

Reducing the Unnecessary Use of Antimicrobials in Animal Farming

By Dr. Viviana Muñoz Tellez*

I. Sustainable development and antimicrobial resistance

Progress towards sustainable development is undermined by several compounding crises: climate change, biodiversity and ecosystem depletion, food insecurity and undernourishment, energy, violent conflict, and spread of disease. In this context, strategies towards equitable and sustained development require linking economic growth and optimized production with the sustainable

management of natural resources and ecosystems. The 2030 Agenda on Sustainable Development enshrines the global commitment to shift the world onto a sustainable and resilient path, ensuring that no one is left behind. This includes improving productive and sustainable food systems to support ending hunger, food insecurity and malnutrition. There are complex interlinkages between human health, animal health, industrialization of agriculture and food production, and the environment.

Abstract

Antimicrobial resistance is aggravated due to excessive and inappropriate use of antimicrobials in human and animal health and in plant and animal agriculture. While international standards are being developed, governments are rolling out regulations with the aim to curb the overuse and misuse of antimicrobials, to preserve their efficacy for as long as possible. This Policy Brief discusses two new regulations introduced by the European Union (EU) on medicated animal feed (Regulation (EU) 2019/4 and veterinary medicinal products (Regulation (EU) 2019/6) that entered into effect on 28 January 2022. As part of the implementation of the regulations, the EU should devise a comprehensive plan to help implementation by countries and producers of animal food products of the Global South, linked to supporting the transition to sustainable agricultural systems and development.

La resistencia a los antimicrobianos se agrava debido al uso excesivo e inadecuado de los mismos en la salud humana y animal y en la agricultura vegetal y animal. Mientras se elaboran normas internacionales, los gobiernos están poniendo en marcha normativas con el objetivo de frenar el uso excesivo y abusivo de los antimicrobianos, para preservar su eficacia durante el mayor tiempo posible. Este informe político analiza dos nuevos reglamentos introducidos por la Unión Europea (UE) sobre los piensos medicados (Reglamento (UE) 2019/4) y los medicamentos veterinarios (Reglamento (UE) 2019/6) que entraron en vigor el 28 de enero de 2022. Como parte de la implementación de los reglamentos, la UE debe diseñar un plan integral para ayudar a la implementación por parte de los países y productores de productos alimenticios de origen animal del Sur Global, vinculado al apoyo de la transición hacia sistemas agrícolas sostenibles y el desarrollo.

La résistance antimicrobienne est aggravée par l'utilisation excessive et inappropriée des antimicrobiens dans le domaine de la santé humaine et animale et dans l'agriculture végétale et animale. Alors que des normes internationales sont en cours d'élaboration, les gouvernements mettent en place des réglementations dans le but de limiter l'utilisation excessive et abusive des antimicrobiens, afin de préserver leur efficacité le plus longtemps possible. Cette note de synthèse traite de deux nouveaux règlements introduits par l'Union européenne (UE) sur les aliments médicamenteux pour animaux (règlement (UE) 2019/4) et les médicaments vétérinaires (règlement (UE) 2019/6) qui sont entrés en vigueur le 28 janvier 2022. Dans le cadre de la mise en œuvre de ces règlements, l'UE devrait élaborer un plan global pour faciliter la mise en œuvre par les pays et les producteurs de produits alimentaires d'origine animale du Sud global, lié à des mesures de soutien à la transition vers des systèmes agricoles et de développement durables.

* Dr. Viviana Muñoz Tellez is the Coordinator of the Health, Intellectual Property and Biodiversity Programme of the South Centre.

To address these challenges, various initiatives are being advanced, responding to specific domestic contexts. The European Union (EU) is advancing a strategy to transition to sustainable food systems as part of the European Green Deal. The “Fork to Farm”¹ strategy establishes that there is an urgent need to reduce dependency on pesticides and antimicrobials, reduce excess fertilization, increase organic farming, improve animal welfare, and reverse biodiversity loss.

