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# National Biodiversity Strategies and Action Plans: Natural Catalysts for Accelerating Action on Sustainable Development Goals



The data in this report comes from the actions included in 60 National Biodiversity Strategies and Action Plans (NBSAPs). These NBSAPs have all been submitted to the Secretariat of the Convention on Biological Diversity after 2010, and all are from countries eligible to receive funding from the Global Environmental Facility. This is a living document, which will be updated periodically as more NBSAPs are submitted. The data behind this report are available upon request, by contacting [Jamison.ervin@undp.org](mailto:Jamison.ervin@undp.org).

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# Introduction

In 2010, the Conference of Parties of the Convention on Biological Diversity (CBD) agreed to an ambitious set of 20 targets, called the Aichi Biodiversity Targets, as part of their commitment to the CBD Strategic Plan. One of the Targets (Target 17) called for each country to revise its National Biodiversity Strategies and Action Plan (NBSAP) in accordance with the Aichi Biodiversity Targets. From 2010 to November 2016, virtually all countries have revised, or are currently completing the revision of, their NBSAP. As of November 2016, 123 countries (76 of them eligible for official development assistance) have submitted post-2010 NBSAPs. At the same time, the world agreed to an ambitious set of 17 Goals and 169 Targets in 2015, called the Sustainable Development Goals.

The absence of a widely accepted taxonomy for describing NBSAP actions makes any systematic and cross-cutting analysis of NBSAPs difficult. Moreover, the collective contribution of specific NBSAP actions to Sustainable Development Goals has not yet been studied. The purpose of this analysis is to systematically understand the breadth and depth of actions proposed across all NBSAPs, to propose a common framework for analysis, and to understand the relationship between NBSAPs and the Sustainable Development Goals.

The unit of analysis in this study is an action – a statement regarding a country’s intention to undertake a specific act or set of activities. Actions typically include two parts: a thematic category (e.g., restoration, protection, sustainable use) and a generic action statement (e.g., develop a plan, conduct research, strengthen governance). Based on these two parameters, the researchers developed a two-part taxonomy that can be used to describe any action found within an NBSAP – a set of 16 thematic categories and 125 sub-categories, and a set of 24 generic actions, that together, can describe virtually any action found in any NBSAP. This study included more than 6,000 actions from 60 countries. Because this taxonomy was first developed in a bottom-up exercise, and then refined and revised over time, the result is that the categories and actions were able to be used to describe nearly all of the NBSAP actions included in this analysis.

The researchers tagged each of the actions in this analysis not only by the thematic categories and generic actions of this taxonomy, but also by the associated primary and secondary Sustainable Development Goals (SDGs) and their associated targets (as well as by Aichi Biodiversity Targets). In doing so, the collective impact of the contribution of NBSAPs toward fulfilling the SDGs is beginning to emerge. The data from this analysis are far richer and more complex than this interim report can convey. However, it is clear from this preliminary analysis that the impact of NBSAP actions extends far beyond Goal 14 (Life Below Water) and Goal 15 (Life on Land). The NBSAP examples of actions provided under each of the categories illustrate how a single action can contribute to multiple goals. The actions included across all NBSAPs would, if fully implemented, catalyze progress in national food security, water security, livelihoods, economic growth, disaster risk reduction, health, gender and climate resilience, among other goals. Furthermore, because NBSAPs are adopted as policy instruments, they provide a ready pathway for fast implementation of national sustainable development goals.

Investing in biodiversity and ecosystems through NBSAP actions also ensures that no one is left behind in the implementation of the SDGs. Nature provides a safety net to billions of people around the world: 1.6 billion people depend on forests for jobs, livelihoods, food and fuel; one out of eight people depend on fisheries for their livelihoods; and more than 4 billion people depend on medicines derived from forests for their health. Investing in nature helps ensure that the most vulnerable people in society, especially the more than 800 million people living in poverty, have a durable safety net.

The recommendations included at the end of this report highlight the potential need for targeted support to countries to implement key thematic areas. The authors hope that this preliminary analysis will enable governments, and the organizations that support them, to focus their efforts on supporting those thematic areas that will have the most impact in accelerating progress in implementing NBSAP actions. They also hope this report will encourage donor organizations to consider supporting the implementation of NBSAP actions that have direct SDG outcomes.

With the exception of the summary analysis (which has its own key), the analysis used the key below.

Size of circles represents number of countries; shade of circle represents number of actions:				
○ 1-3 countries;	○ 4-9 countries;	○ 10-18 countries;	○ 19-39 countries;	○ > 39 countries
○ 1-3 actions;	● 4-9 actions;	● 10-18 actions;	● 19-39 actions;	● >39 actions

# TAXONOMY USED IN THE ANALYSIS OF NBSAP ACTIONS

## THEMATIC CATEGORIES

The authors tagged all actions by the Aichi Biodiversity Targets, but also aggregated some of the targets into broader themes to facilitate efficient tagging and reporting. The following thematic categories were used in the analysis for this report.

