policy-workshop/>

(iii) RADAAR Symposium 2023: Translating AMR Data and Evidence into Effective Policies

The RADAAR project organised a symposium on 7 March 2023, highlighting the implementation of the evidence-informed policy (EVIP) pilot initiative and other RADAAR activities.



Part 1. Implementation of the evidence-informed policy (EVIP) pilot initiative

The first part of the symposium focused on the evidence-informed policy (EVIP) initiative with WHO’s EVIPNet including: presentations from the four pilot countries – Bangladesh, Malawi, Nepal, and Uganda – on their ‘Evidence briefs for policy’ (EBP). **Tanja Kuchenmüller** (Lead, Evidence to Policy and Impact unit, WHO HQ) and **Professor Fadi El-Jardali** (Health Policy and Systems, American University of Beirut [AUB], and Founder/Director of the Knowledge to Policy (K2P) Center at AUB) provided an overview of the initiative.

The four participating pilot countries presented their work undertaken during the initiative, leading up to the final Evidence Briefs for Policy (EBPs):

1. Bangladesh: **Dr Shahriar Rizvi** (Medical Microbiologist, Evaluator of Communicable Disease Control, National focal point of AMR containment).
 2. Malawi: **Tapiwa Elizabeth Moyo** (Pharmacist, Malawi Pharmacy and Medicines Regulatory Authority, and Consultant for the RADAAR pilot project).
 3. Nepal: **Dr Madan Kumar Upadhyaya** (Chief, Quality Standards and Regulation Division, Ministry of Health and Population).
 4. Uganda: **Dr Michael Kimaanga** (Senior Veterinary Inspector, Department of Animal Health, Ministry of Agriculture, Animal Industry and Fisheries).
- Links to the EBPs: [Bangladesh EBP](#) | [Malawi EBP](#) | [Nepal EBP](#) | [Uganda EBP](#)

Part 2. Lessons and insights from a collaborative pilot initiative between RADAAR and EVIPNet

During January-February 2023, the RADAAR project conducted an assessment of the pilot initiative amongst training participants from Bangladesh, Malawi, Nepal, and Uganda, together with regional/global stakeholders. The assessment comprised: an Online Survey with 24 respondents; four country Focus Group Discussions (FGDs); and 12 Key Informant Interviews (KIIs) with 15 country participants and regional/global experts. The key insights from the assessment and recommendations for potential scaling-

up with additional Fleming Fund priority countries in RADAAR Phase-2' were presented at the symposium, followed by a moderated discussion/Q&A.

Part 3. RADAAR Policy Advocacy Country Guide release

In the third part of the symposium, RADAAR's 'Advocacy to Drive AMR Policy: A Country Guide' (hereafter the 'Guide') was presented/released, with details of plans to roll-out as a series of workshops in 2023-2024. During 2022-23, following demand from Fleming Fund priority countries, RADAAR co-developed the 'Guide' with country, regional, and global AMR stakeholders. It provides tools for countries to raise AMR on the policy agenda, engage and influence policy-makers, and inform and support the implementation of AMR National Action Plans and policy initiatives.

Part 4. The next steps

The symposium concluded with the next steps for RADAAR presented by **Satyajit Sarkar** (Principal Investigator, and RADAAR Policy & Advocacy Lead), including planning for a potential Phase II of the Fleming Fund grant.

(iv) World AMR Awareness Week (WAAW) 2022

RADAAR participated in the 'AMRelay' as part of WAAW 2022, on 24 November. The 24-hour online event featured 15-minute presentations by global stakeholders on AMR issues and discussions, with the aim of enhancing global awareness, highlighting the work of stakeholders, and increasing engagement and collaboration. AMRelay is an initiative by the AMR Insights Ambassador Network.

RADAAR provided a presentation featuring a compilation of videos, stills, graphics, highlighting its role in policy, planning, and advocacy to combat AMR. The presentation comprised sections on:

- AMR surveillance and data
- Evidence to policy action
- AMR policy and advocacy
- Linking the technical with the social
- Vaccines, and AMR

For further details of the WAAW 2022, including the RADAAR video:

<https://www.ivi.int/what-we-do/disease-areas/amr/radaar/waaw-2022/>

The RADAAR archived materials – videos, presentations, reports, etc. – from all major RADAAR events are available as capacity-building resources for various networks and communities of practice, with numerous requests coming for posting on various websites, for example, The Global Health Network (University of Oxford) and the ReACT Network websites. The recordings and transcripts were also used to distil key insights, lessons, and expert opinions, towards developing advocacy messages and write-ups, and shared through the RADAAR webpages.

Training & Capacity-Building

The RADAAR Project provides training and capacity building to enhance AMR-related policy initiatives for low- and middle-income countries (LMICs) in Africa and Asia. In 2022, in collaboration with the World Health Organization's (WHO) Evidence-Informed Policy Network (EVIPNet), RADAAR is providing opportunities for LMICs to strengthen capacities in translating AMR data and evidence into effective policies. A series of online training webinars initially involved Bangladesh, Malawi, Nepal, and Uganda.

(i) Evidence-Informed Policymaking (EVIP): Pilot initiative

The RADAAR Project of the International Vaccine Institute and the World Health Organization's (WHO) Evidence-Informed Policy Network (EVIPNet) jointly developed and piloted an accelerated approach to strengthening national/regional capacities to translate AMR data and evidence into effective policies. This collaborative engagement and initiative built on the identified needs, research insights, and demands expressed by the 22 Fleming Fund priority countries. Technical assistance was provided by the Knowledge to Policy (K2P) Center (WHO Collaborating Center for Evidence-Informed Policy and Practice) based at the American University of Beirut. The pilot countries – Bangladesh, Malawi, Nepal, and Uganda – participated in 15 training sessions through eight virtual webinars – including presentations, case studies, and group discussions/exercises – during August-November 2022, and developed country-/context-specific 'Evidence Briefs for Policy'.

