Panorama Perspectives

Conversations on Planetary Health

Issue and Policy Intersections for Planetary Health
Finding National Entry Points

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PANORAMA

The *Panorama Perspectives: Conversations on Planetary Health* report series aims to inspire new thinking, conversations, and engagement with planetary health and other integrated concepts. Collaboration and open knowledge sharing across sectors are necessary to solve the complex global health and development problems of today.

The *Conversations on Planetary Health* series is comprised of five reports:
- Planetary Health 101: Information and Resources
- The Planetary Health Landscape: From Concept to Action
- Global Policy Opportunities for Planetary Health: A Review of Existing Policy Frameworks
- Issue and Policy Intersections for Planetary Health: Finding National Entry Points
- The Philanthropic Funding Landscape for Integrating Health and Environment

These reports are intended as practical tools, presenting actionable opportunities to advance planetary health. Each report expands on knowledge gathered from many sources, including analysis of publicly available reports and data; forums and events; group discussions; and individual conversations. All content represents Panorama's opinion unless otherwise noted.

We welcome continued dialogue on the report topics. To receive the reports directly, please write to info@panoramaglobal.org or visit us at panoramaglobal.org/planetary-health.

Panorama is an action tank working to solve global problems through audacious thinking and bold action. We bring together diverse perspectives to spark new ideas that create change. We partner with ambitious leaders to strengthen their organizations and achieve their goals, and we initiate projects when we see gaps that need to be filled. Our work on planetary health is supported by a grant from The Rockefeller Foundation.

Issue and Policy Intersections for Planetary Health
Finding National Entry Points

Introduction

Planetary health is a nascent concept that has the potential to encourage public and private sector decision making that balances human health and the health of our planet. Defined as "the health of human civilization and the state of the natural systems on which it depends,[1]" the concept of planetary health draws attention to the urgent need for more sustainable ways to live to ensure the health and well-being of future generations.

As the planetary health community considers how to move from concept to action and achieve this goal, global and national level policy processes need to be considered, with the science behind the integration of health and environment translated into impactful decisions and programs. To date, much focus has been given to decisions at the global level, especially given how closely the concept of planetary health aligns with leading global policy frameworks that necessitate an integrated approach for success – the Convention on Biological Diversity (CBD) Aichi Biodiversity Targets, the Paris Climate Agreement, and the Sustainable Development Goals (SDGs).[2]

However, implementation of these three global frameworks happens at the country level. So, while important global discussions are ongoing, those interested in advancing integrated concepts, like planetary health, should also consider opportunities at a national level.

To help encourage action at the country-level, Panorama and The Rockefeller Foundation considered how to make use of existing research to reveal entry points for the planetary health community to engage with national policymakers.

With this science to policy mindset, we undertook a review of countries worldwide with a goal of finding nations that are both experiencing issues related to planetary health and working to implement the global policy frameworks relevant to planetary health.

Through this review, we identified 15 countries on five continents that have a strong combination of these two factors: Brazil, Botswana, China, Ethiopia, Guinea, Jamaica, Jordan, Kenya, Laos, Mexico, Nepal, Niger, Nigeria, Peru, and Uganda.

We posit that policymakers in these countries may be more interested in learning about the concept of planetary health and how it could help them to not only achieve near-term goals, but ultimately make lasting change that improves the lives of their citizens.

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[1] Sarah Whitmee et al. "Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation-Lancet Commission on planetary health," *Lancet* 386, 10007 (2015).

[2] See *Conversations on Planetary Health* Report III: *Global Policy Opportunities for Planetary Health: A Review of Existing Policy Frameworks*

Our findings are laid out in the following sections of the report:

Approach

To undertake this review, we first took a step back to assess what we already know.

First, we know that many countries worldwide are dealing with the type of complex, interdependent issues that the concept of planetary health envisions solving. For the purposes of this report, we will call these "planetary health issues," while acknowledging that this is not an established term, nor are there set criteria by which to judge an issue as solvable through a planetary health lens.