- **AWARENESS AND KNOWLEDGE** (e.g., education, awareness campaigns, research, traditional knowledge; related to Aichi Biodiversity Target 1, 18 and 19)
- **MAINSTREAMING BIODIVERSITY INTO DEVELOPMENT PLANNING** (e.g., poverty plans, national development planning, spatial planning; related to Aichi Biodiversity Target 2 and 20)
- **MAINSTREAMING BIODIVERSITY INTO KEY SECTORS** (tourism, energy, extractives; related to Aichi Biodiversity Target 4)
- **SUSTAINABLE USE OF NATURAL RESOURCES** (agriculture, forestry, fisheries, rangelands, wildlife, water; actions related to Aichi Biodiversity Targets 5, 6 and 7)
- **POLLUTION, BIOSAFETY AND INVASIVE ALIEN SPECIES** (e.g., industrial pollution, living modified organisms, genetically modified organisms, terrestrial invasive species; actions related to Aichi Biodiversity Targets 8, 9 and 10)
- **PROTECTION** (protected areas, connectivity, genetic diversity, species protection; actions related to Aichi Biodiversity Targets 11, 12 and 13)
- **RESTORATION** (restoration of ecosystems, restoration of ecosystem services, restoration of species, restoration for climate resilience and adaptation; actions related to Aichi Biodiversity Targets 14 and 15)
- **ACCESS AND BENEFITS SHARING** (e.g., ABS clearinghouse, contractual arrangements; actions related to Aichi Biodiversity Target 16)

## GENERIC ACTIONS

The authors used the following categories of generic actions, which were developed and refined through a bottom-up review of the NBSAP actions, to tag each of the actions included in this report.

### INFORM

- Conduct research
- Conduct assessments
- Develop maps and inventories

### FORMULATE

- Develop plans
- Develop policies
- Align and mainstream sectoral plans and policies
- Develop targets and indicators
- Develop guidelines

### EMPOWER

- Consult with stakeholders
- Advocate and promote change
- Promote education and awareness
- Conduct trainings and build skills

### EXECUTE

- Coordinate with others
- Enforce laws and policies
- Improve and diversify governance
- Develop pilot programs
- Implement actions on the ground

### ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

### EVALUATE

- Monitor results
- Develop data systems
- Report and communicate results

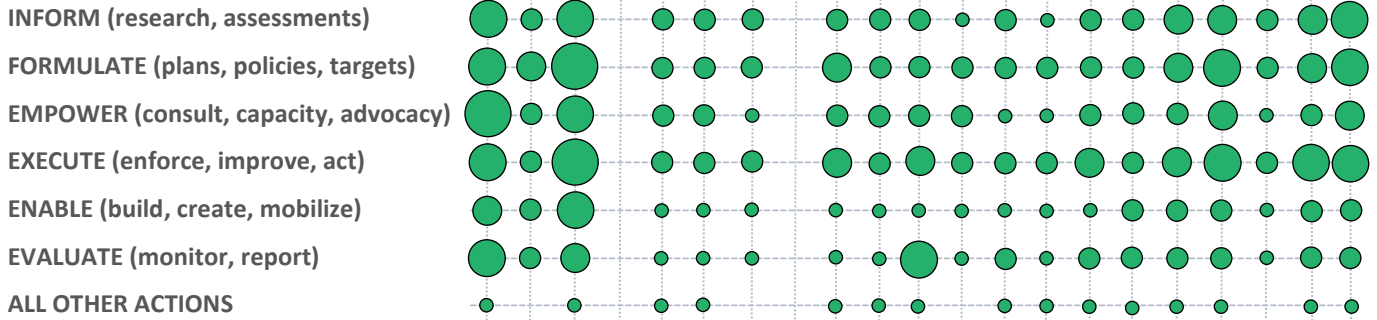
### ALL OTHER ACTIONS

# SUMMARY ANALYSIS

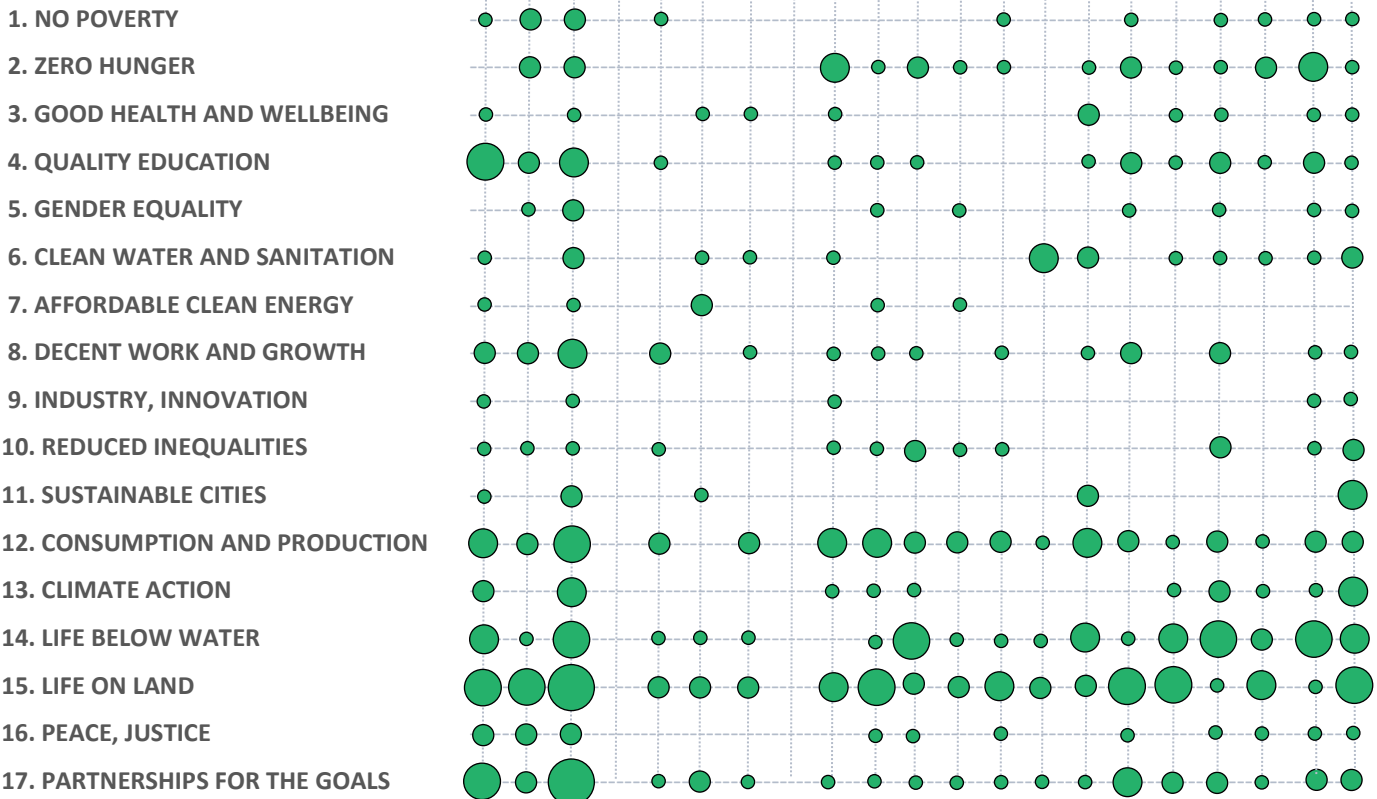
Summary analysis of 6063 actions, and their primary and secondary contributions to Sustainable Development Goals