Pilot Countries: Asia (Bangladesh, Nepal), Africa (Malawi, Uganda)

Key Objectives:

- Enhance technical skills and capacities for AMR knowledge translation
- Develop Evidence Briefs for Policy (EBP) to increase demand by policymakers for policy-relevant AMR data and evidence



Main Outputs: 4 country-specific 'formative' Evidence Briefs for Policy (EBP)

A rapid qualitative assessment of the pilot initiative was conducted to distil insights and lessons for informing development of a 'scale-up' model to take to additional FF priority countries in RADAAR Phase-2.

Figure 3. Curriculum and Schedule of RADAAR – EVIPNet Training Webinars for the pilot countries

RADAAR-EVIPNet Training Webinars (2023): Translating AMR Data/Evidence to Policy	
Webinar 1: 11 AUG	Overview of Policy-making Process and Role of Evidence in Health Policy-making
Webinar 2: 18 AUG	Mapping of Policy/Political Context and Key Stakeholders
Webinar 3: 25 AUG	Harnessing Best Available Research Evidence for EBPs: What, Where and How?
Webinar 4: 08 SEPT	Framing the Problem for EBPs: A Science and a Craft
Webinar 5: 15 SEPT	Framing Viable Policy Options to Address a Problem: A Step by Step Guide
Webinar 6: 27 OCT	Closing the loop: From Policy Options to Implementation Considerations
Webinar 7: 10 NOV	Post-EBP uptake phase: Policy Dialogues, Visualization & Role of Media
Webinar 8: 29 NOV	Simulation Meeting: Presentation of Formative EBP

The pilot initiative strengthened capacities within the participating countries to translate relevant AMR data and evidence into effective policies and policy actions, including to:

1. Develop, adapt, and pilot an efficient and effective capacity-building methodology and tools for strengthening national and regional capacities for translating AMR data and evidence into compelling policy briefs and policy advocacy strategies.
2. Generate demand from policy/decision-makers for sharing and analyzing policy-relevant data and evidence to inform AMR national and regional policymaking.

The pilot initiative was condensed to a period of five months, with all webinars taking place virtually, and limited time for pre-training orientation and engagement. However, the initiative was also utilised as a means of developing a model and ‘scale-up’ plan based on lessons learned, with the aim of making the process and methodology available to all 22 Fleming Fund priority countries.

“Participants comprehend more [through in-person’ training], are more motivated, and it enables rapport between them and facilitators: pre-requisites for success (FGDs/KIIs, Malawi, Uganda, Nepal)

The model envisages a ‘hybrid’ format comprising: virtual webinars for the overview/introductory sessions; offline for group work in country teams; and in-person meetings for the more complex, analytical sessions, such as ‘Framing the problem’, ‘Framing policy options’, and ‘Policy options to implementation considerations’. The duration of training is expected to be 6-8 months, with the virtual webinars approximately every 1-2 weeks, and in-person meetings every 2-3 weeks.

“It is vital to ensure the engagement – and participation – of senior policymakers, and make them aware of the EVIP process“. (KII, Bangladesh)

An upscaled model would also include sufficient time for:

- **In-country pre-training orientation:** an inception meeting focused on training objectives; and RADAAR country visits to mobilise participants and engage senior-level officials, whose involvement is crucial for translation of evidence to policy.
- **Situation analysis:** to assess the knowledge of participants, country gaps, needs, available resources, and to inform the training.
- **Core Team Lead identification:** including selection of members, and clarification of roles and responsibilities.

“This was the best approach used to date: presentation was elaborative which helps participants at different knowledge levels to understand better” (KII, Bangladesh).

Country participants considered:

- The training to be informative, insightful, and motivating
- The facilitation and ‘behind the scenes’ support from RADAAR/EVIPNet to be very effective
- The EVIP process likely to encourage systematic and regular evidence-informed policy and increase demand for EVIP
- The content and sessions to be relevant, extensive, and addressing current skills gaps

Country participants also highlighted that they anticipate being able to utilize the new EVIP skills (75% in the post-training Online Survey), for example in:

- Initiating Policy Dialogues
- Converting research to policy: to make an effective case to policymakers
- Framing problem statements to address health sector gaps
- Drafting One Health policy briefs
- Advocating for enhanced NAP implementation
- Conducting further research on AMR

Through the EVIP training, the four pilot countries developed their Evidence Brief for Policy (EBP). All participants are agreed that the EBP must be purposefully disseminated as widely as possible, including to policy stakeholders. Country teams are committed to using their EBPs in the following ways:

- Dissemination: publication in different formats for different audiences (policy-makers, health sector, patients, media, general public)
- Presentation: at high-level meetings/fora, Technical Committees, Working Groups
- As a learning resource in academia
- For awareness programmes aligned with the National Action Plan
- As an advocacy tool for highlighting AMR as a health priority, and for securing funding and mobilizing resources

“The need for knowledge transition is glaring. The current structures have not performed well. There should be a unique committee that is purposely assigned such a role, that should help in improving the knowledge and the knowledge translation” (KII, Uganda)

A key aspect of the EVIP process is to ‘formalise’ the utilisation of data, research, and evidence through the establishment of ‘Knowledge Synthesis and Translation Platforms (KSTPs)’. Countries are in favour of such platforms, with the caveats that: a situation analysis first be conducted to understand the context, funding, role, structure, existing structures, etc., together with stakeholder mapping to identify current/potential stakeholders, and needs-driven strategies developed, including regarding resources, staff, and sustainability. It is thought likely that external support would be needed to establish such platforms. There is also interest among countries and regional/global stakeholders for the establishment of regional KSTPs, but this would only be once established at the country level.