Antimicrobials are medicines used to prevent and treat infections in humans, animals and plants.² Antimicrobial resistance (AMR) refers to the ability of a microorganism (such as bacteria, viruses, fungi and parasites) to stop an antimicrobial (such as antibiotics and antivirals) from working against it. The microorganisms evolve to resist the effects of effective medicines. As a result, these treatments become ineffective, infections persist, severity and consequences of infections increase, public spending on health is driven upward, and risk of spread drug-resistant infection increases. It is estimated that globally bacterial antimicrobial resistant infections caused 1.27 million deaths and were a contributing factor in another 3.68 million deaths, bringing the total deaths associated with antimicrobial resistance to 4.95 million in 2019.³ The United Nations Food and Agriculture organization (FAO) predicts a 1-5 per cent GDP loss if AMR proliferation continues unchecked.⁴

Antimicrobial resistance is aggravated due to excessive and inappropriate use of antimicrobials in human and animal health and in plant and animal (terrestrial and aquatic) agriculture. It is estimated that globally 70-80 per cent of antibiotics are used not on people, nor on ill animals, but rather on livestock to help they grow more quickly and to protect them from getting ill in crowded and/or unhygienic conditions. Antimicrobial use in food-producing animals can lead to selection and dissemination of antimicrobial-resistant bacteria, which can then spread among food-producing animals, into the environment, and be transmitted to humans via food and other transmission routes.⁵ Water and human and animal waste disposal are routes for the spread of antimicrobial residues and resistant determinants.

Regulations are being rolled out with the aim to curb overuse and misuse of antimicrobials, to preserve their efficacy for as long as possible. Action by governments has been slow given the strong lobbying from the livestock industry, as well as the lack of regular surveillance and data collection

to inform decision making. At the United Nations (UN), strong commitments have been made to curb misuse and increase stewardship of antimicrobials, including in the High-Level Ministerial Declaration on AMR adopted in 2016.⁶ Strong recommendations were made by a UN expert interagency working group to completely phase out the use of antimicrobials for growth promotion.⁷ A Global Leaders Group in August 2021 also called for reducing antimicrobial use in food systems.⁸ The multilateral guidance is clear: stop unnecessary use of antimicrobials in food. Countering the use of antibiotics for growth promotion is now a global policy target. Cooperation among various agencies with mandates on human health, animal health, agriculture and environment is increasing. International standards are being developed. The World Health Organization (WHO) recommends that countries restrict the use in animal health of antibiotics that are critically important for human health.⁹ The World Organisation for Animal Health (OIE) also keeps a list of antimicrobials important in veterinary medicine.¹⁰ There is considerable overlap between the WHO and OIE lists. The Codex Alimentarius, the UN food standards body, in 2021 amended the 2005 Code of Practice to Minimize and Contain Foodborne Antimicrobial Resistance.¹¹ The Code provides guidance that antimicrobial agents that are considered medically important for human health should not be used for growth promotion in food animals and recommends the use of additional risk management measures for medically important antimicrobials considered highest priority critically important as described in the WHO and OIE lists, or national lists, while noting that the restrictions should be proportionate to risk and supported by scientific evidence.¹²

As noted, antimicrobials serve to prevent illness in animals, thus contributing to animal health and welfare, but are also used routinely to help food animals grow faster and fatter. The use of antibiotics for growth promotion has increased with the intensification of animal production for food in the context of rising demand for animal protein in human diets. The EU banned the use of antimicrobials for growth promotion in 2006. Between 2011 and 2020, the volume of sales of antimicrobials for use in food-producing animals in Europe fell by more than 43 per cent.¹³ Likewise, a report for 2021 found that in the EU the overall consumption of antimicrobials in food-producing animals was lower than in humans, when assessed per kg biomass, while in previous reports the overall antimicrobial consumption in food-producing animals was higher than in humans.¹⁴ This suggests that the measures taken at

country-level to reduce the use of antimicrobials in food-producing animals are effective, despite the wide variation among EU countries. However, despite the significant decline in sales in aggregate, there are some antibiotics such as polymyxins (including colistin, one of the last-resort antibiotics for treating Gram-negative infections, whose use had been previously suspended in humans due to the frequent adverse effects) and tetracyclines that continue to be used more in food-producing animals than in humans in the EU.