Second, we know that countries are at various stages of implementing the planetary health related global policy frameworks, whether by signing on to the agreements, submitting nationally determined contributions (NDCs), or writing national plans that could result in policy in the future.

Thus, we believe the intersection of these two factors represents a viable entry point for the planetary health community to gain more immediate traction with national policymakers.

For the purposes of this review, we are not setting out what exactly implementing the concept of planetary health at a national level should or could look like. This is a complicated and nuanced aspect of moving the concept of planetary health to action that will be highly dependent on the unique needs of each country. We are, however, trying to encourage progress in this regard by identifying openings that could be leveraged to speed the uptake of the concept of planetary health.

We undertook four primary steps for our review, based on publicly available research and data from credible and well-respected global institutions:

1. Selected five planetary health related issues, and identified which countries worldwide are experiencing at least one of these issues
2. Identified which countries worldwide are participating in at least one of the planetary health related global policy frameworks
3. Excluded countries worldwide that are considered fragile or conflict-affected

4. Combined this information to identify countries that represent the strongest entry points for the concept of planetary health

Figure 1. Approach to Determining National Entry Points for Planetary Health

Planetary Health Issues

As the first step in our assessment, we worked to identify a set of planetary health issues. We started by looking at all the issues that either were included in *The Rockefeller Foundation-Lancet Commission on Planetary Health* report or are currently research foci within the planetary health community.[3]

Not surprisingly, this resulted in a wide set of issues, given the breadth of the planetary health concept. So, we narrowed them down through the following criteria. Each of the issues are:
- Relevant to all countries worldwide, not just to certain geographies
- Experienced and addressed at a national level
- Well known and studied; therefore, an expert report or dataset exists that identifies country-level susceptibility or impact
- Broadly understandable with a direct impact on health

Five issues rose to the top through this process:
- Ambient Air Pollution and Health
- Biodiversity Loss and Health
- Climate Change Impact Vulnerability
- Food Security
- Pandemic Zoonotic Disease Outbreak Risk

These five issues are listed in Table 1, alongside the most recent and comprehensive global research available[4] that delineates data for each issue on a country level, along with the associated metric.

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[3] See *Conversations on Planetary Health* Report I: *Planetary Health 101: A Compilation of Knowledge and Resources*
[4] As of August 2017, these reports represent the best resources available for our purposes, but we note that more research is underway

Table 1: Planetary Health Issue, Research, and Primary Metric

Issue	Global Report	Metric
Ambient Air Pollution and Health	WHO, *Ambient air pollution: A global assessment of exposure and burden of disease*, 2015	Age standardized disability-adjusted life years (DALYs) per 100,000 capita attributable to ambient air pollution in 2012
Biodiversity Loss and Health	Yale Environmental Performance Index, Biodiversity and Habitat Indicator, 2014	Average score on terrestrial protected areas, marine protected areas, and critical habitat protection
Climate Change Impact Vulnerability	Notre Dame, Global Adaptation Initiative (ND-GAIN) Index, 2015	Average score of health vulnerability and human habitat vulnerability metrics
Food Security	World Food Programme, *Year in Review*, 2015	Percentage of a nation's population that received food assistance in 2015
Pandemic Zoonotic Disease Outbreak Risk	USAID PREDICT Report, *Reducing Pandemic Risk, Promoting Global Health*, 2014 & PREDICT 2015, 2016, and 2017 Annual Reports[5]	Nations featured in country-level reports on pandemic preparedness and risk of spillover

We acknowledge that many more issues are related to planetary health; but we have focused on these five as a starting point for this report. For example, urbanization is an important topic for the planetary health community, as it cuts across both health and environmental issues, including some of those we have selected for this report. However, urbanization is more directly addressed at the sub-national level, and at this time there is not a global report that delineates data on a national level.

Countries Experiencing Planetary Health Issues

For the second step in our evaluation, we carefully reviewed each of these issue reports and compiled a comprehensive list of 195 countries that are experiencing at least one of the five planetary health issues.