(ii) Policy Advocacy Guidance

RADAAR feedback from Fleming Fund priority countries during RADAAR events and activities identified the limited guidance available specifically on policy advocacy to address AMR. Where there are guidance tools, they rarely focus specifically on LMICs. The RADAAR project co-developed ‘Advocacy to Drive AMR Policy: A Country Guide’ with country, regional, and global AMR stakeholders, including:

- 7 focus group discussions with country stakeholders, Fleming Fund Policy and Professional Fellows, and media practitioners, from Africa and Asia
- 65 national FGD participants from 23 countries (including 20 Fleming Fund countries).
- 2 Technical Consultations with 22 regional/global experts from 11 countries/4 continents.
- 5 written country submissions

The FGDs/Technical Consultations had a gender balance among participants of 50-50 percent.

The Guide provides a practical, step-by-step approach, adaptable to the country context, to: raise AMR on the policy agenda; engage and influence policy-makers; and inform and support the introduction of new – and changes to/enforcement of – policies, and implementation of AMR National Action Plans (NAPs). The Guide is aimed at – primarily national and subnational – AMR stakeholders who can influence policymakers to adopt and/or develop policies to address AMR, including:

- Policy stakeholders (ministry staff, civil servants, MPs, political appointees, Fleming Fund Policy Fellows); and technical stakeholders (health/livestock/veterinary experts, Fleming Fund Professional Fellows, technical working group members) – with access to policymakers – can utilize the Guide to present research, evidence, policy briefs to policymakers through formal structures and informal meetings.
- Patient groups, professional associations, academics can use the Guide to highlight the AMR threat, using access to policymakers via formal structures and/or professional networks.
- NGOs/CSOs/FBOs can utilize the Guide in building coalitions of stakeholders and gathering support for addressing AMR.
- The private sector (pharma companies, private hospitals, private veterinarians, livestock industry, farmers) can use the Guide to explore potential public-private-partnerships.
- The media can use the Guide to enhance public awareness and influence opinion, and influence and encourage policymakers.

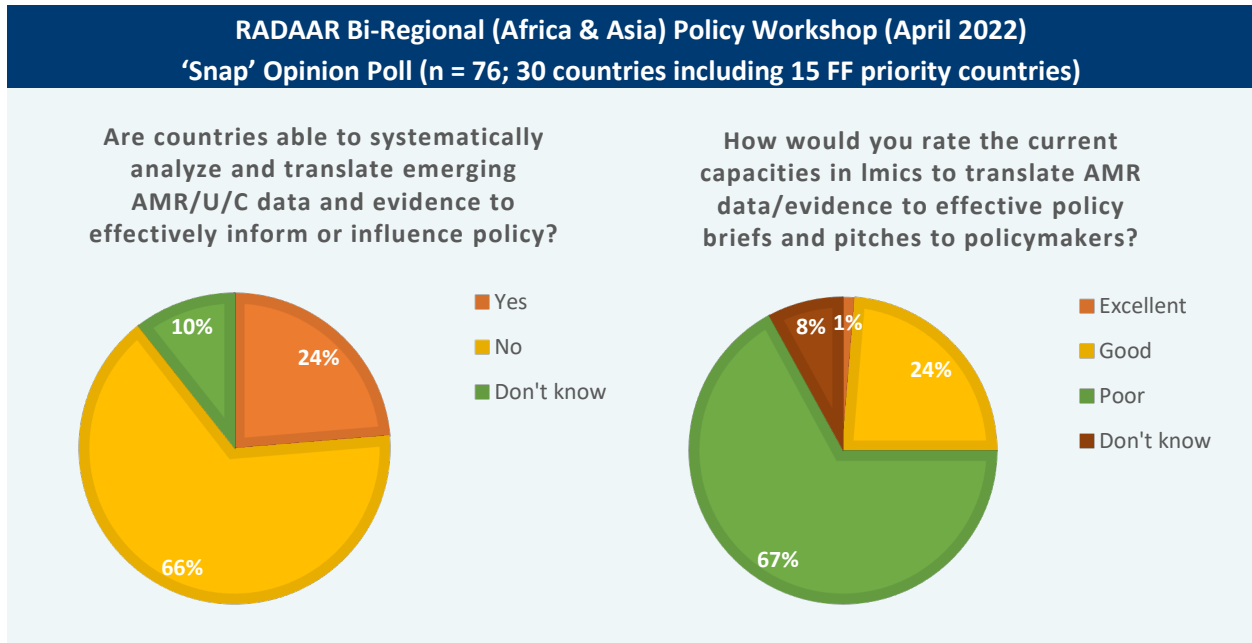
Figure 4. Policy Advocacy Country Guide sections



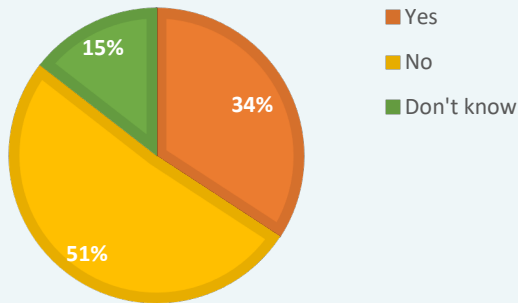
Basis for RADAAR’s evolution over time:

Responding to country needs as expressed in stakeholder Opinion Polls in RADAAR events.

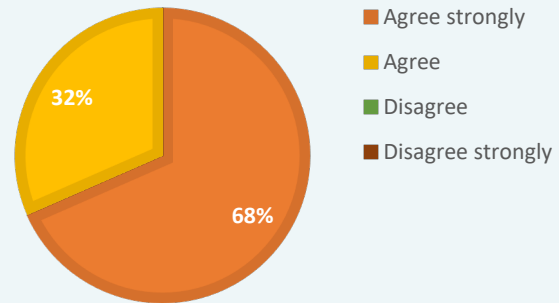
The below set of graphics provides a snapshot of the opinions of country stakeholders across various RADAAR events, and which formed the basis for its evolution in response to the expressed needs.



