National Action Plan development support tools

Sample Checklist

This checklist was developed to be used by multidisciplinary teams in countries to assist with the development of their national action plan (NAP) on AMR or assist with reviewing and updating existing national action plans.

Existing National Action Plan

**If there is no National Action Plan please SKIP Questions 1-4 and go directly to Question 5

1. There is already a national action plan (NAP) on AMR	⊠= Y
1.1. The plan is based on a national strategy on AMR.	DoneIn progress
	O Not done
1.2. The plan is officially approved by the government and published with open access.	O Done
	In progress
	O Not done
1.3. A dedicated budget is allocated for implementing the activities in the plan.	O Done
	In progress
	O Not done
1.4. The plan is aligned to a national health plan and other human, animal, plant and	O Done
environmental health strategies and food safety strategies e.g. infection prevention and control, patient safety, environmental health, animal health and	In progress
welfare,plant production, regulation of use of antimicrobial agents	O Not done
1.5. The plan is updated regularly.	O Done
e.g. within at least 5 years	In progress
	O Not done
1.6. A national AMR progress report on implementation of the NAP is published regularly	O Done
with open access. e.g. within at least 5 years	In progress
e.g. within at least 5 years	O Not done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will)	
Canaral comments	
General comments:	

2. The national action plan reflects the principles outlined in the global action plan. **If there is no National Action Plan please SKIP Questions 1-4 and go directly to Question 5				
2.1. Whole-of-society engagement including a "one health" approach: all sectors in addition to human health (e.g. animal health, plants, food, environment, economic development, education) should be engaged in the preparation and implementation of the action plan.	DoneIn progressNot done			
2.2. Prevention first Prevention of infection can be cost-effective and implemented in all settings and sectors, even where resources are limited.	DoneIn progressNot done			
2.3. Access Both equitable access to and appropriate use of existing and new antimicrobial agents are required.	DoneIn progressNot done			
2.4. Sustainability Long-term technical and financial investment is needed for implementation of the national plan.	O DoneO In progressO Not done			
2.5. Incremental targets The plan will be implemented in a stepwise manner to meet both local needs and global priorities	O Done O In progress O Not done			
2.6. Meets intergovernmental standards where relevant e.g. Codex, OIE Code	O Done O In progress O Not done			
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:				

3. The national action plan addresses the five strategic objectives of the global action plan	 ✓=Y
3.1. Strategic objective 1 Improve awareness and understanding of AMR through effective communication, education and training.	DoneIn progressNot done
3.2. Strategic objective 2 Strengthen the knowledge and evidence base through surveillance and research.	DoneIn progressNot done
3.3. Strategic objective 3 Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures.	DoneIn progressNot done
3.4. Strategic objective 4 Optimize the use of antimicrobial agents in human, animal and plant health.	O Done O In progress O Not done
3.5. Strategic objective 5 Develop the economic case for sustainable investment, taking into account the needs of all countries, and increase investment in new medicines, diagnostic tools, vaccines and other interventions.	DoneIn progressNot done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

4. The national action plan includes key components of a comprehensive plan.	 ✓= Y
4.1. Strategic (core) plan Explains and specifies goals, objectives and strategic interventions that match the situation analysis and linked to the global action plan strategic objectives.	O Done O In progress O Not done
4.2. Operational plan (including technical assistance planning) Provides detailed information on each activity and milestone for the coming 1 or 2 years of the period covered by the plan	O Done O In progress O Not done
4.3. Monitoring and evaluation plan Refers to each operational objective and each strategic intervention defined in the core plan and includes indicators to assess achievement against a baseline and data collection method	O Done O In progress O Not done
4.4. Budget plan Establishes the costs of each activity in each year of the plan and identifies both funding and funding gaps for each year and for the overall period covered by the plan	O Done O In progress O Not done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

