



**KAMARAJ IAS ACADEMY**  
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# Challenge of Antimicrobial Resistance (AMR)

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## Why in News:

Antimicrobial Resistance (AMR) is today reckoned among the most ominous threats confronting Global Public Health.

## About AMR

AMR implies that a pathogen sensitive to a certain drug ceases to respond to that drug.

While the more commonly known resistance is Antibacterial (ABR), the larger term AMR encompasses resistance to medicines for treatment of other pathogens too, which cause viral, fungal, and parasitic diseases.

AMR is a global issue, not confined by political boundaries, and is a threat to all humanity. Animals and plants are also afflicted by diseases caused by pathogens, and hence are vulnerable to AMR.

Human beings are victims of AMR due to the irrational and improper use of drugs. Additionally, AMR spreads in humans through their food, water, and from their environment.

## AMR: A serious concern around the world

Over the last ten years, the prevention, control, and response to AMR has been a high priority for most national governments, international organisations (such as the WHO, FAO, OIE), healthcare communities, and civil society, etc.

The WHO's global action plan (GAP) was adopted by member nations in 2015. National action plans have been prepared by many countries.

India's NAP was approved in 2017. It is understood that NAP 2.0 is now envisaged.

The thrust of India's NAP includes

coordinated action by the government and non-government sectors

a whole of government approach (Health, Animal Husbandry, Fisheries, Agriculture, Dairy, Pharmaceuticals and Biotechnology sectors); advocacy; awareness-building

involvement of the community

infection prevention and control

National AMR Surveillance Network (NARS Net)

research and international collaboration.

## Kamaraj IAS Academy

Plot A P.127, AF block, 6 th street, 11th Main Rd, Shanthi Colony, Anna Nagar, Chennai, Tamil Nadu 600040  
Phone: 044 4353 9988 / 98403 94477 / Whatsapp : 09710729833

AMR is an important priority in the G20 health agenda under India's presidency.

The COVID-19 pandemic hijacked the priorities of the health sector. The entire focus shifted to the management and containment of COVID.

As a consequence, most public health programmes, including AMR endeavours, suffered and timelines got extended. Hence, substantial effort is now needed to get back on track.

An area of immense concern is the apparently unregulated access to antibiotics for the animal husbandry, dairying, and poultry sectors.

While we are rightly conscious and concerned about the sales of antibiotics without prescription to humans (and much more action is desirable in this regard), regulating antibiotics sales for non-human consumption generally escapes our notice.

Prompt and effective action in this area is warranted. This should include not only regulated access, but also no over- or under-use of drugs for non-human consumption

Another important aspect that we must recognise and address is the role of the environment in the spread of AMR. Untreated wastewater and effluents, including such releases from antibiotics manufacturing units and healthcare facilities, can contaminate our environment, facilitating the propagation of AMR.

Effective sanitation, sewage, and waste treatment infrastructure is required to keep the environment safe and prevent AMR contamination and transmission.

In fact, the pharmaceutical industry must also weave in sustainable manufacturing into their existing production chain.

### **Need for a concerted, combined effort**

Despite the International 'One Health' initiative and India's own vision of inter-ministerial coordination for AMR prevention and control, the war against AMR is largely construed as the burden of the health sector.

It is vital that other stakeholders too, especially the sectors overseeing food, drinking water, and environment, shoulder equal ownership, failing which the achievement of India's AMR objectives will be difficult.

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AMR containment measures including hospital infection and control, regulation of pharmacies/ pharmacists, treatment of sewage and pharmaceutical effluents, adoption of standard treatment protocols, AMR surveillance etc., are largely implemented by the state governments.

Hence, our efforts cannot be successful without the active and enthusiastic involvement of the states. This realisation must quickly resonate across the country.

### **The required urgent measures**

AMR puts a huge economic burden on both individual families and society as a whole. Long periods of morbidity due to non-responsive medicines, increased mortality due to AMR, massive loss of productive man-days of work, wasteful expenditure on medicines which do not work, maintaining large ill populations, etc. put an enormous burden on national resources.

This can be prevented by effectively neutralising the threat of AMR. Hence, investments in the AMR programme is not only a health necessity, it is also good economics.

India has achieved huge success in the application of digital technology. Leveraging such applications, especially conceived for the AMR programme, will yield good dividends. This can also add value to India's contribution in the G20 collaboration.

Applications can be for monitoring the use of antibiotics, prescription audits, movement of antibiotics from the production source to the ultimate user, for surveillance of incidence and prevalence of AMR including state-wise or interspatial variations, etc.

Parallel efforts on a war footing are needed for the discovery and commercialisation of new antibiotics and new antimicrobials. Such efforts must be incentivised. This is an area where international cooperation will fetch high returns, and is an obvious candidate for both bilateral and multilateral agenda.

Social media and its numerous platforms have captured the imagination of people around the world. The influence of social media on our mind and behaviour cannot be denied. We must, therefore, leverage these platforms to spread the message of AMR.

Our objective should be to inculcate community realisation for rational and correct use of antimicrobials. Bereft of community participation, public health programmes may not succeed.