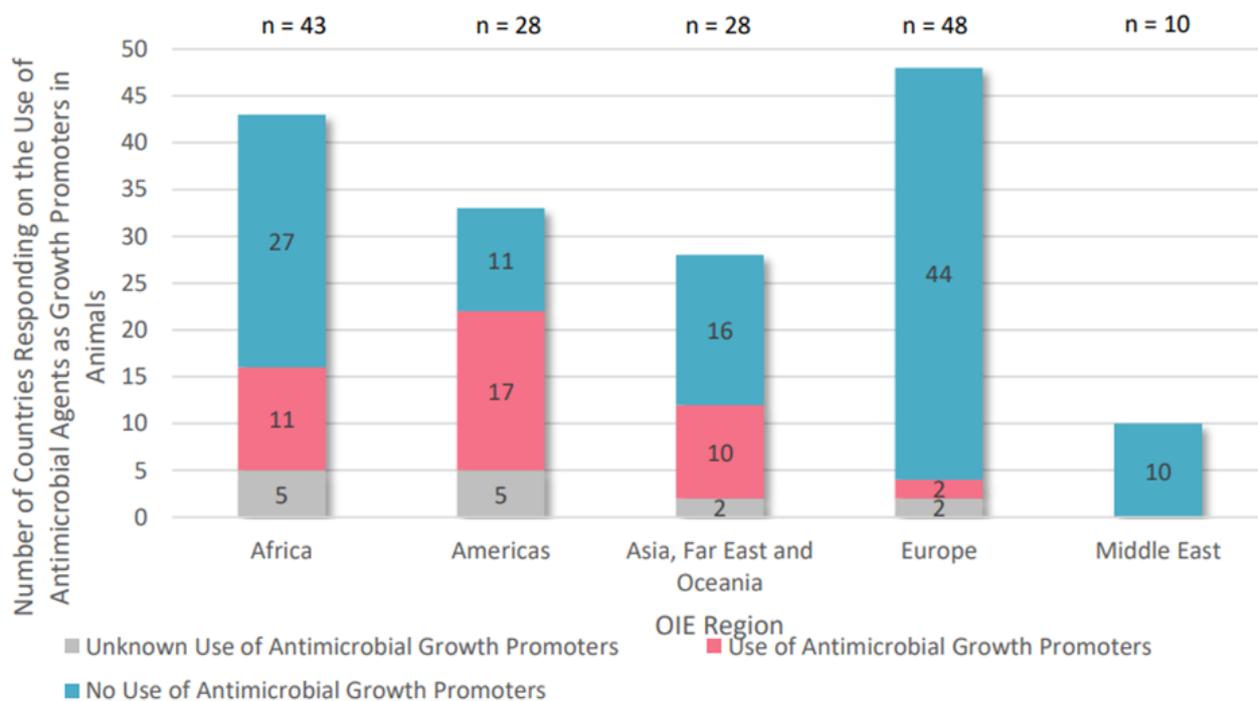
Increasing evidence of colistin resistance mediated by transferrable *mcr*-genes has accelerated the introduction of bans on colistin use in animal health, not without resistance of industry.¹⁵ It is also of concern that excessive use or misuse may continue to be given to large groups of animals to prevent or avoid spread of disease (prophylaxis and metaphylaxis) particularly in intensive animal farming and often to compensate for inadequate husbandry practices such as good housing conditions and cleanliness. Intensive, indoor production systems at high densities are more vulnerable to disease challenges.¹⁶

II. EU regulations on medicated animal feed and veterinary medicinal products

The European Commission has set a target to reduce overall EU sales of antimicrobials for farmed animals and in aquaculture by 50 per cent by 2030. Two regulations on medicated animal feed (Regulation (EU) 2019/4) and veterinary medicinal products (Regulation (EU) 2019/6) were adopted to provide measures to reduce excess use of antimicrobials in food animals. The regulations entered into effect on 28 January 2022. The implementation of the regulations requires the adoption of delegated and implementing acts by the European Commission, such as the list of antibiotics to be designated in the EU as reserved exclusively for human medicine.¹⁷ The new EU regulations allow Member States to take further restrictive measures that do not unduly restrict the functioning of the internal market, including to further restrict or prohibit the use of certain antimicrobials in animals on its territory if the administration of such antimicrobials to animals is contrary to the implementation of a national policy on prudent use.

The impact of the regulations will be substantial, harmonizing the obligations on all EU States.