Is there a dedicated or ad hoc team at the national level specifically tasked with analyzing and translating AMR/U/C data and evidence into policy briefs for decision-makers?



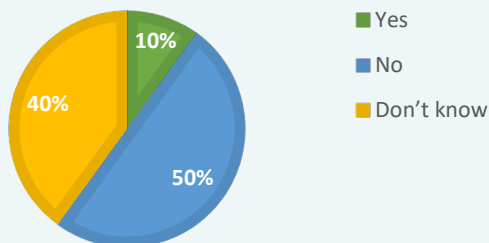
Do you think Imics would benefit significantly from participating in a capacity strengthening initiative for translating AMR/U/C data and evidence into effective policies?



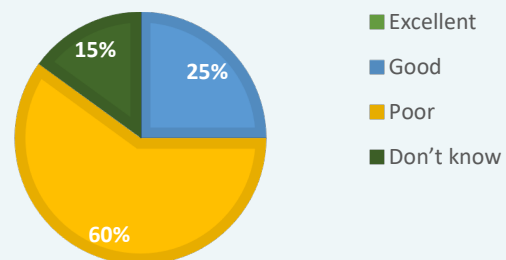
- Dedicated or ad hoc team specifically tasked with analyzing and translating AMR/U/C data and evidence into policy briefs?
51% - No
- Are countries able to systematically analyze and translate emerging AMR/U/C data and evidence to effectively inform or influence policy?
66% - No
- Rating of current country capacities to **translate AMR data/evidence into effective policy briefs** and pitches to policymakers?
67% - Poor
- Would countries benefit from participating in capacity strengthening initiative for translating AMR data/evidence into effective policies?
100% - Agreed or Agreed strongly;
68% - Agreed strongly

RADAAR Policy/Advocacy session at the CAPTURA Regional Workshop (June 2022)
'Snap' Opinion Poll (n = 40)

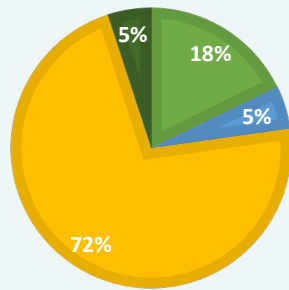
Is there a dedicated or ad hoc team specifically tasked with regularly conducting economic analyses of various AMR policy options put before policy/decision-makers for consideration?



How would you rate the current capacities in your country to conduct economic analyses of various AMR policy issues and options put before policy/decision-makers?

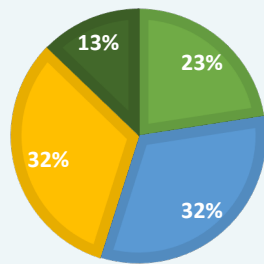


For mobilizing funding for naps, should countries demand dedicated budget lines for AMR, or pitch AMR to secure funds from within sectoral budgets e.G., Health system strengthening, WASH, livestock development etc.?



- Dedicated funding stream for AMR
- Include and secure funding for AMR from within broader sectoral budgets
- Both of the above
- Neither of the above

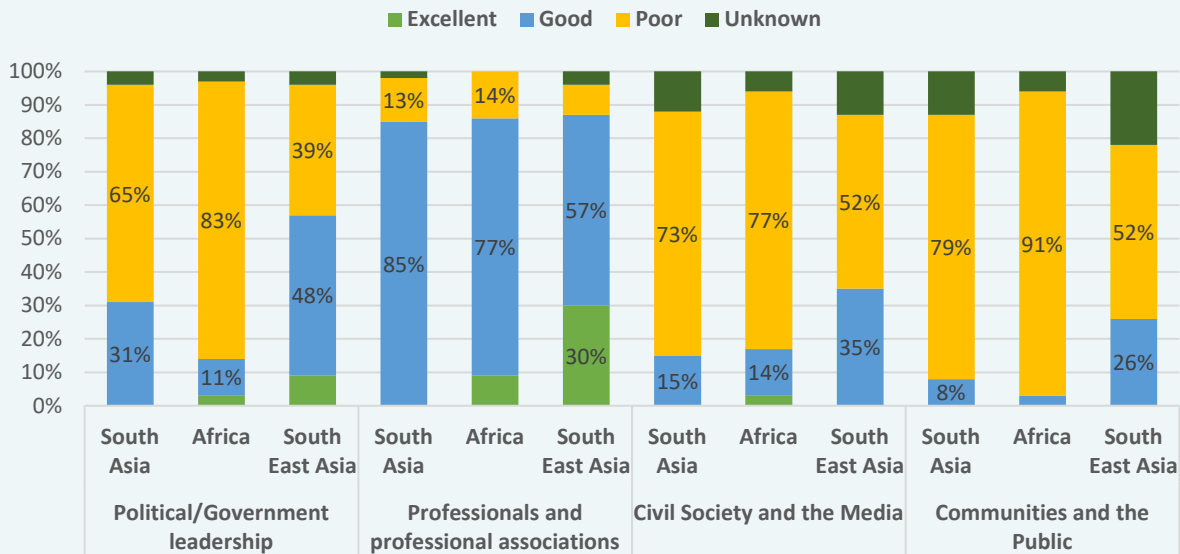
Given the current age and stage of NAP implementation and AMR containment efforts in your country, which of the below of streams of work you think should be given the highest priority for the next 2 years?