- NBSAP ACTIONS**
- Awareness, education
  - Access and benefits sharing
  - Development planning
  - Mainstreaming into sectors
  - Tourism
  - Energy
  - Extractive industries
  - Sustainable resource use
  - Agriculture
  - Forestry
  - Fisheries
  - Rangeland
  - Wildlife
  - Water
  - Pollution
  - Biosafety
  - Invasive alien species
  - Protected areas
  - Connectivity
  - Species protection
  - Restoration

## NBSAP ACTIONS



## SUSTAINABLE DEVELOPMENT GOALS



KEY ● 1-10 actions ● 11 – 50 actions ● 51 – 100 actions ● 101- 350 actions ● >350 actions

# ACTIONS ON AWARENESS, KNOWLEDGE, AND ACCESS AND BENEFITS SHARING

**1052** actions on biodiversity awareness, and **189** actions on access and benefits sharing

## INFORM

- Conduct research
- Conduct assessments
- Develop maps & inventories

## FORMULATE

- Develop plans
- Develop policies
- Align plans & policies
- Develop targets & indicators
- Develop guidelines

## EMPOWER

- Consult stakeholders
- Advocate for change
- Improve awareness
- Improve skills

## EXECUTE

- Coordinate with others
- Enforce laws & policies
- Improve governance
- Develop pilot programs
- Implement actions

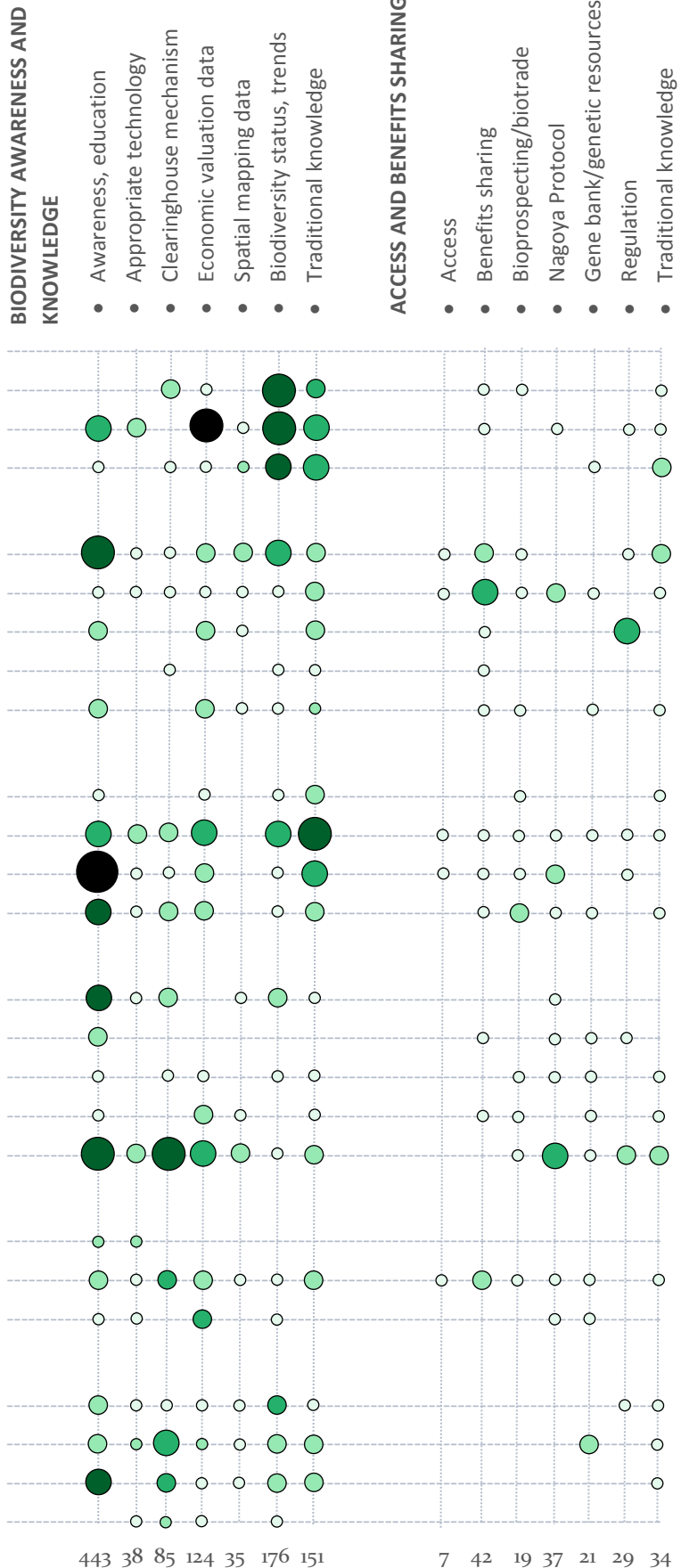
## ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

## EVALUATE

- Monitor results
- Develop data systems
- Report results

## ALL OTHER ACTIONS



# CONTRIBUTION OF AWARENESS AND ABS ACTIONS TO THE GLOBAL GOALS

## BOTSWANA

In order to preserve traditional knowledge, promote climate resilience, protected genetic diversity and foster healthy communities, Botswana is establishing community and indigenous medicinal gardens in each ecoregion.



