REGULATING THE GLOBAL ANTIMICROBIAL COMMONS: CLIMATE AGREEMENTS AND BEYOND

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Antimicrobial resistance (AMR) is a global issue, which needs to be addressed from the individual to the international level. It is a multi-layered issue insofar as it concerns not only antimicrobial resistance to existing drugs and its impacts on public health but also access to antibiotics, which save millions of lives every year while being inaccessible to a large percentage of the world's population.

Antibiotics raise issues concerning their development, their sufficient availability to meet the needs of all patients and their accessibility in terms of pricing at a level ensuring no one is denied access. All these come even before considering the impact of their use on public health and the environment. AMR is a problem around the world but everyone is not affected in the same way. There is a broad global North-global South dichotomy, with people living in countries of the global South being much less likely to be able to access needed antibiotics. The dichotomy also plays out in terms of availability since research for new medicines is still mostly undertaken in the global North and it prioritises diseases that affect populations in the North. Other inequalities play out at the individual level, such as between people able to access available antibiotics and people unable to do so in the many countries in the global South where patients must buy their own medicines.

There are thus multiple dimensions of AMR that are either of transboundary concern or of concern to individuals in many countries. This makes it crucial to ensure that international regulation is introduced as proposed in the papers of this special issue [7, 8]. This proposed legal framework should reflect issues of access to antibiotics faced by a majority of people in the global South, the need to address AMR, and the need to develop new medicines to address present and future challenges. This should be based on principles that reflect the distinct situations of different countries.

Environmental law as a template for an AMR treaty

The use of environmental agreements as a template for an AMR treaty is an apt starting point. As with climate change, AMR requires urgent action but finding a global consensus is extremely difficult. Engagement with AMR at the international level should thus be considered alongside a progressive axis and through multiple initiatives. This is confirmed by developments in environmental law. A treaty like the 2013 Minamata Convention on Mercury, which provides for the global phasing out of primary mercury mining, took decades to negotiate and the ban is not entirely immediate. Another model is that of framework conventions, which are supplemented by more specific legal instruments. Neither model provides an assurance that results will be forthcoming, as confirmed in the case of the climate change regime where member states have displayed limited ambition in the 2015 Paris Agreement.

If all goes well, the success of the ozone layer regime can be replicated. However, even in this case, the treaty needs to be read alongside supporting instruments. Here, the setting up of the Montreal Trust Fund was critical in ensuring participation of the global South in the 1987

Montreal Protocol on Substances that Deplete the Ozone Layer [4, 5]. A multiplicity of legal interventions has also been necessary, for instance, with regard to liability rules, where in a number of cases a separate legal instrument had to be negotiated after the main instrument [6]. In other words, the best way forward may not only be a mix of legal, policy and economic incentives but also a mix of legal instruments making up progressively an effective legal regime.

Another lesson from environmental treaties is that it may be not be possible to address all the dimensions of a given problem in a single treaty. The case of intellectual property rights stands out as a central element in technology transfer debates, which have been pivotal in various environmental treaties and would also be crucial for an AMR treaty. Yet, apart from the 1992 Convention on Biological Diversity making the link directly, other environmental treaties have generally shied away from acknowledging it. Avoiding contentious issues may have allowed the negotiations to be completed but it also reflects the limits of multilateral negotiations in addressing social and environmental issues that have the potential to impact trade and investment. Indeed, in this case, the debate on intellectual property and the environment takes place mostly in the 1994 Agreement on Trade-Related Aspects of Intellectual Property Rights that has very limited environmental content. The same applies to health.

Overall, AMR needs to be regulated at the national, regional and international levels. With regard to international regulation, developments since the beginning of the century with regard to global environmental issues remind us to be cautious as to what can be achieved through treaties. Consequently, treaty negotiations should be seen as one piece of a broader set of options in which the possible failure of treaty negotiations should not imply complete absence of international regulation. The different options beyond a comprehensive substantive treaty include:

- a framework convention;
- an agreement to foster technology transfer to ensure better access to antibiotics, in particular through relaxation of intellectual property rights;
- an agreement on capacity-building to strengthen public health systems to ensure countries can more effectively prevent, diagnose, control diseases and prescribe antibiotics;
- an agreement on funding that could address elements of access, conservation and innovation.

AMR and North-South equity

The global antimicrobial commons is shared by all countries and all individuals. There is thus a universal dimension to its regulation but at the same time, AMR is a very different issue in the South and the North. The climate change regime provides a useful baseline, since one of the latter's guiding principles is that of common but differentiated responsibilities and respective capabilities (CBDR), a principle that reflects South-North equity concerns.