Figure 1. Number of Countries Using Antimicrobial Agents for Growth Promotion in Animals in 2020, of 157 Responding Countries, by OIE Region



Source: See Annual Report on Antimicrobial Agents Intended for Use in Animals, Fifth Report, World Organization for Animal Health, 2022, Figure 11, p. 33

The regulations ban the routine use of antimicrobials via medicated feed¹⁸ for growth promotion and for preventative treatment of individual animals or groups of animals except in exceptional cases.¹⁹ The regulations also make it illegal to give antibiotics to farm animals to compensate for inadequate husbandry, lack of care or poor hygiene. The implementation of the regulations in all EU States will require catch up by States that are behind in applying policies and measures to minimize routine use of antibiotics in animals and as a result have higher levels of antibiotic use in farming. Requirements on data collection and reporting on antimicrobial usage in addition to sales by species of animals will be phased in over various years. It is expected that the data collection requirement itself should help drive further reduction in use. Fostering change in farmers practices will require government bans and also support measures to improve animal husbandry and animal health.²⁰

III. Required policies and implementation by the Global South

International guidance and growing scientific evidence support the need to reduce the unnecessary use of antimicrobials in food animals, to safeguard their efficacy for both animal health and human health.

Bans on use of all or certain antimicrobials for growth promotion have been enacted in many countries, such as Argentina, Bangladesh, China, India, Indonesia, Singapore, Sri Lanka, Thailand and Vietnam. Overall implementation of policies such as prohibiting use of antimicrobials for growth promotion and reserving critically important antibiotics for human health is slowly progressing in countries of the Global South. On the one hand, several countries are still using certain antimicrobials for growth promotion (40 countries reported so to the OIE, see Figure 1)²¹ for various animal species and many do not have a regulatory framework in place.²² Most of these countries are in the Americas and Africa.

Figure 2. EU imports of beef meat

In Tons of Carcase Weight						
	2020		2021		Jan to Apr 2022	
	Tons	% Extra EU	Tons	% Extra EU	Tons	% Extra EU
United Kingdom	120.703	35,1%	87.441	28,3%	44.266	36,2%
Brazil	84.139	24,4%	81.601	26,4%	30.407	24,8%
Argentina	56.421	16,4%	52.286	16,9%	17.459	14,3%
Uruguay	34.611	10,1%	42.669	13,8%	14.156	11,6%
USA	16.532	4,8%	14.826	4,8%	5.139	4,2%
Australia	11.058	3,2%	8.925	2,9%	3.404	2,8%
New Zealand	6.116	1,8%	4.378	1,4%	1.381	1,1%
Switzerland	4.187	1,2%	4.714	1,5%	1.336	1,1%
Paraguay	4.234	1,2%	3.933	1,3%	1.330	1,1%
Japan	789	0,2%	1.478	0,5%	1.070	0,9%
Namibia	1.445	0,4%	1.996	0,6%	823	0,7%
Other Destinations	4.130	1,2%	4.625	1,5%	1.637	1,3%
Extra-EU	344.362		308.872		122.407	
% Change			-10,3%			

Figure 3. EU imports of poultry meat

In Tons of Carcase Weight						
	2020		2021		Jan to Apr 2022	
	Tons	% Extra EU	Tons	% Extra EU	Tons	% Extra EU
Brazil	227.738	28%	251.824	32%	88.348	34%
United Kingdom	293.866	37%	273.383	34%	81.070	31%
Thailand	131.374	16%	130.617	16%	47.766	18%
Ukraine	108.669	14%	102.688	13%	28.333	11%
China	17.017	2%	20.916	3%	9.819	4%
Argentina	3.273	0%	3.151	0%	1.177	0%
Switzerland	2.327	0%	2.310	0%	844	0%
Norway	1.392	0%	2.506	0%	813	0%
Bosnia-Herz.	979	0%	1.608	0%	608	0%
Tunisia	1.444	0%	1.840	0%	559	0%
Israel	1.132	0%	807	0%	257	0%
Other Destinations	15.512	2%	3.813	0%	569	0%
Extra-EU	804.724		795.461		260.163	
% Change			-1%			

Source: European Commission Factsheet, Meat Market Situation, 28 July 2022

The regulations also address imports of animal derived products. Implementation of the regulations requires the European Commission to establish a ban on imports of animal derived products that use of antimicrobials for growth promotion, applicable in the EU as of 2006, and also a ban on imports of animal derived products that use antimicrobials that are on the list of EU designated antibiotics for use in human medicine. However, despite EU production no longer allowing for routine use of antimicrobials for preventive purposes and/or to compensate for poor husbandry, these requirements will not apply to imports.