## GEORGIA

Georgia is preparing an updated informational and educational materials on biosafety and agrobiodiversity for farmer's extension centers and providing access to regularly updated information to all farmers, with an emphasis on gender equality.



## MADAGASCAR

In order to maintain ecosystems and promote sustainable livelihoods, Madagascar is encouraging research activities on genetic resources, and is establishing traceability systems for the benefit of all, especially local communities.



## TUVALU

Tuvalu is conducting training programs on ecosystem management, thereby promoting food security, ensuring sustainable livelihoods, empowering individuals, and protecting biodiversity.



## SEYCHELLES

Seychelles is collating information and mapping of spatial information on biodiversity, thereby allowing for improved policy decisions for the protection of biodiversity and the sustainable consumption of natural resources.



## EGYPT

Egypt is conducting an economic valuation of the country's biodiversity and ecosystems services according to international standards in order to promote sustainable consumption and the responsible use of natural resources.



## SERBIA

In order to ensure fair and equitable access to information and to sustain genetic diversity, Serbia is establishing a biosafety clearinghouse mechanism with a web portal.



## CONGO

The Congo is educating women and young people about sustainable production and consumption of endangered species in order to promote awareness of biodiversity values, equitable access to information, and species protection.



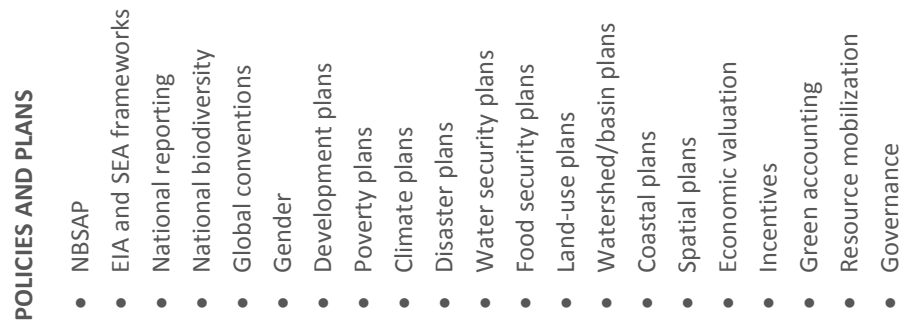
## MALDIVES

In order to improve food security and prevent loss of biodiversity, the Maldives is establishing regional and international collaboration with seed gene banks for safeguarding local genetic diversity.



# ACTIONS TO MAINSTREAM BIODIVERSITY INTO DEVELOPMENT PLANNING

**1693** actions on mainstreaming biodiversity into development planning in **59** countries



## INFORM

- Conduct research
- Conduct assessments
- Develop maps & inventories

## FORMULATE

- Develop plans
- Develop policies
- Align plans & policies
- Develop targets & indicators
- Develop guidelines

## EMPOWER

- Consult stakeholders
- Advocate for change
- Improve awareness
- Improve skills

## EXECUTE

- Coordinate with others
- Enforce laws & policies
- Improve governance
- Develop pilot programs
- Implement actions

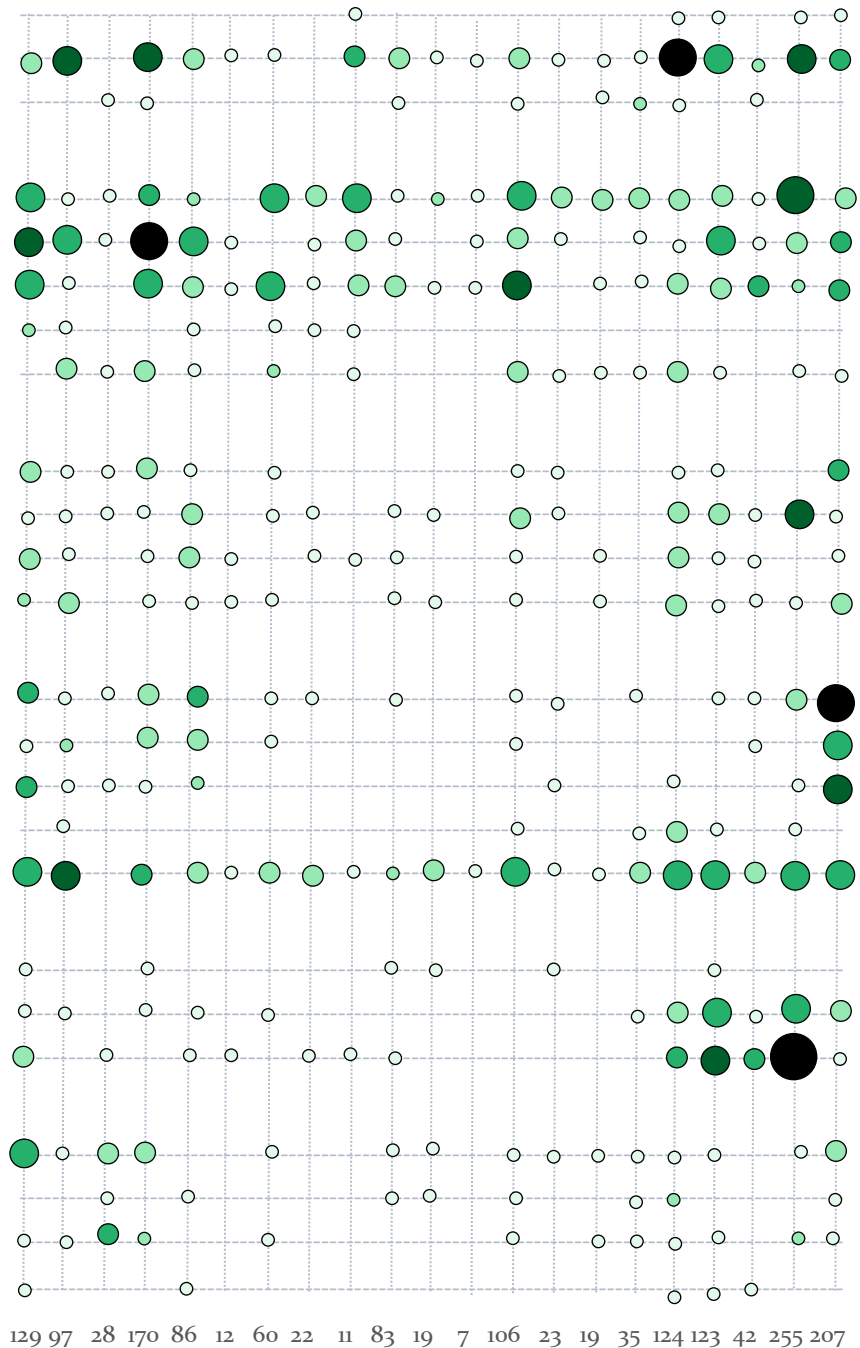
## ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