- Strengthening AMR/U/C surveillance
- Strengthening lab capacities especially for quality assurance
- Strengthening greater Civil Society engagement and Public Awareness of AMR
- Strengthening capacities for building the economic and investment case for AMR

RADAAR Regional Data Workshops (S Asia, Afria, SE Asia); May - July 2021

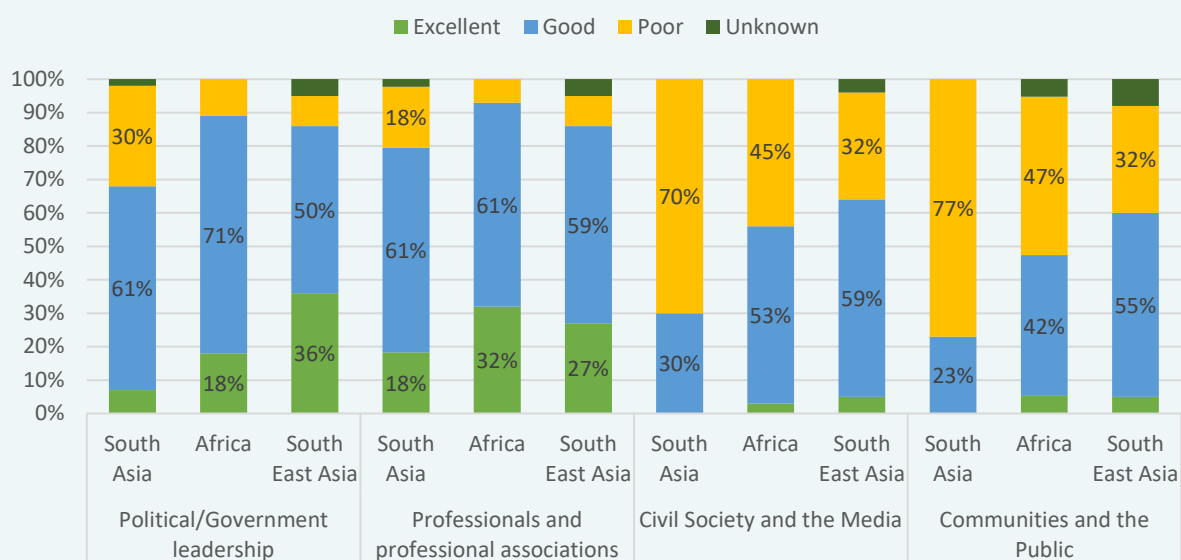
Poll 1. In your opinion, what is the level of awareness and understanding of AMR among the following categories of stakeholders? (South Asia (n=48), Africa (n=35), Southeast Asia (n=23))



Key Findings

1. Overwhelming majority of respondents in **all 3 regions** felt that awareness and understanding of AMR among **‘Civil Society & Media’** and **‘Communities and the Public’** is **poor**.
2. Overwhelming majority of respondents in **S Asia and Africa** felt that AMR awareness and understanding among **‘Political/Government Leadership’** was **poor**.
3. Majority of respondents in **all 3 regions** felt that AMR awareness and understanding among **‘Professionals and Professional Associations’** was **good**.

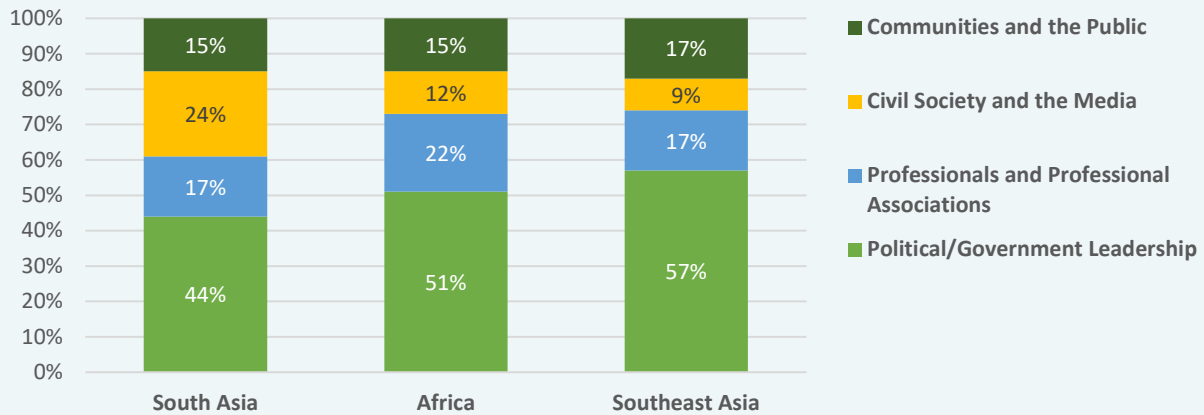
Poll 2. In your opinion, what is the level of YOUR (organization’s) engagement with the following categories of stakeholders? (South Asia (n=44), Africa (n=38), Southeast Asia (n=22))



Key Findings

1. Majority of respondents in **South Asia region** felt that their level of engagement with **‘Civil Society & Media’** and **‘Communities and the Public’** was **poor**.
2. Overwhelming majority of respondents in **all 3 regions** felt that their level of engagement with **‘Political/Government Leadership’** was **good**.
(However, as per Poll-1, this good engagement does not translate well into levels of awareness and understanding among them)
3. Majority of respondents in **all 3 regions** felt that their levels of engagement with **‘Professionals and Professional Associations’** was **good**. (Comfort zone?)

Poll 3. In your opinion, to build a robust “whole-of-government” and a “whole-of-society” response to AMR in the next ONE YEAR, which category of stakeholders should you focus on most? (South Asia (n=41), Africa (n=41), Southeast Asia (n=23))



Key Findings

1. To build a **robust “whole-of-society”** and **“whole-of-government”** response, majority of respondents in **all 3 regions** felt that focus should be on **‘Political/Government Leadership’** for the next one year. (Comfort zone?)
2. A relatively **very low proportion** of respondents felt that focus should be either on **‘Communities and the Public’**, **‘Civil Society and the Media’**, or **‘Professionals and Professional Associations’**.
3. The above appears to be indicative of a **general reluctance** to engage with communities, publics, and civil society; and goes contrary to building a genuine **‘whole-of-society’** movement.

Tripartite AMR Country Self-assessment Survey (TrACCS) (2022)

Q 2.12 Is the country using relevant antimicrobial resistance surveillance data to inform operational decision making and amend policies?