Weak surveillance capacity is an obstacle; there is insufficient data collection on sales and use of antimicrobials in animals, including as growth promoters. Barriers that countries find in collecting and reporting data include the lack of regulatory framework, lack of IT tools, funds and human resources.²³

Many countries still lack national systems for quantitative data collection on antimicrobial agents intended for use in animals and for data analysis. In contrast, the EU already counts with a detailed and integrated system for data collection, and as a result provides data to the OIE which collects and develops annual reports of global use of antimicrobials in animals. According to the OIE, 83 per cent of

Member States reported quantitative data to the self-assessment report although only for one year (2019), demonstrating growing commitment to the development of monitoring systems for veterinary antimicrobial agents. As a result of the new regulations in the EU, data collection – and with it capacity to ensure compliance – will improve further.

International trade measures such as the EU regulations may influence antimicrobial stewardship in animal food production. There is strong demand in the EU for meat products that meet its standards. Currently, the main suppliers from countries in the Global South into the EU for beef are Brazil, Argentina, Uruguay, and to lesser extent Paraguay and Namibia (see Figure 2).²⁴ EU imports of poultry are mainly from Brazil, Thailand, China, Argentina and Tunisia (see Figure 3).

The EU bans on animal derived products from animals on which antimicrobials were used for growth promotion and on which antimicrobials reserved on for humans were used will require producers from the Global South exporting to the EU to adhere to these implemented standards, at least for animals whose products are exported into the EU. Countries that want to trade with the EU may need to make changes to their current policies. Producers that export animal products such as meat and poultry to the EU will likely want to upgrade their standards to match the rules imposed by the EU, both those that will soon apply to animal derived products being exported into the EU and also perhaps, in response to increasing demand for lower antibiotic use in food within the EU, to the stricter new set of antibiotic restrictions that apply only to EU production at this point. As a result, the establishment of good stewardship practices on antimicrobial use in animal farming may be accelerated, supporting animal welfare across the supply chain, reducing strain on the environment, and safeguarding critically important antimicrobials for human health. Changing consumer trends in the Global South focused in the past on low price towards quality and animal welfare concerns may also exert pressure on producers.

However, in the context of anticipated continued growth in global demand for animal food production and as export demand increases in markets other than the EU, it is possible that the incentive for compliance with EU standards may be reduced. However, the price differential presented by the EU could continue to incentivize

export to the EU, together with additional incentives, and/or government policy in more countries that shifts in ways that result in reduced use of antimicrobials. In face of increasing AMR and shared global policy objectives of reducing this human health crisis, standards similar to those of the EU are likely to be introduced in other markets in the near term. Early adaptation of such policies may allow producers of the Global South to be prepared in advance to take advantage of export opportunities. In Thailand, for example, the larger poultry producers have committed to discontinue the use of antimicrobials not only for growth promotion but also for routine therapeutic use, switching to natural alternatives.²⁵ This is associated with changing global standards including on antimicrobial use and animal welfare, new government regulations,²⁶ collaboration among relevant national agencies and stakeholders including the private sector, as well as the role of domestic consumer rights organizations in raising consumer awareness and carrying out inspections of antibiotic residues in food animal products. Moreover, smaller scale producers of the Global South that limit the use of antimicrobials to treat sick animals may have an advantage over other global producers based on industrial farming operations that rely on greater antibiotic use. As a result, new export opportunities may be created for animal food producers that are compliant with the rules, apply good hygiene and husbandry practices and waste management.

IV. EU policies to assist transition by the Global South

The standards for EU imports of animal food products will have an important impact on producers from around the world, including in the Global South. Some exporting countries have raised concerns of the potential trade impacts of the EU bans that extend to imports and requested transition periods.²⁷ In response, the EU should advance a comprehensive plan of support for the Global South in the implementation of two bans that are required under the new EU regulations and which the EU is in the process of drafting.

Transition periods are necessary to decrease the risk of economic and food security disruptions. This is especially true considering that global trade in food animal production has been highly affected by the COVID-19 pandemic, prices of inputs for production have increased and the Global South is still recovering from the economic consequences. The system and procedures for record keeping of use of antimicrobials and veterinary prescriptions and certification of operators eligible to export food-producing

animals to the EU should be streamlined and technical assistance made available to integrate the feedback received. Technology transfer is also important, in areas such as upgrading practices for improving biosecurity measures such as improving hygiene, water and waste management. Programs to support access to alternative pharmaceutical products, such as vaccines and probiotics, as alternatives to antibiotics for growth promotion, disease prevention and treatment, improved housing, breed selection, and husbandry practices that reduce stress and conflict within herds would also serve to reduce the need for antimicrobial use in food animals.²⁸ Tariff reductions would also serve as incentives to promote exports from the Global South and compensating for the short-term economic costs of compliance with EU standards and support the transition to sustainable animal food producing systems more generally.