## EVALUATE

- Monitor results
- Develop data systems
- Report results

## ALL OTHER ACTIONS





# CONTRIBUTION OF DEVELOPMENT PLANNING TO THE GLOBAL GOALS

## BURUNDI

Burundi is integrating areas under agriculture, aquaculture and silviculture into national, provincial and communal land-use plans, thereby mainstreaming sustainable food production and consumption into development planning.



## CAMEROON

Cameroon is developing and implementing sector specific biodiversity targets with action plans by key production ministries in order to protect ecosystem services, advance sustainable growth, and align policy implementation.



## CAPE VERDE

Cape Verde is including elements of resilience to climate change in the development and revision of Conservation Management Plans and Plans of Action, thereby building an infrastructure and fostering a population that can adapt to climate-related shocks.



## NICARAGUA

Nicaragua is supporting the installation of small community hydro-meteorological and biological stations in basins and/or micro-basins prioritized for drinking water, thereby improving the quality of life and health of citizens.



## GUYANA

Guyana is ensuring all developers and operators in the mining, forestry and agriculture sectors are included in the Environmental Protection Agency's environmental authorization process, thereby safeguarding key ecosystems.



## UGANDA

Uganda is mainstreaming its Disaster Preparedness, Risk Reduction and Management Plan in key national, sectoral and districts and planning frameworks into biodiversity protection plans, in order to build climate resilience.



## KYRGYZSTAN

Kyrgyzstan is introducing the practice of supporting the implementation of "green economy" methods, and the transition to environmentally-friendly and energy-efficient technologies.



## ZIMBABWE

Zimbabwe is incorporating gender considerations in all laws, policies, strategies, by-laws and mechanisms that govern the management, access and control of biodiversity resources.



## ERITREA

Eritrea is promoting initiatives to reduce vulnerability of the population and of ecosystems to the effects of climate change and strengthening national capacities to respond to climate change and desertification.



# ACTIONS TO MAINSTREAM BIODIVERSITY INTO KEY SECTORS

**279** actions on mainstreaming biodiversity into tourism, energy, and extractive industries

## INFORM

- Conduct research
- Conduct assessments
- Develop maps & inventories

## FORMULATE

- Develop plans
- Develop policies
- Align plans & policies
- Develop targets & indicators
- Develop guidelines

## EMPOWER

- Consult stakeholders
- Advocate for change
- Improve awareness
- Improve skills

## EXECUTE

- Coordinate with others
- Enforce laws & policies
- Improve governance
- Develop pilot programs
- Implement actions