We then scored each country by the five issues on a scale in which the highest score reflected the greatest susceptibility to the issue or severity of the issue. An example of susceptibility is the risk of a zoonotic outbreak, which is unpredictable, and countries may be susceptible without experiencing an actual outbreak. An example of severity is food security, where a country may be experiencing higher or lower levels of hunger or malnutrition. The scale of susceptibility or severity for each country was drawn directly from the global report for each issue.

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[5] The 2014 report identifies risk of zoonotic spillover at a national level worldwide. We also have included expanded countries included in the 2015-2017 annual and semiannual reports

Next, we assessed these issues together and aggregated their total burden on a given country. This was achieved through basic statistical analysis where each issue was given equal weight. Then, by averaging these scores we were able to rank all 195 countries from highest to lowest total burden.[6]

Countries Taking Up Planetary Health Related Frameworks

For the third step in the process, we focused in on understanding how countries may be addressing these challenges through policy. We evaluated each country's uptake of the global frameworks most aligned with the concept of planetary health – the CBD Aichi Biodiversity Targets, Paris Climate Agreement, and the SDGs – as an indicator of whether the country has prioritized finding policy solutions to these challenges. To do this, we used a specific metric relevant to each framework, as follows.

Table 2: Global Policy Framework Uptake Indicator

Framework	Metric
CBD Aichi Biodiversity Targets	National target or goal on Aichi Biodiversity Target 14 relating to ecosystem services and human health
Paris Climate Agreement	First submission of Nationally Determined Contributions, which outline national commitment to reducing greenhouse gas emissions
SDGs	Participation in Voluntary National Reviews, which measure progress toward SDG achievement, at annual High Level Political Forums

These indicators represent the publicly-available information on implementation, after a country ratifies a framework. They are limited in what they tell us, given that each country's implementation is dependent on its unique policy processes, which would require much deeper research to reveal. But at the highest level these indicators show forward movement, which we focused on for this evaluation.

Reviewing these indicators resulted in a list of 170 countries. Each country was then given a score for each indicator it has completed. For our purposes, we gave participation with each framework the same weight, but we acknowledge that individual countries may prioritize the frameworks differently. All the countries participating in at least one policy framework also experience at least one of the five planetary health issues we identified.

In total, we found that 22 of the 170 countries have engaged all three frameworks, while 100 have engaged in more than one. By committing to these frameworks, country governments are now accountable to reach goals that require an integrated health and environment approach.

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[6] See Appendix I: Planetary Health Issues Scoring

## Countries Representing Strongest Entry Points for Planetary Health

The final step in our evaluation was to combine our learnings. By taking a cross-cutting look at the overall burden of issues each country faces and each country's policy uptake, we generated an overall "readiness score."

During this step, we eliminated countries that, while experiencing planetary health issues, have a limited capacity to adopt the concept of planetary health due to conflict or severe humanitarian crises.[7] Twenty-three countries were removed, which reduced the number of countries in our final analysis to 147.[8]

For these 147 countries, we undertook a simple statistical process to balance the issue scores and policy scores to generate the readiness score. Thus, we could see how the countries compared to each other and which ones rose to the top.[9]

Fifteen countries ranked the highest after combining the issue and policy scores. These countries are listed below in order of readiness score, from high to low, and the geographic spread is illustrated on the following map.