The package of support measures that the EU should develop can draw elements from the recent Free Trade Agreement concluded by the EU with trade partners from MERCOSUR.²⁹ The 2019 MERCOSUR-EU FTA chapter on Sanitary and Phytosanitary Measures provides that EU will provide MERCOSUR countries (Brazil, Argentina, Paraguay and Uruguay) with transition periods to adapt to the changes in requirements in order to avoid the interruption or disruption of trade flows of products and to allow the exporting Party to adjust its procedures (Article 16.5) and cooperation and technical assistance (Article 17). The cooperation needs would be identified further by a Subcommittee (Article 18). One of the parties (Paraguay) is afforded special and differential treatment, whenever it identifies difficulties in compliance with a proposed measure notified by the EU (Article 19).

V. Conclusion

Stopping unnecessary use of antibiotics and other antimicrobials for growth promotion in food animals, is a global policy target to support conservation of effective antimicrobials for use in human health. It is also increasingly recognized that antimicrobials may be misused in preventative treatment of group of animals or individual animals. Increasing oversight and regulation for the use of antimicrobials in food animals must be a policy target for all countries.

The EU has introduced legislation that bans the use of antimicrobials for growth promotion and of certain specific antimicrobials in food animals,

that will require producers exporting to the EU to adhere to the new implemented standards if they wish to continue or expand exportation of animal derived products into the EU. To reduce the risk of economic disruption in the countries of the Global South that export animal derived products into the EU, there is need for a plan within exporter nations with means to encourage the transition by domestic producers including small scale farmers and commercial, appropriate to the local context and linked to promoting more sustainable livestock production systems. The EU should provide support to countries of the Global South for their implementation of such plans.

Endnotes:

¹ See https://food.ec.europa.eu/system/files/2020-05/f2f_action-plan_2020_strategy-info_en.pdf.

² See <https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>.

³ Antimicrobial Resistance Collaborators, [Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis](#), *Lancet*, 2022 February 12; 399(10325), 629-655, doi:10.1016/S0140-6736(21)02724-0. Epub2022 19 Jan.

⁴ The FAO Action Plan on antimicrobial resistance 2021-2025, <https://www.fao.org/3/cb5545en/cb5545en.pdf>.

⁵ *Ibid.*, at page 3.

⁶ Political Declaration of the High-Level Meeting of the General Assembly on Antimicrobial Resistance : resolution adopted by the General Assembly; UN. General Assembly 71st session: 2016-2017, <https://digitallibrary.un.org/record/845917>.

⁷ International Coordination Group on Antimicrobial Resistance, No Time to Wait: Securing the Future from Drug-Resistant Infections, Report to the Secretary General of the United Nations, April 2019, [iacg_final_summary_en.pdf \(who.int\)](#).

⁸ Global Leaders Group on Antimicrobial Resistance statement on Antimicrobial Use in Food Systems, August 2021, [World leaders and experts call for significant reduction in the use of antimicrobial drugs in global food systems \(who.int\)](#).

⁹ WHO Guidelines on Use of Medically Important Antimicrobials in Food-Producing animals. Geneva: World Health Organization, 2017. <https://apps.who.int/iris/handle/10665/259241>.

¹⁰ OIE List of Antimicrobial Agents of Veterinary Importance,

<https://www.woah.org/app/uploads/2021/03/oie-list-antimicrobials.pdf>.

¹¹ Codex Alimentarius, Code of Practice to Minimize and Contain Foodborne Antimicrobial Resistance, CXC 61-2005, https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworks.pace.fao.org%252Fsites%252Fcodex%252FStandards%252FCXC%2B61-2005%252FCXC_061e.pdf.

¹² Ibid at 11, pp. 4-14.

¹³ EMA (European Medicines Agency), Sales of veterinary antimicrobial agents in 31 European countries in 2019 and 2020, Trends from 2010 to 2020 Eleventh ESVAC report, 2021. doi:10.2809/167341 TC-AE-21-001-EN-C.