Governance and multisectoral "One Health" coordination

5. There is national coordination on activities in the country among AMR focal points, with defined roles and responsibilities, including to:	 ✓= Y
5.1. Facilitate formation of a national multisectoral coordinating group (NMCG)	DoneIn progressNot done
5.2. Facilitate and coordinate development of the national AMR action plan through the NMCG.	O DoneO In progressO Not done
5.3. Facilitate and oversee implementation, monitoring and evaluation of the AMR action plan through the NMCG.	DoneIn progressNot done
5.4. Ensure regular data collection and information-sharing among all relevant sectors and stakeholders by facilitating effective communication and coordination between the members of the NMCG and with international partners	DoneIn progressNot done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

6. A national multisectoral coordinating group (NMCG) is established.	 ✓=Y
6.1. The NMCG has strong political support. ideally, created by regulation and overseen by the prime minister's office or equivalent to ensure inter-Ministry cooperation	O DoneO In progressO Not done
6.2. The NMCG has authority to act. Sufficient authority is assigned to enable NMCG recommendations and plans to be implemented.	O Done O In progress O Not done
6.3. The NMCG is accountable to the government.	O Done O In progress O Not done
6.4. The NMCG has dedicated funds.	O Done O In progress O Not done
6.5. The NMCG has a secretariat with dedicated personnel and funds for administrative costs.	O Done O In progress O Not done
6.6. The NMCG is supported by technical experts including human and animal health, plant, food, and environmental expertise.	O Done O In progress O Not done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

7. The national multisectoral coordinating group (NMCG) ensures ownership of activities in multiple sectors and considers the perspectives of the following bodies and institutes at national and subnational levels ¹ (please adapt this list to your country's situation)	
 Ministries e.g. those responsible for human health, animal health, plant production, food safety, education, commerce 	
Regulatory authorities e.g. for medicines, agricultural products	
Public agencies e.g. hospital authorities, epidemiology units, surveillance units, veterinary services, veterinary statutory bodies	
Laboratories e.g. human health, animal health, plant health, food, water, sewage, environment etc. e.g. public, private, academic	
Universities, academic, and research institutions	
Private sector e.g. animal production and food processing industries, private hospitals, private veterinary associations, farmers associations, pharmaceutical industry, health insurance	
Civil society e.g. patient groups, sectoral professional bodies, medical associations	
• Others	
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

This is a non-exhaustive generic list that needs to be adapted to countries situations;. The listed institutes or their equivalents could be included when the tool is adapted in a specific country. Other institutes could be added as necessary to ensure that all key sectors and functions are represented.

8. Technical working groups are created as needed. Members may represent the following areas ² (please adapt this list to your country's situation).	⊻= Y
Human health	
Animal health, welfare, and production including fisheries	
Food safety and security, including food production and processing	
Plants and agriculture	
Environment, including water and sewage	
Technical disciplines e.g. Infectious diseases, pharmacy, IPC, epidemiology,	
• Others	
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

This is a non-exhaustive generic list; the specialities listed and their equivalents need to be adapted to each country's situation. Other specialities and technical areas could be added to ensure that all key sectors are represented and expertise is available.

9. Guidance, tools, data and case studies are available to form a basis for preparation of a national action plan on AMR.	 ✓= Y
9.1. Stakeholder mapping and analysis	DoneIn progressNot done
9.2. Review of existing tools and projects	O DoneO In progressO Not done
9.3. Situational analyses e.g. Drivers of AMR in the country, availability of antimicrobial use data	DoneIn progressNot done
9.4. Gap analysis and needs assessment	O DoneO In progressO Not done
9.5. Determining strategic priorities, objectives, interventions, activities	O Done O In progress O Not done
9.6. Drafting key documents	O Done O In progress O Not done
9.7. Validation of key documents	O Done O In progress O Not done
9.8. Implementation, monitoring and evaluation	O Done O In progress O Not done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

GAP Strategic Objective 1. Improving awareness and understanding of antimicrobial resistance through effective communication, education and training

10. Activities to increase national awareness of AMR are planned, including:	⊠= Y
10.1. Public communication programmes targeting audiences in human health practice	DoneIn progressNot done
10.2. Public communication programmes targeting audiences in animal health practice	DoneIn progressNot done
10.3. Public communication programmes targeting audiences in plant production and crops	DoneIn progressNot done
10.4. Public communication programmes targeting audiences along the food chain	DoneIn progressNot done
10.5. Public communication programmes targeting audiences in the environmental sector	O DoneO In progressO Not done
10.6. Country participates in an annual world or regional AMR awareness campaign	DoneIn progressNot done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