Figure 2: Map of Top 15 Countries by Readiness Score

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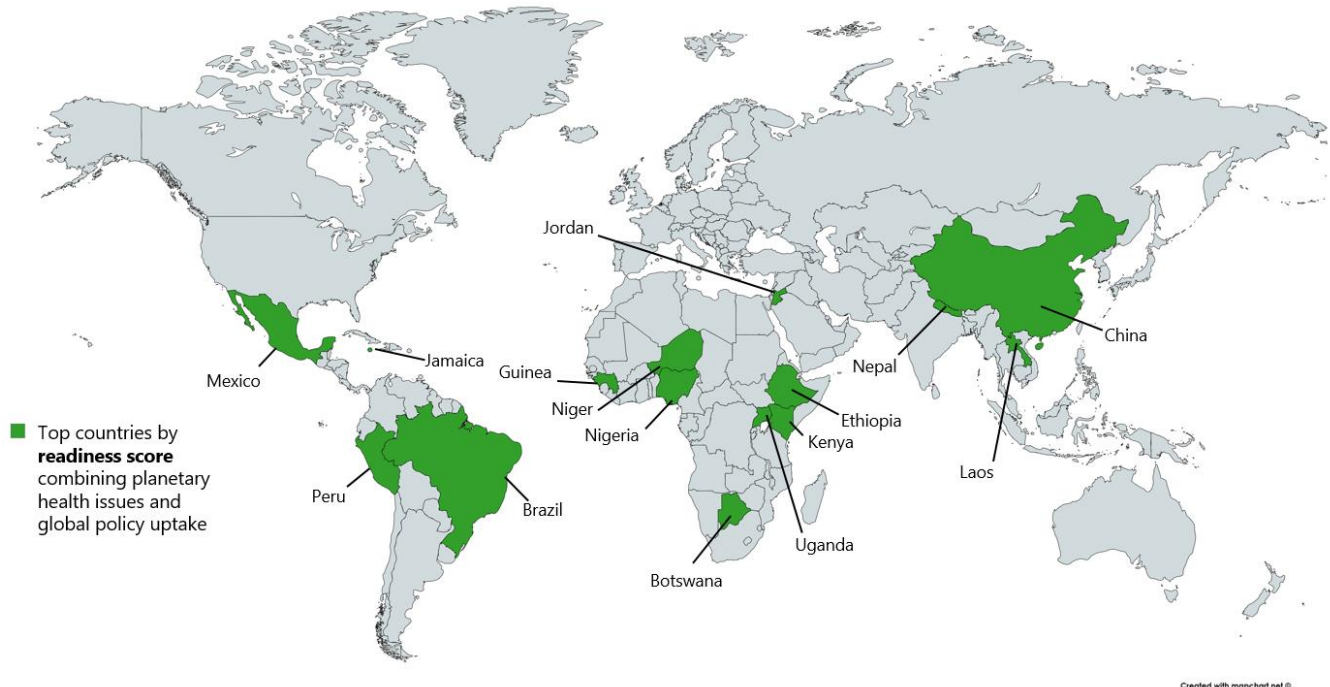
[7] World Bank Harmonized List of Fragile Situation FY 18, accessed August 2017
[8] The readiness score shows how countries ranked based on the probability that they were most likely experiencing planetary health issues and engaging in global policy frameworks
[9] See Appendix III: Countries by Readiness Score

Table 3: List of Top 15 Countries by Readiness Score, Highest to Lowest

• Ethiopia	• Laos
• Uganda	• Brazil
• Guinea	• Mexico
• China	• Botswana
• Peru	• Kenya
• Nepal	• Jamaica
• Nigeria	• Jordan
• Niger	

These countries represent the greatest opportunity for uptake of the planetary health concept because each country is not only experiencing at least one planetary health issue, but it is also actively trying to address the problems through the uptake of planetary health related global policy frameworks that require an integrated health and environment approach.

By identifying and highlighting these countries, we are in no way suggesting the exclusion of or discounting the possibility of any other country being interested in the concept of planetary health. Nor are we saying that that the implementation of the concept of planetary health should be narrowly focused. Rather, we are pointing to these 15 countries as a more immediate entry point to potentially move planetary health from concept to action.

Findings

Key findings from our analysis are summarized below:

- The top 15 countries span five continents, and the majority of these countries are low and middle income. This reconfirms both that the burden of these planetary health issues is disproportionately felt by the Global South and that these countries are actively engaging in policy to address these problems.