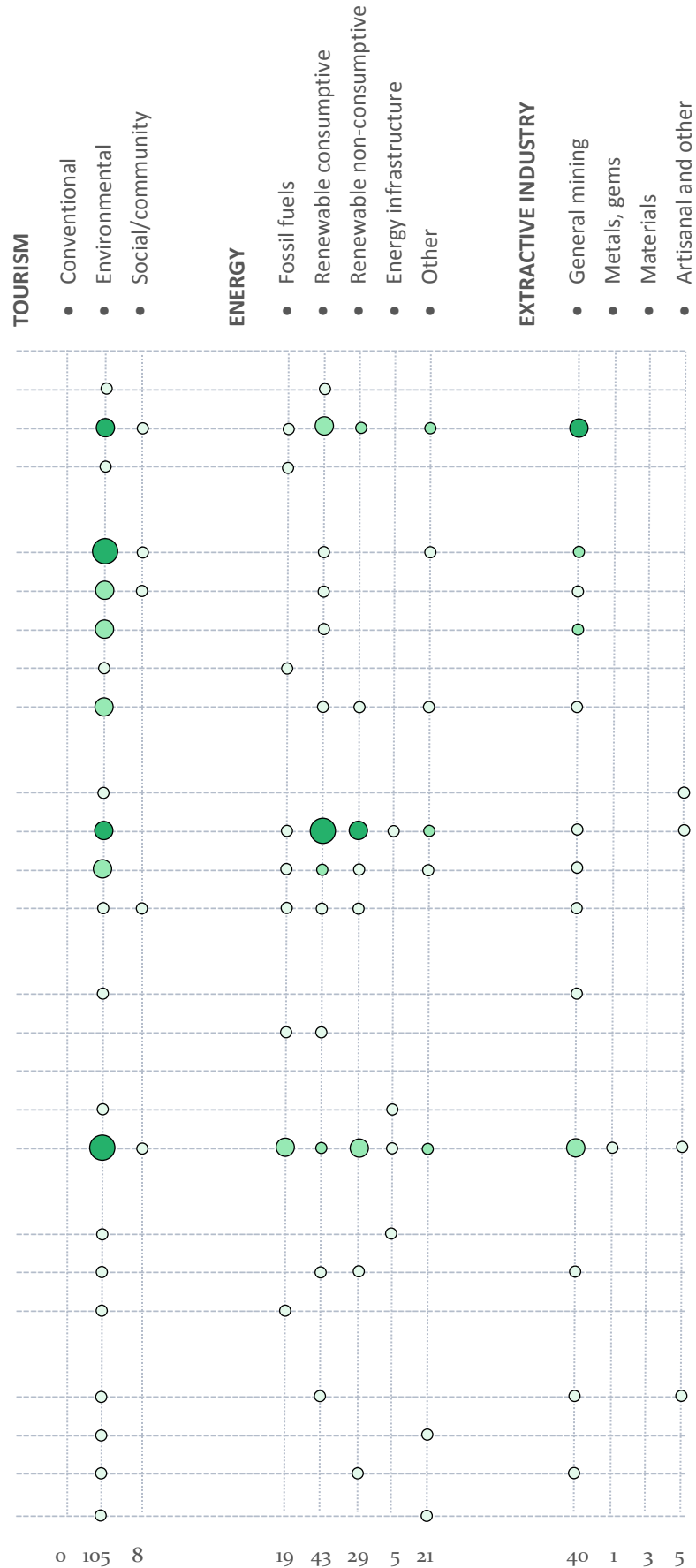
## ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

## EVALUATE

- Monitor results
- Develop data systems
- Report results

## ALL OTHER ACTIONS



# CONTRIBUTION OF MAINSTREAMING ACTIONS TO THE GLOBAL GOALS

## JORDAN

In order to sustainably manage natural resources and advance local livelihoods, Jordan is implementing an awareness raising and training program on biodiversity safeguards and mining.



## MONGOLIA

Mongolia plans to reuse at least 80% of water used for industry and mineral processing sectors by introducing effective legal and economic incentive mechanisms that will increase use of gray water in various sectors (other than food and health sectors) by 30%.



## TANZANIA

Tanzania is controlling and promoting efficient sustainable technologies for charcoal production, thereby reducing the effect of energy consumption on the environment and improving livelihoods.



## NICARAGUA

Nicaragua is promoting the development of skills in micro-, small- and medium-sized tourism, focusing on family, community and cooperative-based enterprises, so that communities can raise financial resources and boost their tourism revenue.



## UGANDA

Uganda plans to put in place measures to protect the food and energy security of local communities when introducing biofuel crops, to ensure access to resources and services by all.



## MALAYSIA

Malaysia is promoting green guide certification for ecotourism in order to ensure ecologically sound practices in the tourism industry and to protect the nation's biodiversity.



## SUDAN

Sudan is working to reduce to environmentally acceptable levels the adverse impacts of traditional as well as organized gold mining on wildlife and inland waters and marine habitats, thereby maintaining key ecosystems and biodiversity.



## TIMOR LESTE

Timor Leste is establishing key tourism destinations and ecotourism centers with upgraded infrastructures and promotional materials, thereby integrating biodiversity and promoting sustainable livelihoods and economic growth.



## NEPAL

Nepal is promoting non-conventional energy sources (such as biogas, solar energy, and hydropower), and fuel-efficient technologies (such as bio-briquettes, improved stoves) to reduce demand of firewood, and improve health from pollution.



# ACTIONS TO SUSTAINABLY USE NATURAL RESOURCES

**741** actions on the sustainable use of natural resources

## INFORM

- Conduct research
- Conduct assessments
- Develop maps & inventories

## FORMULATE

- Develop plans
- Develop policies
- Align plans & policies
- Develop targets & indicators
- Develop guidelines

## EMPOWER

- Consult stakeholders
- Advocate for change
- Improve awareness
- Improve skills

## EXECUTE

- Coordinate with others
- Enforce laws & policies
- Improve governance
- Develop pilot programs
- Implement actions

