

## I 4. The cost of AMR

In 2017, a World Bank report estimated that global annual gross domestic product (GDP) could fall by 1.1 per cent by 2050 relative to a base-case scenario with no AMR effects, while in a high-impact AMR scenario, the loss could be as much as 3.8 per cent. Under that high-impact scenario, an additional 24 million people would be forced into extreme poverty by 2030, mostly in low-income countries. This would make SDG 1, to eliminate poverty by 2030, harder to reach.<sup>25</sup> According to the most recent research funded by the United Kingdom (2024), conducted by the World Organisation for Animal Health (WOAH) and the World Bank, in a scenario of failing to contain drug resistance, there could be a staggering US\$ 1.7 trillion annual reduction in global economic output by 2050, amounting to a 0.9 per cent decrease in GDP due to the economic impacts of AMR in humans.<sup>26</sup>

A 2024 United Nations report said countries were “severely off track” to meet the SDGs, with only 15 per cent of SDGs currently likely to be achieved.<sup>27</sup> Globally, the extreme poverty rate increased in 2020 for the first time in decades, setting back progress by three years. Since then, the recovery has been uneven, with low-income countries lagging. The prolonged impact of Covid-19, compounded by conflict, climate change and economic turmoil, continues to pose interrelated challenges when it comes to achieving the SDGs. AMR is an additional burden.<sup>28</sup>

The World Bank’s 2017 report also estimated that global livestock production could decline by 2.6-7.5 per cent per year – and by 11 per cent in LMICs – by 2050 due to AMR.<sup>29</sup> The aforementioned

2024 research by the WOAH and the World Bank estimates that annual livestock production losses due to AMR will equal the consumption needs of 746 million people by 2050 and, under a more pessimistic assumption, as many as 2 billion people globally.<sup>30</sup>

According to a recent report by the Global Leaders Group (GLG) on AMR,<sup>31</sup> the larger AMR impact on LMIC livestock production is due to the heavier burden of animal disease and limited access to preventative measures such as vaccines, leading to an overdependency on increasingly ineffective antimicrobials to control animal diseases.<sup>32</sup> With more than 1.3 billion people relying on livestock for their livelihoods and over 20 million people depending on aquaculture,<sup>33</sup> there is an urgent need to prioritise actions and policies targeting AMR in animals, such as herd and health management (for example, biosecurity, biosafety, animal welfare, feed management and so on).

The same GLG report warns that: (i) AMR’s human and economic impacts are already staggering and will grow exponentially, particularly in LMICs, without a much more robust global response; (ii) AMR could reduce life expectancy globally by 1.8 years over the next decade (as mentioned in [Section 2](#)); (iii) AMR is expected to lead to far greater healthcare expenditures, with total expenses to treat resistant bacterial infections alone reaching US\$ 412 billion annually by 2035; and (iv) increased morbidity and mortality from these infections will lead to lower workforce participation and productivity losses of US\$ 443 billion per year.

<sup>25</sup> See Jonas et al. (2017).

<sup>26</sup> See WOAH and World Bank (2024).

<sup>27</sup> See United Nations Statistics Division (2024).

<sup>28</sup> Ibid.

<sup>29</sup> See Jonas et al. (2017).

<sup>30</sup> See WOAH and World Bank (2024).

<sup>31</sup> See Global Leaders Group on Antimicrobial Resistance (n.d.).

<sup>32</sup> See Global Leaders Group on Antimicrobial Resistance (2024).

<sup>33</sup> See FAO (2022).

The cost of AMR is also sizeable in high-income countries, where more data are available. A 2023 Organisation for Economic Co-operation and Development (OECD) report shows that the cost of treating complications due to AMR infections is close to US\$ 30 billion annually, adjusting for purchasing power parity, across 34 OECD and EU/European Economic Area (EEA) countries.<sup>34</sup> For comparison, across 17 countries where data are available, the total health expenditure incurred each year due to AMR is almost 20 per cent of all health expenditure for treating Covid-19 patients in 2020. This means that the cost of treating AMR patients for five years is roughly equivalent to that of treating all Covid-19 patients in 2020 alone.<sup>35</sup>

The OECD report also suggested that scaling up investments in One Health packages of actions against AMR – human health interventions in

relation to antimicrobial stewardship (AMS), better environmental and hand hygiene in healthcare settings and better food safety practices and biosecurity on farms – in the EU/EEA and OECD countries could generate a significantly greater return than the cost of implementation. Every US\$ 1 generates the equivalent of US\$ 5 in economic benefits through reductions in health expenditure and increased productivity at work.<sup>36</sup>

The GLG report, meanwhile, states that if a package of AMR interventions it recommends were implemented globally, it would be likely to cost an average of US\$ 46 billion per year and yield a return of US\$ 7-13 for every US\$ 1 spent by 2050. This makes a compelling global economic case for sustainable investment in AMR response.

<sup>34</sup> See OECD (2023).

<sup>35</sup> Ibid.

<sup>36</sup> Ibid.