- These countries represent a mix of small and large economies. Several of the larger economies have an influential voice in regional and global forums, which should be considered when thinking about entry points for advancing the concept of planetary health.

- The top 15 countries tend to be less impacted by the issue of food security but were more impacted by the issues of air pollution, biodiversity loss, climate change vulnerability, and zoonosis. A possible reason for this could be that a country with the capacity to engage most with global frameworks may be more economically developed and able to meet basic needs like food.

- While relatively few countries worldwide are at risk of a zoonotic disease outbreak, half of our top 15 countries are at risk. Thus, zoonosis is a key issue opportunity for the planetary health

community to address, especially noting that it may have a strong association with other planetary health issues such as climate change.

- Because issue and policy were evenly combined to create the readiness score, both were seen as equally important to whether a country may be interested in learning about the concept of planetary health. Therefore, countries that may be experiencing the issues significantly, such as India being highly affected by air pollution, or Malawi, moderately to highly effected by all issues, didn't make our top list likely because of their lesser engagement with the global policy frameworks.

Recommendations

There are many ways that the planetary health community can build on the findings of this report.

1. *Leverage existing relationships to reach national policymakers*
Finding ways to engage national policymakers with the concept of planetary health will require a thoughtful and nuanced approach that reflects the needs and capacity of each individual country. One way to start this process would be to leverage the planetary health community and its broader network that may already be active in a particular country. Existing partnerships within countries represent an opportunity to build relationships and open doors to policymakers. Activities as simple as a roundtable or networking events, can help align efforts and generate a stronger voice calling for integrated health and environment thinking and action.

2. *Gain a deeper understanding of individual countries*
To effectively engage policymakers in individual countries it is important to understand the overall context in which they operate. A way to gain more of this knowledge is to build on this report in two initial ways. First, an in-depth review of national strategic plans and policies, laws and regulations, national initiatives and programs, and partnerships with multilaterals or private foundations that address planetary heath issues. Second, this report could be furthered through a comparative review of the top 15 countries identified in this report with other global indicators, such as economic vitality, and the capacity of national infrastructure in regard to transparency of national government or the strength of health and environmental systems.

3. *Focus in on a measurable set of planetary health issues*
The planetary health issues set out in this report represent just a few of the numerous issues that have been discussed or considered around the concept of planetary health. However, as seen through this review, focusing in on a set of issues is advantageous when trying to move planetary health from concept to action. If the community could prioritize a set of issues related to planetary health, it would help achieve the following:
- Hone and define the concept of planetary health through practical application;
- Expand the reach of the concept by engaging new communities that are active in health and environmental spaces and looking for ways to make more progress on their issue; and
- Open doors to public and private sector decision makers who are engaged in specific issues.

Overall, many opportunities exist to use the knowledge we have today to encourage policy action, especially at the national level. The planetary health community should continue working to find focus that increases its influence to not only move quickly from concept to action, but to gain greater traction with policymakers worldwide who have the power and resources to make lasting improvements in their countries and communities.