¹⁴ ECDC (European Centre for Disease Prevention and Control), EFSA (European Food Safety Authority) and EMA, 2021. Third joint inter-agency report on integrated analysis of consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals in the EU/EEA. EFSA Journal 2021;6712, 164 pp. doi:10.2903/j.efsa.2021.6712.

¹⁵ See for example, FVE (Federation of Veterinarians of Europe), Ban on veterinary use of colistin would impact animal welfare, 4 April 2022, <https://fve.org/ban-on-veterinary-use-of-colistin-would-impact-animal-welfare/>.

¹⁶ Ibid at 4, p. 25.

¹⁷ See document G/SPS/N/EU/557, WTO Committee on Sanitary and Phytosanitary Measures - Notification - European Union - Antimicrobials reserved for treatment of certain infections in humans, 21 April 2022.

¹⁸ Medicated feed is defined in Regulation EU 2019/04 as feed which is directly fed to animals without further processing, which is a mixture of one or more veterinary medicinal products and feed materials).

¹⁹ EU Regulation 2019/6, Article 107.1 states that “other than for exceptional cases, for the administration to an individual animal or a restricted number of animals when the risk of infection or of an infectious disease is very high and the consequences are likely to be severe. In such cases, the use of antibiotic medicinal products for prophylaxis shall be limited to the administration to an individual animal only, under the conditions that are laid out in the first subparagraph.”

²⁰ Coilin Nunan, Ending Routine Farming Antibiotic Use in Europe. Achieving Responsible Farm Antibiotic Use Through Improving Animal Health and Welfare in Pig and Poultry Production, January 2022, report written for the European Public Health Alliance (EPHA).

²¹ See Annual Report on Antimicrobial Agents Intended for Use in Animals, Sixth Report, World Organization for Animal Health, 2022, p. 33.

<https://www.woah.org/app/uploads/2022/06/a->

[sixth-annual-report-amu-final.pdf](#) The country list is not disclosed in the OIE report and results are based on country self-reporting. It is noted that disaggregated by OIE regions, the Americas, Asia, Far East and Oceania have the highest proportions of countries using antimicrobial growth promoters.

²² Nineteen out of forty Countries reporting use of antimicrobials for growth promotion. Ibid., at p. 3.

²³ See Annual Report on Antimicrobial Agents Intended for Use in Animals, Sixth Report, World Organization for Animal Health, 2022, pp. 30-32.

²⁴ See European Commission Factsheet, Meat Market Situation, 28 July 2022,

https://agriculture.ec.europa.eu/system/files/2022-07/factsheet-meat-eggs-market-situation_en_1.pdf. EU meat imports have increased significantly in the first half of 2022 as compared to 2021, and prices are high.

²⁵ See

<https://www.thepoultrysite.com/news/2018/02/how-thai-poultry-business-is-revamping-its-image>, and [Thai livestock and its journey to be responsible antimicrobial users | The Poultry Site](#).

²⁶ See Chuanchuen, R., Presentation on One-Health Approach on AMR Policies: The National Experience in Thailand, Chulalongkorn University, <https://prod5.assets-cdn.io/event/7189/assets/8364641395-6071e0bb9b.pdf>.

²⁷ In the context of the WTO Committee on Sanitary and Phytosanitary Measures, see for example WTO document G/SPS/R/104, pp. 16-17.

²⁸ It is worth noting that many of the changes in housing that facilitate safe reduction in antibiotic use and water and waste management carry longer term cost and energy savings along with global health benefit of reducing the spread of AMR. Transfer of these technologies offer many longer term economic and social benefits.

²⁹ EU-MERCOSUR FTA, Chapter on sanitary and phytosanitary measures, [Text of the EU-Mercosur trade agreement: Sanitary and phytosanitary measures \(europa.eu\)](#).