11. AMR and related topics are core (mandatory) components of education, training, and development						
		Human health	Animal health	Plant production	Food chain	Environment
11.1.	AMR and related topics	O Done	O Done	O Done	O Done	O Done
	included in	In progress	In progress	In progress	O In progress	O In progress
	undergraduate curricula	O Not done	O Not done	O Not done	O Not done	O Not done
11.2.	AMR and related topics	O Done	O Done	O Done	O Done	O Done
	included in continuing	In progress	In progress	In progress	O In progress	O In progress
	education programmes	O Not done	O Not done	O Not done	O Not done	O Not done
11.3.	AMR and related topics	O Done	O Done	O Done	O Done	O Done
	included in quality	O In progress	In progress	In progress	In progress	O In progress
	assurance programmes?	O Not done	O Not done	O Not done	O Not done	O Not done
11.4.	AMR and related topics	O Done	O Done	O Done	O Done	O Done
	included in	O In progress	In progress	In progress	In progress	O In progress
	education/training provided outside	O Not done	O Not done	O Not done	O Not done	O Not done
	formal academic					
	settings					
	nd challenges (e.g. lack of fu	unds, lack of huma	n resources, insuf	ficient political wil	i)	

12. Education and information on AMR provided to the general public.	 ✓= Y
12.1. Include antimicrobial use and resistance in school curricula	O Done
	In progress
	O Not done
12.2. Provide accurate, relevant information on AMR to public	O Done
	In progress
	O Not done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will)	
General comments:	

13. AI	MR is recognized as a national priority.	 ✓=Y
13.1.	Use effective mechanisms to ensure inter-ministerial collaboration and commitment	DoneIn progressNot done
13.2.	Promote and support establishment of public-private, multisectoral ("One Health") coalitions to address AMR at local or national level	DoneIn progressNot done
13.3.	Promote and support participation in public-private, multisectoral ("One Health") coalitions to address AMR at regional and global level	DoneIn progressNot done
	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will)	

GAP Strategic Objective 2. Strengthen the knowledge and evidence base through surveillance and research.

	ntional AMR surveillance and use monitoring systems exist or are anned, comprising:	 ✓=Y	
14.1.	Surveillance of AMR in isolates from humans e.g. in health care facilities and the community	O Done O In progress O Not done	
14.2.	Surveillance of AMR in isolates from animals e.g. livestock, aquatic animals, companion animals	DoneIn progressNot done	
14.3.	Surveillance of AMR in isolates from food	O Done O In progress O Not done	
14.4.	Surveillance of AMR in isolates from plants	O Done O In progress O Not done	
14.5.	Surveillance of AMR in isolates from the environment e.g. sewage, water	O Done O In progress O Not done	
14.6.	Monitoring of use of antimicrobial agents in humans e.g. in health care facilities and the community	O Done O In progress O Not done	
14.7.	Monitoring of use of antimicrobial agents in animals (including the OIE collection of data)	O Done O In progress O Not done	
14.8.	Monitoring of the use of antimicrobial agents in plants	DoneIn progressNot done	
14.9.	Special studies to provide information not covered by routine surveillance to provide supplementary information on, for example, AMR burden, effects of interventions, potential causes and drivers of AMR emergence, AMR in wildlife	O Done O In progress O Not done	
·	Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will)		
Genera	I comments:		