HUMAN HEALTH	2022		
	YES	NO	NO REPLY
Global (n = 166)	61%	37%	1%
LMICs (n = 113)	54%	45%	1%
FF Priority Countries (n = 21)	57%	43%	0%

ANIMAL HEALTH (Terrestrial)	2022		
	YES	NO	NO REPLY
Global (n = 166)	39%	60%	1%
LMICs (n = 113)	27%	72%	1%
FF Priority Countries (n = 21)	38%	62%	0%

* Low- and middle-income countries (LMICs): countries classified as low/lower middle/upper middle-income country according to World Bank (<https://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html>)
Data reference: Global Database for the Tripartite Antimicrobial Resistance (AMR) Country Self-assessment Survey (TrACCS) (www.amrcountryprogress.org)

Tripartite AMR Country Self-assessment Survey (TrACCS) (2022)

Q 2.11 Is the country using relevant antimicrobial consumption/use data to inform operational decision making and amend policies?

HUMAN HEALTH	2022		
	YES	NO	NO REPLY
Global (n = 166)	52%	47%	1%
LMICs (n = 113)	43%	56%	1%
FF Priority Countries (n = 21)	52%	48%	0%

ANIMAL HEALTH (Terrestrial)	2022		
	YES	NO	NO REPLY
Global (n = 166)	47%	52%	1%
LMICs (n = 113)	36%	63%	1%
FF Priority Countries (n = 21)	48%	52%	0%

* Low- and middle-income countries (LMICs): countries classified as low/lower middle/upper middle-income country according to World Bank (<https://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html>)
Data reference: Global Database for the Tripartite Antimicrobial Resistance (AMR) Country Self-assessment Survey (TrACCS) (www.amrcountryprogress.org)

A RADAAR Conceptual Formulation – ‘National Antimicrobial Security’

A conceptual re-framing by RADAAR of the AMR problem and response

Acknowledging and Foregrounding
the ‘Access versus Excess’ dilemma facing policymakers in LMICs

A Proposition

ESTABLISH:

1. **Attaining and Sustaining ‘National Antimicrobial Security’** as the overarching **Strategic Goal** of **National Action Plans (NAPs)**
2. Re-configure NAPs as a **Progressive Pathway** to achieving **‘National Antimicrobial Security’**, with a robust **Theory of Change** and **time-bound numerical targets**.

‘National Antimicrobial Security’ is to be understood here as antimicrobial ‘self-reliance’

A conceptual re-framing: *Attaining and Sustaining ‘National Antimicrobial Security’*

Working Definition

Every country **retains the continued ability** to treat infectious **diseases of the highest burden** with **effective and safe antimicrobials** in an **affordable and equitable manner** by **preventing the emergence and spread** of AMR, and thereby **reducing the impact** of infectious disease on the **human, animal, environmental, and economic health** of the country.

Starting when?
By when?
Till when?

Which diseases or pathogens have become, or are becoming, resistant to the antimicrobials currently available and being used in the country?

Which infectious diseases have the highest burden and economic impact on the country?

Which antimicrobials have become, or are in imminent danger, of becoming ineffective in the country due to resistance or sub-standard quality?

Access to which important antimicrobials is being denied due to costs or availability?

What impacts can and need to be reduced, by how much, and by when?

What are the antimicrobial consumption and usage levels and patterns (including professional and social behaviors and practices) that are driving the emergence and spread of AMR?

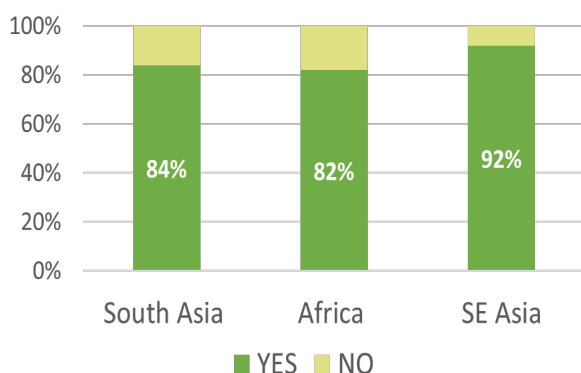
Do the benefits outweigh the costs?
Which sector needs the highest investments?
Investments in which sector will bring the maximum and quickest benefits? Are the required investments affordable?

Opinion Polls: RADAAR Regional Data Workshops (S Asia, Africa, SE Asia); May – July 2021

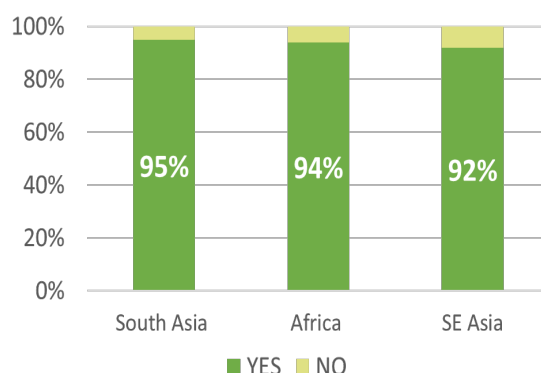
Poll 4.1 and 4.2: Re-Framing the AMR issue and responses as Achieving and Sustaining “National Antimicrobial Security”

A re-conceptualization by the RADAAR project

Do you think that the concept of achieving “National Antimicrobial Security” will resonate strongly with Political/Government/Policy Leadership?



Would you like to participate in further developing the concept of achieving “National Antimicrobial Security”?



South Asia (n=44), Africa (n=34), SE Asia (n=24)

The overwhelming majority of more than 100 stakeholders/experts fully engaged with AMR felt that re-framing the AMR issue and response as *Achieving and Sustaining National Antimicrobial Security* would be tremendously useful.