Appendix
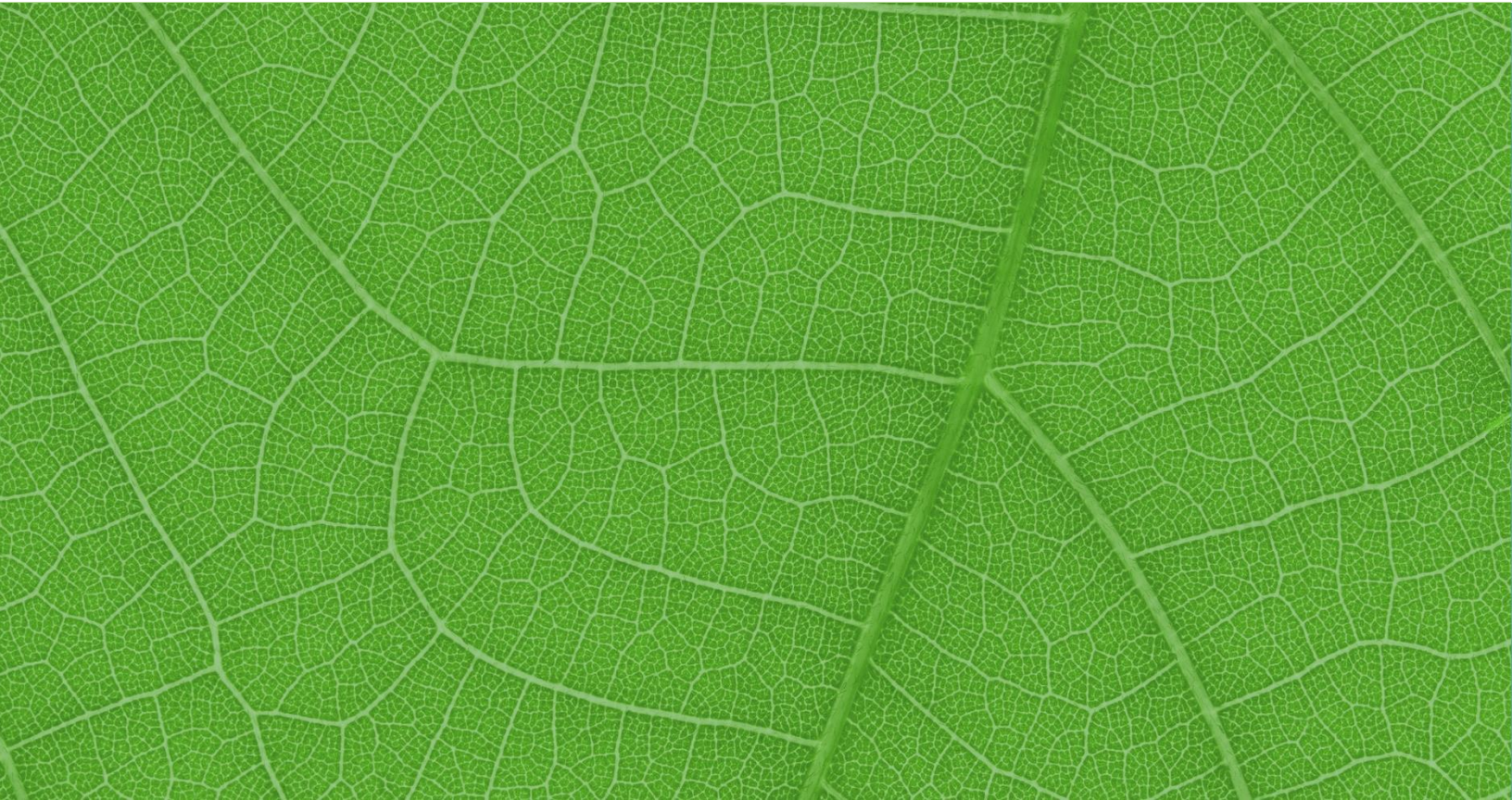
Appendix I: Planetary Health Issues Scoring

The following details the methodology we used for scoring planetary health issues, and the results for the top 15 countries.

Methodology
We drew all data and analysis from publicly available reports by leading global governance institutions, academic research centers, or research partnerships that monitor the selected issue closely.

For the four issues of ambient air pollution and health, biodiversity loss and health, climate change impact vulnerability, and food security, we translated the data breakdowns found in the related global reports into a 1-5 scoring system where 5 indicated that the country was experiencing the issue most severely.

For the issue of pandemic zoonosis research focuses on a country's susceptibility to pandemic zoonosis, instead of looking at susceptibility. So, for this issue we translated the data breakdowns into a simple score of 0 for countries not susceptible and 1 point for countries that are susceptible.