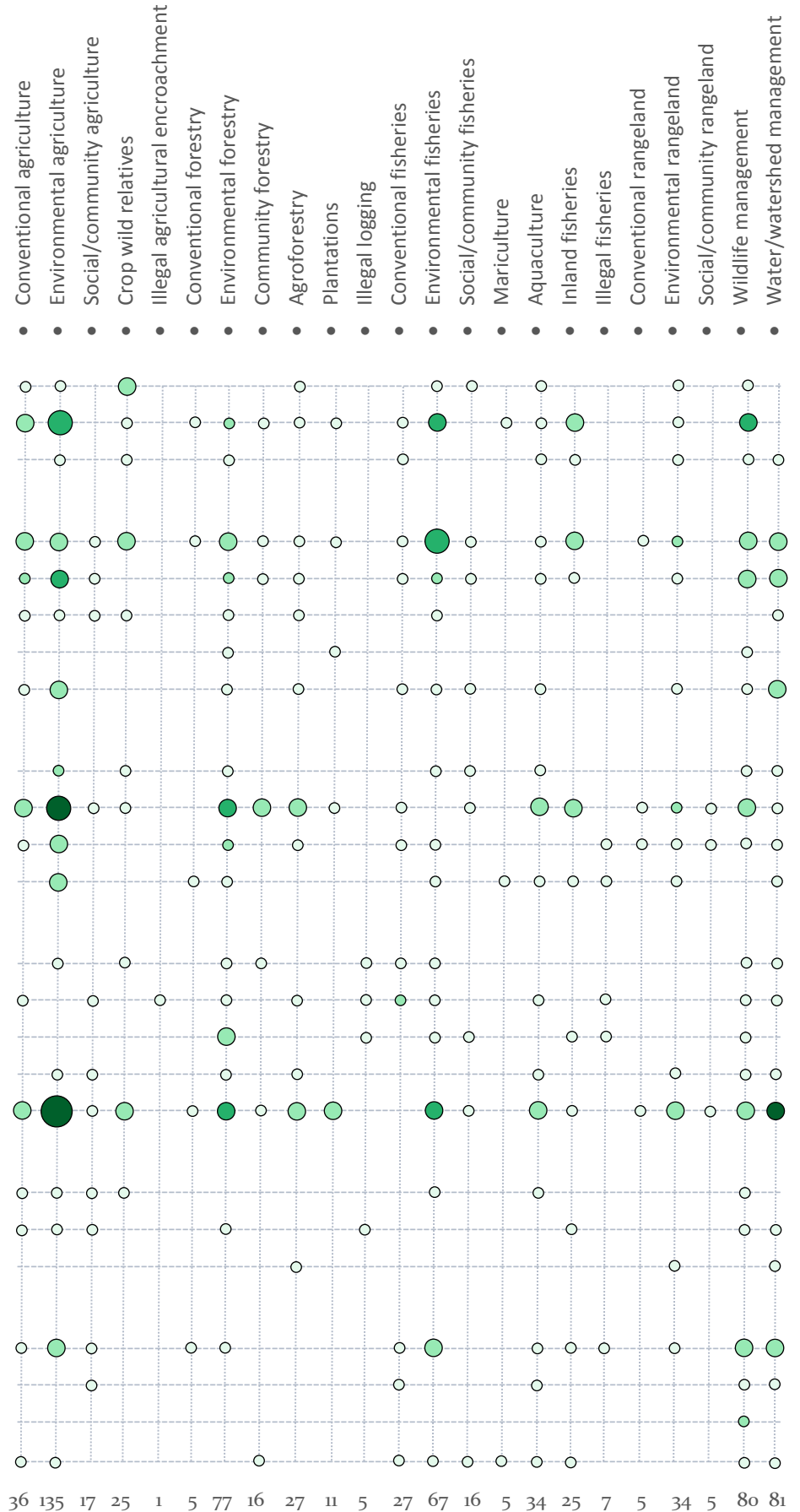
## ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

## EVALUATE

- Monitor results
- Develop data systems
- Report results

## ALL OTHER ACTIONS



# CONTRIBUTION OF SUSTAINABLE RESOURCE USE TO THE GLOBAL GOALS

## BELARUS

Belarus is creating special fish hatcheries and reproduction complexes for valuable aboriginal fish species, and forming brood stocks of valuable aboriginal fish species in order to promote genetic diversity and ensure food security.



## MALAWI

Malawi is developing and implementing community-based programs on conservation and sustainable use of forest biodiversity, thereby empowering communities to maintain their environments and livelihoods.



## NIUE

In order to ensure sustainable forest recovery, Niue plans to suspend any logging operations following cyclones, and to undertake forest surveys to determine if they can resume harvest, and if so, determine an allowable cut.



## PHILIPPINES

The Philippines is improving the capacities of local stakeholders, including indigenous peoples, women, and youth, and community members to control and limit overexploitation and destructive practices in agriculture and forestry.



## NIGERIA

Nigeria plans to promote measures to reduce the volume of agricultural waste, fertilizers and agro-chemicals entering rivers and wetlands, thereby improving food security and reducing water and land pollution.



## BHUTAN

Bhutan is promoting integrated pest management, integrated soil fertility management practices, irrigation water management technologies, and improved pasture management and fodder development.



## GEORGIA

Georgia is conducting pilot projects that demonstrate sustainable grazing methods, and is promoting modern approaches that help reduce grazing pressure on the forest. Georgia plans to promote the replication of successful approaches across the country.



## MOLDOVA

Moldova is promoting organic farming and environmentally friendly practices (including lynchets, wicker fences, anti-erosion embankments, etc.), so that agriculture becomes sustainable and food security is improved.



## NAMIBIA

Namibia is developing mechanisms for reporting wildlife crime, creating rewards for information, and reviewing mechanisms for prosecutions and appropriate penalties, in order to restore threatened species and maintain biodiversity and incomes.



# ACTIONS ON POLLUTION, BIOSAFETY AND INVASIVES

**677** actions on pollution, biosafety and invasive alien species

## INFORM

- Conduct research
- Conduct assessments
- Develop maps & inventories

## FORMULATE

- Develop plans
- Develop policies
- Align plans & policies
- Develop targets & indicators
- Develop guidelines

## EMPOWER

- Consult stakeholders
- Advocate for change
- Improve awareness
- Improve skills

## EXECUTE

- Coordinate with others
- Enforce laws & policies
- Improve governance
- Develop pilot programs
- Implement actions