Previous South Centre Policy Briefs

No. 93, May 2021 – A New WHO International Treaty on Pandemic Preparedness and Response: Can It Address the Needs of the Global South? by Dr. Germán Velásquez and Nirmalya Syam

No. 94, June 2021 – The Role of Courts in Implementing TRIPS Flexibilities: Brazilian Supreme Court Rules Automatic Patent Term Extensions Unconstitutional by Vitor Henrique Ido Pinto

No. 95, June 2021 – Systemic reform of the international debt architecture is yet to start by Yuefen Li

No. 96, Julio 2021 – Precios justos para la cobertura sanitaria universal: El impacto de la judicialización de la salud por Silvina Andrea Bracamonte y José Luis Cassinerio

No. 97, July 2021 – The WTO TRIPS Waiver Should Help Build Vaccine Manufacturing Capacity in Africa by Faizel Ismail

No. 98, July 2021 – The Implementation of the UN Declaration on the Rights of Peasants and Other People Working in Rural Areas: what is next? by Luis Fernando Rosales Lozada

No. 99, August 2021 – The TRIPS COVID-19 Waiver, Challenges for Africa and Decolonizing Intellectual Property by Yousuf Vawda

No. 100, August 2021 – EU Proposals regarding Article 31bis of the TRIPS Agreement in the Context of the COVID-19 Pandemic by Nirmalya Syam

No. 101, September 2021 – The Investment Facilitation Framework & Most Favoured Nation (MFN) Treatment by Peter Lunenborg

No. 102, September 2021 – Accelerating COVID-19 Vaccine Production via Involuntary Technology Transfer by Dr. Olga Gurgula

No. 103, September 2021 – Strong Intellectual Property Protection, Weak Competition Rules – or the Other Way Around to Accelerate Technology Transfer to the Global South? Ten Considerations for a “Prodevelopment” IP-Related Competition Law by Klaus D. Beiter

No. 104, October 2021 – Compulsory licensing vs. the IP waiver: what is the best way to end the COVID-19 pandemic? By Olga Gurgula

No. 105, October 2021 – The International Treaty on Plant Genetic Resources for Food and Agriculture: Saving, Sharing and Taking Care of the Plants and Seeds that Feed the World by Dr. Kent Nnadozie

No. 106, November 2021 – Strengthening WHO for Future Health Emergencies while Battling COVID-19: Major Outcomes of the 2021 World Health Assembly by Nirmalya Syam and Mirza Alas

No. 107, November 2021 – The Doha Ministerial Declaration on TRIPS and Public Health on its Twentieth Anniversary by Nirmalya Syam, Viviana Munoz, Carlos M. Correa and Vitor Ido

No. 108, 25 March 2022 – Mainstreaming Equity in the International Health Regulations and Future WHO Legal Instruments on Pandemic Preparedness and Response by Nirmalya Syam

No. 109, 31 March 2022 – Draft Fisheries Subsidies Agreement: some key issues to address for a sustainable catch by Peter Lunenborg

No. 110, 5 May 2022 – Analysis of the Outcome Text of the Informal Quadrilateral Discussions on the TRIPS COVID-19 Waiver by Carlos M. Correa and Nirmalya Syam

No. 111, 13 May 2022 – Advancing Global Response to Antimicrobial Resistance: Examining Current Global Initiatives by Mirza Alas

No. 112, 28 June 2022 – IPR-related Statistics in WTO Trade Policy Reviews by Peter Lunenborg

No. 108, 25 March 2022 – L'intégration de l'équité dans le Règlement sanitaire international et les futurs instruments juridiques de l'OMS sur la préparation et la riposte aux pandémies, par Nirmalya Syam

No. 108, 25 March 2022 – La incorporación de la equidad en el Reglamento Sanitario Internacional y en futuros instrumentos jurídicos de la OMS sobre preparación y respuesta frente a pandemias, por Nirmalya Syam

No. 113, 11 October 2022 – A Breakthrough in Negotiations on Intellectual Property, Protection of Genetic Resources and Traditional Knowledge in WIPO? by Dr. Viviana Muñoz Tellez



The South Centre is the intergovernmental organization of developing countries that helps developing countries to combine their efforts and expertise to promote their common interests in the international arena. The South Centre was established by an Intergovernmental Agreement which came into force on 31 July 1995. Its headquarters is in Geneva, Switzerland.

Readers may reproduce the contents of this policy brief for their own use, but are requested to grant due acknowledgement to the South Centre. The views contained in this brief are attributable to the author/s and do not represent the institutional views of the South Centre or its Member States. Any mistake or omission in this study is the sole responsibility of the author/s. For comments on this publication, please contact:

The South Centre
International Environment House 2
Chemin de Balexert 7-9
PO Box 228, 1211 Geneva 19
Switzerland
Tel.: +41 22 791 8050
south@southcentre.int
<https://www.southcentre.int>

Follow the South Centre's Twitter: South_Centre 