Table A1: Planetary Health Issue Score Translation

Issue	Report	Metric	Score Translation
Ambient Air Pollution and Health	WHO report, *Ambient air pollution: A global assessment of exposure and burden of disease*, 2015	Age standardized disability-adjusted life years (DALYs) per 100,000 capita attributable to ambient air pollution in 2012	1 = 0-299 2 = 300-679 3 = 680-999 4 = 1000-1499 5 = ≥1500
Biodiversity Loss and Health	Yale Environmental Performance Index, Biodiversity and Habitat Indicator, 2014	Average score on terrestrial protected areas, marine protected areas, and critical habitat protection	1 = 0.00-19.99 2 = 20.00-39.99 3 =40.00-59.99 4 = 60.00-79.99 5 = 80.00-100.00
Climate Change Impact Vulnerability	Notre Dame, Global Adaptation Initiative (ND-GAIN) Index, 2015	Average score of health vulnerability and human habitat vulnerability metrics	1 = 0.00-0.19 2 = 0.20-0.39 3 = 0.40-0.59 4 = 0.60-0.79 5 = 0.80-1.00
Food Security	World Food Programme, *Year in Review*, 2015	Percentage of a nation's population that received food assistance in 2015	1- 0.00-1.99% 2- 2.00-4.99% 3- 5.00-9.99% 4- 10.00-14.99% 5- ≥15.00%
Pandemic Zoonotic Disease Outbreak Risk	USAID PREDICT Report, *Reducing Pandemic Risk, Promoting Global Health*, 2014 & PREDICT 2015, 2016, 2017 Annual Reports	Nations featured in country-level reports on pandemic preparedness and risk of spillover	0 = Country not susceptible 1 = Country susceptible

Results

The results of this scoring for the top 15 countries are as follows.

Table A2: Top 15 Countries by Planetary Health Issue Score

Country	Air Pollution	Biodiversity Loss	Climate Change	Food Security	Pandemic Zoonoses
Ethiopia	3	5	4	3	1
Uganda	4	5	4	2	1
Guinea	4	3	4	2	1
China	5	4	2	1	1
Peru	2	4	3	1	1
Nepal	5	4	3	2	1
Nigeria	5	3	3	1	0
Niger	5	4	4	3	0
Laos	4	5	3	2	1
Brazil	2	4	2	1	1
Mexico	2	4	2	1	1
Botswana	3	5	3	1	0
Kenya	3	4	4	2	1
Jamaica	2	5	3	1	0
Jordan	4	1	2	4	1

Table A3: Top 15 Countries by Planetary Health Standardized Issue Score

Country	Air Pollution	Biodiversity Loss	Climate Change	Food Security	Pandemic Zoonoses	Total Issue Score	Standardized Issue Score[10]
Ethiopia	0.24	1.08	2.04	2.33	2.10	7.80	2.60
Uganda	0.96	1.08	2.04	0.97	2.10	7.15	2.39
Guinea	0.96	0.46	2.04	0.97	2.10	5.90	1.97
China	1.68	-0.17	-0.28	-0.40	2.10	3.56	1.19
Peru	-0.48	0.46	0.88	-0.40	2.10	2.56	0.86
Nepal	1.68	0.46	0.88	0.97	2.10	6.09	2.03
Nigeria	1.68	-0.79	0.88	-0.40	-0.47	1.52	0.51
Niger	1.68	0.46	2.04	2.33	-0.47	6.03	2.01
Laos	0.96	1.08	0.88	0.97	2.10	5.99	2.00
Brazil	-0.48	-0.17	-0.28	-0.40	2.10	1.41	0.47
Mexico	-0.48	0.46	-0.28	-0.40	2.10	1.41	0.47
Botswana	0.24	0.46	0.88	-0.40	-0.47	1.33	0.44
Kenya	0.24	0.46	2.04	0.97	2.10	5.81	1.94
Jamaica	-0.48	1.08	0.88	-0.40	-0.47	0.62	0.21
Jordan	0.96	1.08	-0.28	3.69	2.10	5.06	1.69

To ensure we could combine the issues and policy scores, and to accommodate the zoonoses scale, which was not the same as the other issues, we standardized the values for each issue so that they would evenly contribute to an overall ranking.