A further conceptual re-framing of the AMR problem and response by RADAAR

Acknowledging and Foregrounding

the ‘Access versus Excess’ dilemma facing policymakers in LMICs and to avoid negative connotations of “nationalism” and “security” as opined by some scholars and experts in the notion of *National Antimicrobial Security*

A REVISED Proposition

Higher-Level Mantra: ‘Antimicrobials: Ensuring Access without the Excess’

(Should be the permanent theme for all of WAAW in our opinion)

ESTABLISH:

1. **Retaining and Sustaining the Efficacy of Current Antimicrobials** as the overarching Strategic Goal of National Action Plans (NAPs)
2. Re-configure NAPs as a **Progressive Pathway to Retaining and Sustaining the Efficacy of Current Antimicrobials**, with a robust Theory of Change and time-bound numerical targets.



RADAAR Achievements: In Summary

1. RADAAR remains unique. It is the **only grant** fully dedicated to “**Policy, Planning, and Advocacy**”. It has also retained a unique identity and reputation for **advancing creative and provocative thinking** through its content and activities.
2. RADAAR is filling an identified gap, through a niche role i.e., **strengthening country capacities to synthesize and translate AMR data/evidence to support effective policymaking**.
3. RADAAR has also remained **continuously** responsive to country demands and needs and has striven towards a work ethos of “**co-development**” and “**co-production**” with stakeholders, in the design of content and initiatives.
4. RADAAR’s activities have **built strong trust, credibility, and visibility** among AMR stakeholders of all Fleming Fund priority countries, as well as among numerous regional/global AMR experts and potential donors.
5. Strong strategic links have been built with over **100 individual AMR experts and institutions** at national, regional, and global levels including with the Tripartite (FAO-OIE-WHO) agencies.
6. Evaluation/feedback from participants in **all** RADAAR activities/events have **consistently reflected a high level of satisfaction**.
7. Strong interest from Fleming Fund to extend/retain RADAAR as **the** ‘policy grant’ in ‘Phase-2’.
8. **Expectations** from country stakeholders **are also high** regarding the scope and originality of **RADAAR Phase-2** activities.

RADAAR: Challenges and Lessons Learned

1. RADAAR used a One Health lens to define content of its work, **but** strategically kept the actual work strictly agnostic (ref HH, AH). This approach paid off, and to a large extent there was equal participation from the Human and Animal Health sectors
2. RADAAR remained **continuously** responsive to country demands and needs, with ‘**co-development**’ and ‘**co-production**’ (with various national stakeholders) as an overall work ethos.
3. Due to lack of on-the-ground presence/engagement and the sudden onset of Covid19, RADAAR had to call upon and rely on CAPTURA, MAAP, and the Tripartite agencies to facilitate e-introductions to develop a contact base. A lot of time was lost in the process.
4. Furthermore, due to Covid restrictions, all project activities and engagement work had to be converted to fully online activities. This was done successfully in large measure.
5. RADAAR strongly appreciated the cost and logistical efficiencies of online interventions. Now need to identify and balance online/remote interventions with the resource- and time-intensive in-person country engagement.
6. Close engagement with FFCGs and country, regional, and global stakeholders/experts and institutions built. But relatively less-than-optimal engagement to fully leverage the potential of **joint-interventions** with FFCGs.
7. The Fleming Fellows are a rich resource, and a significant number strongly participated and engaged in RADAAR activities.
8. Level/depth of engagement with **government** counterparts not very well defined or leveraged.

9. Countries are in strong/acute **need of a comprehensive approach/package for capacity-strengthening** to improve policymaking. Requires generation/collation/analysis of policy-relevant surveillance, economic, and socio-behavioural data and evidence.
10. Current consortium partners – BDI, PHSG, BWH (WHONET) contributed substantively to RADAAR at various times. But going forward, **a new set of more relevant partners and collaborators will likely be needed** (focusing on the social sciences).
11. Value-add of RADAAR Scientific Advisory Group (SAG) not optimally leveraged for guidance.
12. Strong opportunity exists for leveraging other ongoing IVI projects/collaborations in Asia and Africa, as well as exploring opportunities through the IVI European Regional Office (Stockholm).
13. Going forward, RADAAR team needs to be expanded to include specialists in: policy analysis/development, socio-behavioural analysis, socio-economics, and capacity-development.
14. Without the enormous support and flexibility of MM/FF, these challenges would have been difficult to overcome.

RADAAR Next Steps: Transitioning from Phase-1 to Phase-2

RADAAR Phase-2 TORs and Objectives:

- **Improve** AMR data and evidence analysis, sharing, and use in policy, across the One Health sectors.
- **Establish mechanisms** to facilitate policy dialogue around AMR.
- **Create demand** for policy-relevant AMR data and analysis.

Proposed activities being scoped/developed/planned:

A. AMR knowledge translation capacity-building

- Support countries to develop capacity for translating AMR data/evidence into effective policymaking through **scale-up and rollout of the RADAAR/EVIPNet initiative** for developing Evidence Briefs for Policy (EBPs).
- Facilitate establishment of **national AMR Knowledge Synthesis and Translation Platforms (KSTPs) in countries and a centralized AMR Knowledge Synthesis and Translation ‘incubator’ (KSTi) at IVI** to provide technical support.
- Develop and roll out an initiative for country stakeholders to gain a critical understanding of the **socio-economic and socio-behavioural dimensions** of AMR and its implications for policy implementation.