CBDR applies well to AMR and should be a central part of treaty negotiations. It remains one of the principles to which developing countries are strongly attached because it reflects the need for international law to foster substantive equality in an unequal world. This explains why it is the only principle that has been specifically restated on repeated occasions.

CBDR calls on states to reflect existing pervasive inequalities in treaties. It does not, however, prescribe specific means for realization that can be adapted to the specific needs of

the legal instrument being negotiated. Some of the directions in which the principle can be taken include:

- Differential treatment does not need to be structured around a simplistic division of the world in two categories of developing and developed countries [1]. This dichotomy served a purpose initially since it reflected the division of the world after political decolonization quite well but the core indicator used is economic development. Going beyond this dichotomy is possible, as confirmed by the introduction of the category of vulnerable countries in the climate change regime.
- There is no reason why differentiation cannot be structured in such a way that each country is allocated rights and responsibilities in relation to a gradual scale. This is for instance, the way in which contributions to the UN budget are allocated [9]. Each country is assessed individually.

Differentiation can thus be given the shape and characteristics needed to address AMR. It is not a fixed instrument but rather the framework that allows states to ensure negotiations structured around formal legal equality lead to results that are effectively just or, in other words, foster substantive equality. Further, the Paris Agreement's nationally determined contributions should not be the model for an AMR treaty since it represents a political compromise that goes against the needs of the global environment. The bar should be raised above this level to ensure that differentiation is part of global goal-setting, as has been the case in other environmental treaties over the past three decades.

Need for new bases for addressing commons issues

Addressing AMR as a commons will require thinking beyond the existing structures of international law. Reliance on sovereign interests as the basis on which the Paris Agreement and other climate change agreements were negotiated is one central reason for their lack of ambition. What is needed is for states to transcend their self-interest as a basis for negotiations on global issues in favour of the global good of solidarity. As long as this is not done, the way in which global issues are addressed will remain unsatisfactory.

The climate change regime, as well as some other environmental regimes recognise the fundamental contradiction underlying global regimes to a limited extent by labelling the issue addressed as a common concern of humankind. Further, in some cases, states have managed to rise above their domestic interests to look at the issue from its global perspective. This is the case of deep seabed mineral resources in the high seas whose regulation is based on the principle of common heritage of humankind. The legal regime is based on the absence of sovereign claims, together with common management and sharing of the benefits arising from the use of these common resources [3].

A similar regime could be adopted for commons under sovereign control. There is at least one pre-existing example in the context of seeds, which were considered a common heritage until the end of the 1980s. This could be used as a template to move towards a different basis for regulating AMR and global environmental issues. The main advantage would be to move beyond the principle of sovereign legal equality as a basis for international regulation, which drastically restricts our collective imagination of what is possible. The coronavirus pandemic has confirmed that it is urgent to find new ways to address problems at multiple levels [10].

Regulating AMR: Science, precaution and social equity

The willingness of states to adopt international legal instruments in the field of the environment is directly proportional to the amount of scientific information available. Thus,

where risk and causality are established, the principle of prevention provided an appropriate basis for taking regulatory measures. In the case of climate change, where long-term impacts cannot be predicted accurately, the precautionary principle has been used to underlie regulatory action at the international level. The recognition of the precautionary principle as a binding principle of law has matured in various parts of the world. It provides an appropriate starting point for regulating AMR.

While scientific consensus provides to an extent an uncontroversial basis for negotiating international agreements, the over-reliance on science has proved to be inappropriate in the context of environmental issues where social equity dimensions of regulation are of central importance [2]. In the context of AMR, it is crucial to avoid repeating the mistake made in environmental law. On the one hand, relying on scientific consensus has not been entirely successful, as witnessed in the case of climate change where despite the increasingly certain scientific assessments of the IPCC, policy-makers still include climate deniers. In other words, good science does not necessarily lead to good law. On the other hand, over-reliance on science as a basis for regulation means that social factors are sidelined or ignored. Doing the same in the case of AMR may end up relegating patients' interests and rights as subsidiary considerations. This is particularly problematic where the issue involves a human right; in this case the right to health.

A progressive international legal instrument on AMR should thus be based equally on good science and social equity. Not doing so would lead to results that would be unsatisfactory in the long run and would not address the multiplicity of interests and rights that are at stake here.

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