15. Da	ata on the extent and impact of AMR are available	 ✓=Y
15.1.	Incidence and prevalence of AMR in humans, animals, plants, food, and	O Done
	environment	In progress
		O Not done
15.2.	Human morbidity, mortality and other health outcomes in relation to AMR	O Done
		In progress
		O Not done
15.3.	Data on economic impact of AMR in humans, animals, plants, food, and the	O Done
	environment	In progress
		O Not done
	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will)	

	national AMR surveillance and antimicrobial use (AMU) report (within e past 5 years) publicly available, including	
16.1.	AMR in isolates from humans	O Done
		In progress
		O Not done
16.2.	AMR in isolates from animals	O Done
		In progress
		O Not done
16.3.	AMR in isolates from plants	O Done
		In progress
		O Not done
16.4.	AMR in isolates from food	O Done
		In progress
		O Not done
16.5.	AMR in isolates from the environment	O Done
		In progress
		O Not done
16.6.	Antimicrobial use in humans	O Done
		In progress
		O Not done
16.7.	Antimicrobial use in animals	O Done
		In progress
		O Not done
16.8.	Antimicrobial use in plants	O Done
		In progress
		O Not done
Gaps a	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will)	
Genera	I comments:	

	national mechanism coordinates the different national AMR reveillance and antimicrobial use (AMU) monitoring systems	 ✓=Y
17.1.	Defines the objectives of the national surveillance systems based on	O Done
	intergovernmental standards	O In progress
		O Not done
17.2.	Reviews and coordinates dissemination of existing national AMR surveillance and	O Done
	AMU monitoring protocols (and coordinates protocol development as needed)	In progress
		O Not done
17.3.	Coordinates AMR data collection, analysis, reporting and sharing across the human	O Done
	health, animal health, food, plant and environmental sectors	O In progress
	both nationally and with international and global networks	O Not done
17.4.	Monitors data on the use of antimicrobial agents in humans, animals, and plants,	O Done
	and continuously evaluates the national surveillance systems	In progress
		O Not done
17.5.	Links and coordinates AMR surveillance in the human health, animal health, plant,	O Done
	food, and environment sectors	In progress
		O Not done
	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will) al comments:	

	ne or more national reference laboratories have been nominated for rveillance of AMR, to	 ✓=Y
18.1.	Accurately confirm diagnoses including verification of results (detection or confirmation of unusual or new resistance patterns) reported by participating laboratories, detection of specific microbial markers and investigation of atypical samples	DoneIn progressNot done
18.2.	Develop, maintain and share relevant reference material including reference laboratory strains and cultures, clinical isolates, sera, genetic material.	O Done O In progress O Not done
18.3.	Serve as a resource and coordination point for expertise and for sharing information and advice with relevant stakeholders including technical advice on methods and procedures, scientific support and advice on the interpretation and relevance of laboratory findings	DoneIn progressNot done
18.4.	Engage in collaboration and research including participation in and contribution to international and global surveillance and internationally relevant projects and initiatives, including research and development activities	O Done O In progress O Not done
18.5.	Provide guidance and technical support for the management of quality, including participation in external quality assurance schemes	DoneIn progressNot done
18.6.	Liaise with the national AMR coordinating mechanism	O DoneO In progressO Not done
	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will) I comments:	

19. A	national research agenda implemented, including	☑ =Y
19.1.	Social science and behavioural studies and other research to support achievement of the global objectives including studies to promote responsible use of antimicrobial agents and effective antimicrobial stewardship programmes in human health, animal health, and plant health	DoneIn progressNot done
19.2.	Research to develop new treatments, diagnostic tools, vaccines and other interventions in humans, animal, and plants related to infectious diseases involving promotion of partnerships between research institutions at national, regional and international level	DoneIn progressNot done
19.3.	Research to identify alternatives to non-therapeutic uses of antimicrobial agents in animals and plants including their use for growth promotion and crop protection	O Done O In progress O Not done
19.4.	Economic research, including development of models to assess the cost of AMR and the costs and benefits of the national action plan for the human health, animal health, food, plant and environment sectors	O Done O In progress O Not done
·	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will)	

GAP Strategic Objective 3. Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures.

	ection prevention and control (IPC) programmes introduced across the ectrum of human health settings, including	 ✓= Y
20.1.	A national programme for IPC in health care	O DoneO In progressO Not done
20.2.	IPC programmes in hospitals	O DoneO In progressO Not done
20.3.	IPC programmes in long-term care and outpatient and community health settings	O Done O In progress O Not done
20.4.	IPC programmes in congregate settings e.g. correctional facilities and military barracks, to homeless shelters, refugee camps, dormitories and nursing homes	O Done O In progress O Not done
	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will)	