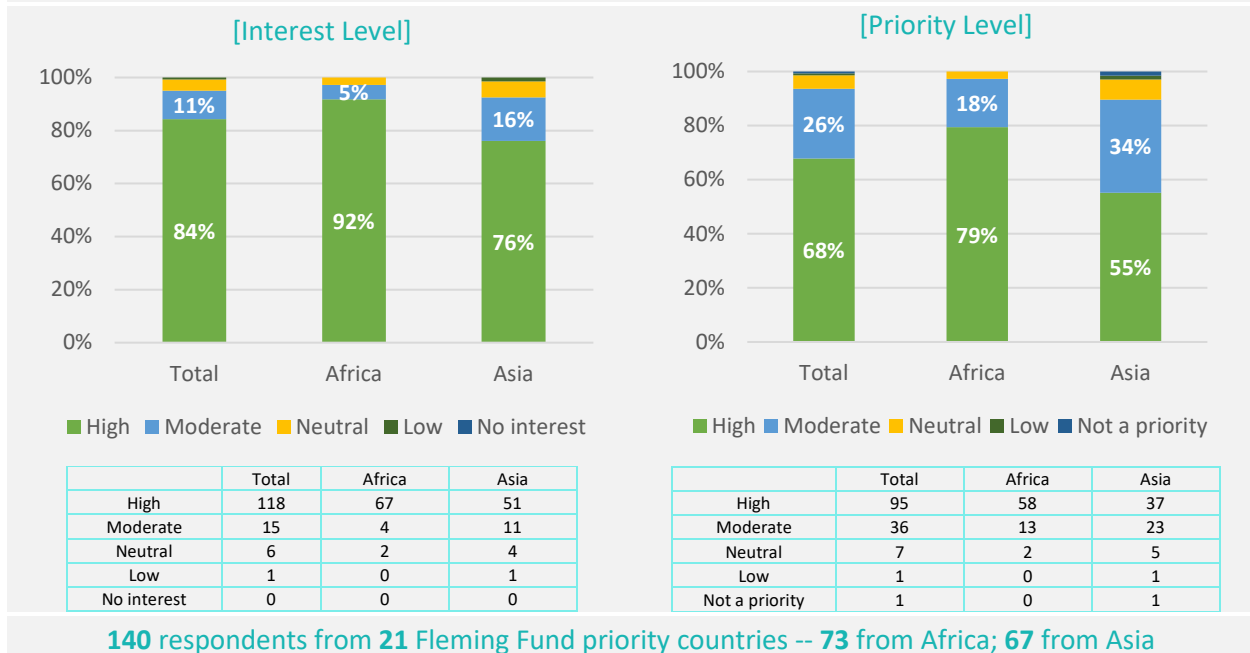
B. Increase demand for data and promote uptake of policy analysis:

- Roll out **Policy Advocacy Guide training workshops**.
- Support countries in AMR policy advocacy through **media engagement/advocacy initiatives**.

Examples of indicative data on just two (out of the multiple) workstreams from an opinion poll/survey conducted during the ideation stage for RADAAR Phase-2, suggests high levels of interests and priority among Fleming Fund countries activities proposed for Phase-2.

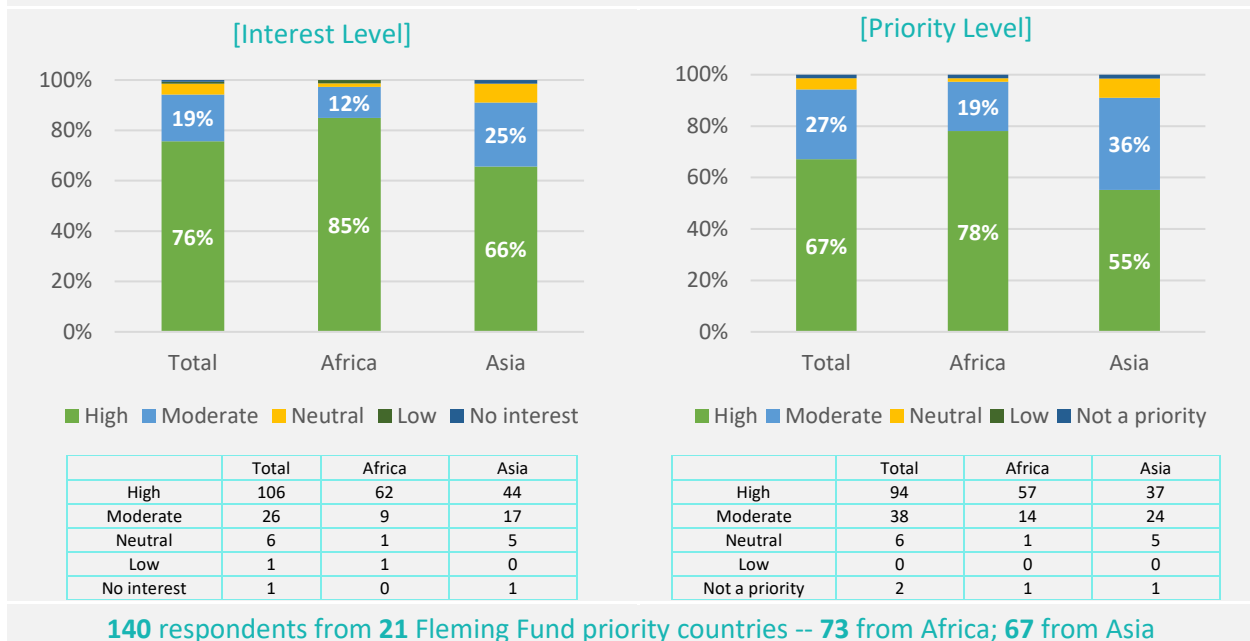
RADAAR Phase-2 Stakeholder Opinion Poll: Question/Workstream 1

How interested would you or the AMR stakeholders in your country be in participating in the RADAAR-EVIPNet capacity-building initiative for synthesizing and translating AMR data/evidence for evidence-informed policymaking to support NAP development and implementation?



RADAAR Opinion Poll: Question/Workstream 2

How interested would you or the AMR stakeholders in your country be in participating in a series of training workshops for making effective use of the new RADAAR AMR Policy Advocacy Country Guide to support effective policy advocacy interventions?





RADAAAR

Regional AMR Data Analysis
for Advocacy, Response, and Policy