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[10] Total issue score is based on individual standardized issue scores, which were summed and standardized again for the standardized issue score

The standardized issue score reveals how far off a country is from the average of all countries on the list – the higher or lower the score, the further the country is from the average.

A high issue score means these countries are experiencing more of these issues and experiencing them to the greatest extent.

A negative standardized issue score means that a country less likely than average to be experiencing these issues or experiencing them severely. It does not mean that a country is benefiting from the issue or not affected at all by it.

Appendix II: Planetary Health Related Global Policy Frameworks Scoring

The following details the methodology we used for scoring countries by uptake of global policy frameworks related to planetary health, and the results for the top 15 countries.

Methodology

We ranked a nation's willingness and ability to take on planetary health related issues based on their engagement with existing global policy frameworks aligned with planetary health. Engagement with each of the frameworks was determined by the following criteria, as reflected by publicly available data in August 2017. These frameworks were weighted equally, meaning participation gave the country one point for each framework, with possible total score of up to 3 points. We didn't undertake any efforts to scale participation, as no such expert evaluation of policy engagement on these frameworks exists.

Table A4: Global Policy Framework Uptake Indicator

Framework	Indicator
SDGs	Participation in Voluntary National Reviews from 2015-2018 which measure progress toward SDG achievement, at annual High Level Political Forums
Paris Climate Agreement	First submission of Nationally Determined Contributions, which outline national commitment to reducing greenhouse gas emissions
CBD Aichi Biodiversity Targets	National target or goal around Aichi Biodiversity Target 14, which relates to ecosystem services and human health

Results

The overall top-scoring nations have engaged with frameworks, as follows.

Table A5: Top 15 Countries by Planetary Health Policy Score

Country	SDG Voluntary National Reviews, 2015-2018	CBD Aichi Biodiversity Target 14	Paris Climate Agreement	Total Policy Score	Standardized Policy Score[11]
Ethiopia	1	1	1	3	1.93
Uganda	1	1	1	3	1.93
Guinea	1	1	1	3	1.93
China	1	1	1	3	1.93
Peru	1	1	1	3	1.93
Nepal	1	0	1	2	0.41
Nigeria	1	1	1	3	1.93
Niger	1	0	1	2	0.41
Laos	1	0	1	2	0.41
Brazil	1	1	1	3	1.93
Mexico	1	1	1	3	1.93
Botswana	1	1	1	3	1.93
Kenya	1	0	1	2	0.41
Jamaica	1	1	1	3	1.93
Jordan	1	0	1	2	0.41

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[11] Like the Issue score, the policy scores were standardized for comparability

Appendix III: Countries by Readiness Score

To combine the issue and policy scores in a way that was balanced – since there are more criteria that make up the issue score than policy score – we standardized the scores and compiled them into one readiness score. We then ranked countries based on their readiness scores, which tells us, on average, the probability that a nation is both experiencing planetary health related issues and engaging in planetary health related policy frameworks. A higher score means a greater probability.

The top 15 countries had a readiness score higher than 2, which means that they are much more likely than other countries to be both experiencing planetary health issues and participating in a planetary health related global policy framework.

Table A6: Top 15 Countries By Readiness Score

Country	Standardized Issue Score	Standardized Policy Score	Readiness Score
Ethiopia	2.60	1.93	4.54
Uganda	2.39	1.93	4.32
Guinea	1.97	1.93	3.90
China	1.19	1.93	3.12
Peru	0.86	1.93	2.79
Nepal	2.03	0.41	2.44
Nigeria	0.51	1.93	2.44
Niger	2.01	0.41	2.43
Laos	2.00	0.41	2.41
Brazil	0.47	1.93	2.40
Mexico	0.47	1.93	2.40
Botswana	0.44	1.93	2.38
Kenya	1.94	0.41	2.35
Jamaica	0.21	1.93	2.14
Jordan	1.69	0.41	2.10

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