21. Intergovernmental standards and guidelines related to infection prevention and control (IPC) implemented in	 ✓=Y
21.1. The animal health sector	O Done
	In progress
	O Not done
21.2. The plant sector	O Done
	In progress
	O Not done
21.3. The food sector	O Done
	In progress
	O Not done
21.4. The environment sector	O Done
	In progress
	O Not done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

22. The infection prevention and control (IPC) programmes for human healt adapted to local conditions and include the following essential (corcomponents:	
22.1. A formal organizational structure to facilitate proper development and management of IPC policies and strategies	O DoneO In progressO Not done
22.2. Infection control guidelines and policies, including strategies and guidelines for AN	O Done In progress Not done
22.3. Training of health care providers in the principles and practice of IPC	O DoneO In progressO Not done
22.4. Appropriate environment (including facilities and environmental designs) for application of IPC principles and practices	DoneIn progressNot done
22.5. Laboratory and diagnostic support for prescribing antimicrobial agents and accurate, timely detection of infections caused by resistant pathogens	O DoneO In progressO Not done
22.6. Surveillance systems to collect and report data on health care-associated infections and the susceptibility of the microorganisms to antimicrobial agents to enable rapid detection and containment of emergi drug-resistant microorganisms	O Done O In progress O Not done
22.7. Monitoring and evaluation framework to monitor implementation and enable timely adaptation of IPC strategies	DoneIn progressNot done
22.8. Links with public health, other services and societal bodies to facilitate communication	O Done O In progress O Not done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

23. Training and education in hygiene and IPC are core (mandatory) components of education, training, and development Human Animal Plant Food chain Environment production health health O Done O Done O Done O Done O Done 23.1. Hygiene and IPC included in In progress In progress In progress In progress In progress undergraduate curricula O Not done O Done O Done O Done O Done O Done 23.2. Hygiene and IPC In progress In progress included in continuing In progress In progress In progress education programmes O Not done O Done O Done O Done O Done O Done 23.3. Hygiene and IPC included in In progress In progress In progress In progress In progress education/training O Not done provided outside formal academic settings Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:

	giene and infection prevention and control (IPC) measures are planned atside health settings	 ✓=Y
24.1.	Promotion of personal hygiene by social mobilization and behavioural change activities at home, at work and in social settings	DoneIn progressNot done
24.2.	Prevention of infections in humans transmitted through sex or drug injection	DoneIn progressNot done
24.3.	Provision of safe, sufficient drinking-water and adequate sanitation	DoneIn progressNot done
24.4.	Strengthening of vaccination programmes to reduce the burden of infectious diseases	DoneIn progressNot done
24.5.	Promotion of good hygiene practices along the food chain	DoneIn progressNot done
24.6.	Good practices in place in animal health, welfare and production including vaccination	DoneIn progressNot done
24.7.	Good practices in place in the plant production	O DoneO In progressO Not done
24.8.	Good practices in place in the environment sector	DoneIn progressNot done
	nd challenges (e.g. lack of funds, lack of human resources, insufficient political will)	

GAP Strategic Objective 4. Optimize the use of antimicrobial agents in human and animal health

lice	ective, enforceable regulation and governance are planned for ensing, distribution, and quality assurance of antimicrobial agents in man, animals, and plants	 ✓=Y
25.1.	There is a national human drug regulatory authority	O DoneO In progressO Not done
25.2.	There is a national animal drug regulatory authority	DoneIn progressNot done
25.3.	There are regulations in place for antimicrobial agents used in the plant sector	O Done O In progress O Not done
25.4.	Marketing authorization is given following international standards and guidelines to ensure that antimicrobial agents are quality assured, safe and effective	O Done O In progress O Not done
25.5.	Mechanisms or requirements are in place for detecting and combating counterfeit antimicrobial agents	DoneIn progressNot done
25.6.	Promotional practices by industry are regulated and controlled	DoneIn progressNot done
25.7.	There is a quality management system for the antimicrobial agents supply chain (e.g. for storage, transportation, expiry date)	DoneIn progressNot done
25.8.	There is a regulatory framework for preservation of new antimicrobial agents	DoneIn progressNot done
25.9.	Economic incentives that encourage inappropriate use of antimicrobial agents are being identified and addressed in all sectors	O Done O In progress O Not done
25.10.	Economic incentives to optimize use of antimicrobial agents are being introduced in all sectors	O Done O In progress O Not done
Gaps an	d challenges (e.g. lack of funds, lack of human resources, insufficient political will)	
General	comments:	

26. Purchasing and prescribing of antimicrobial agents guided and supported by		⊠= Y	
26.1.	A national essential medicine list guided by the WHO Model Lists of Essential Medicines	DoneIn progressNot done	
26.2.	Institutional essential medicine lists	DoneIn progressNot done	
26.3.	Reimbursement lists for human health	O Done O In progress O Not done	
26.4.	Standard treatment guidelines for use of antimicrobial agents in humans	O Done O In progress O Not done	
26.5.	Standard treatment guidelines for use of antimicrobial agents in animals	O Done O In progress O Not done	
26.6.	Standard treatment guidelines for use of antimicrobial agents in plants	O DoneO In progressO Not done	
26.7.	Medical or veterinary supervision	O Done O In progress O Not done	
26.8.	Standard treatment recommendations are developed for animals	O Done O In progress O Not done	
26.9.	Standard treatment recommendations are developed for plants	O Done O In progress O Not done	
26.10.	Policies that promote the prudent and responsible use of antimicrobial agents based on existing intergovernmental standards and guidelines	O Done O In progress O Not done	
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:			

27. Policies on use of antimicrobial agents in animals and plants prepared including	ared, ☑=Y
27.1. Policies on the use of critically important antimicrobials	DoneIn progressNot done
27.2. Policies on phasing out use of antimicrobials for animal growth promotion and protection in the absence of risk analyses	crop O Done In progress Not done
27.3. Policies on reduction in nontherapeutic use of antimicrobial agents in animal h	DoneIn progressNot done
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:	

28. Antimicrobial stewardship programmes set up for human health at national and local levels, including				
28.1.	A formal multidisciplinary organizational structure responsible for antimicrobial	O Done		
	stewardship	In progress		
		O Not done		
28.2.	Qualified human resources An antimicrobial stewardship team including an antibiotic adviser or leader, an antimicrobial pharmacist, IPC professional, microbiologist	O Done		
		In progress		
		O Not done		
28.3.	Facility-specific treatment recommendations	O Done		
		In progress		
		O Not done		
28.4.	Review of appropriateness of antimicrobial agents 48–72 h after administration (post-prescription review)	O Done		
		O In progress		
		O Not done		
28.5.	Direct communication of the results of audits and reviews to all sectors using antimicrobial agents	O Done		
		In progress		
		O Not done		
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:				

GAP Strategic Objective 5. Develop the economic case for sustainable investment to take into account the requirements of all countries, and increase investment in new medicines, diagnostic tools, vaccines and other interventions.

dia	n economic case for sustainable investment in new medicines, agnostic tools, vaccines and other preventions and/or interventions epared.	 ✓=Y		
29.1.	The investment required for implementation of the national action plan has been assessed, and plans to secure and use the required financing have been prepared	O Done O In progress O Not done		
29.2.	Participation in international collaboration, based on fair and equitable benefit- sharing as mutually agreed, in the investigation of natural sources of biodiversity and bio-repositories as sources of new antimicrobial agents	O Done O In progress O Not done		
29.3.	Strengthening existing and creating new public-private partnerships for encouraging research and developing new antimicrobial agents, vaccines and diagnostics	O Done O In progress O Not done		
29.4.	Pilot testing of innovative ideas for financing research and development and for new market models to encourage investment and ensure access to new antimicrobial products	O Done O In progress O Not done		
Gaps and challenges (e.g. lack of funds, lack of human resources, insufficient political will) General comments:				