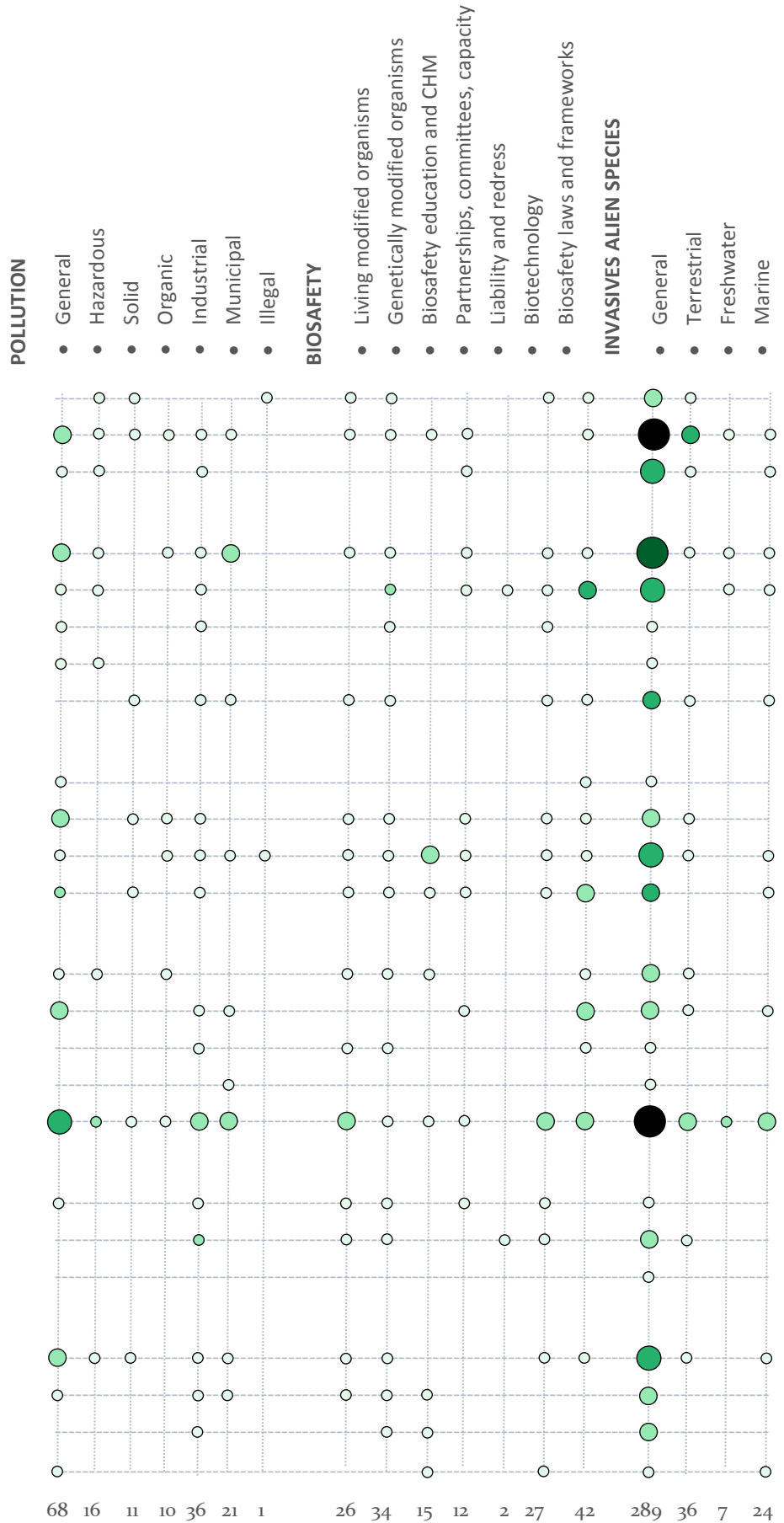
## ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

## EVALUATE

- Monitor results
- Develop data systems
- Report results

## ALL OTHER ACTIONS



# POLLUTION, BIOSAFETY, INVASIVES AND THE GLOBAL GOALS

## NIGER

In order to promote sustainable consumption and advance new livelihoods, Niger is encouraging recycling and the reuse of waste through composting, briquetting, and producing handicrafts.



## VIETNAM

Vietnam is investigating the status of invasive and potentially invasive alien species on a national scale, with particular emphasis on protected areas, agricultural areas, and forest ecosystems.



## MONGOLIA

In order to strengthen biosafety and better share information, Mongolia is creating a system and dissemination scheme for information regarding genetic resources, genetically modified organisms, and their uses.



## NIUE

Niue plans to prevent microbiological contamination from seepage of residential sewage from septic tanks, thereby improving sanitation and health while reducing water and land pollution.



## SERBIA

In order to better protect indigenous species, Serbia is establishing a warning system for non-native species and for genetically modified organisms, and is developing procedures to respond to threats caused by such species.



## ZIMBABWE

In order to bolster sustainable consumption practices and reduce pollution, Zimbabwe is promoting and supporting alternative uses for solid waste, such as biogas production.



## SOUTH AFRICA

South Africa is addressing priority gaps in foundational data for indigenous species and relevant invasive alien species, including documenting the distribution and abundance of priority groups and mobilizing data from specimens in collections.



## VENEZUELA

To reduce the entrance rate of invasive species and thereby mitigate their negative effects, Venezuela plans to activate a national surveillance system and control the traffic of alien species in ports, airports, customs, sales tax and other checkpoints.



## MALDIVES

The Maldives plans to establish and maintain a database on living modified organisms and their impacts on the environment and human health, thereby enhancing biosafety through improved knowledge.



# ACTIONS ON PROTECTED AREAS, SPECIES, CONNECTIVITY

**883** actions on protected areas, species protections and other conservation measures

## INFORM

- Conduct research
- Conduct assessments
- Develop maps & inventories

## FORMULATE

- Develop plans
- Develop policies
- Align plans & policies
- Develop targets & indicators
- Develop guidelines

## EMPOWER

- Consult stakeholders
- Advocate for change
- Improve awareness
- Improve skills

## EXECUTE

- Coordinate with others
- Enforce laws & policies
- Improve governance
- Develop pilot programs
- Implement actions

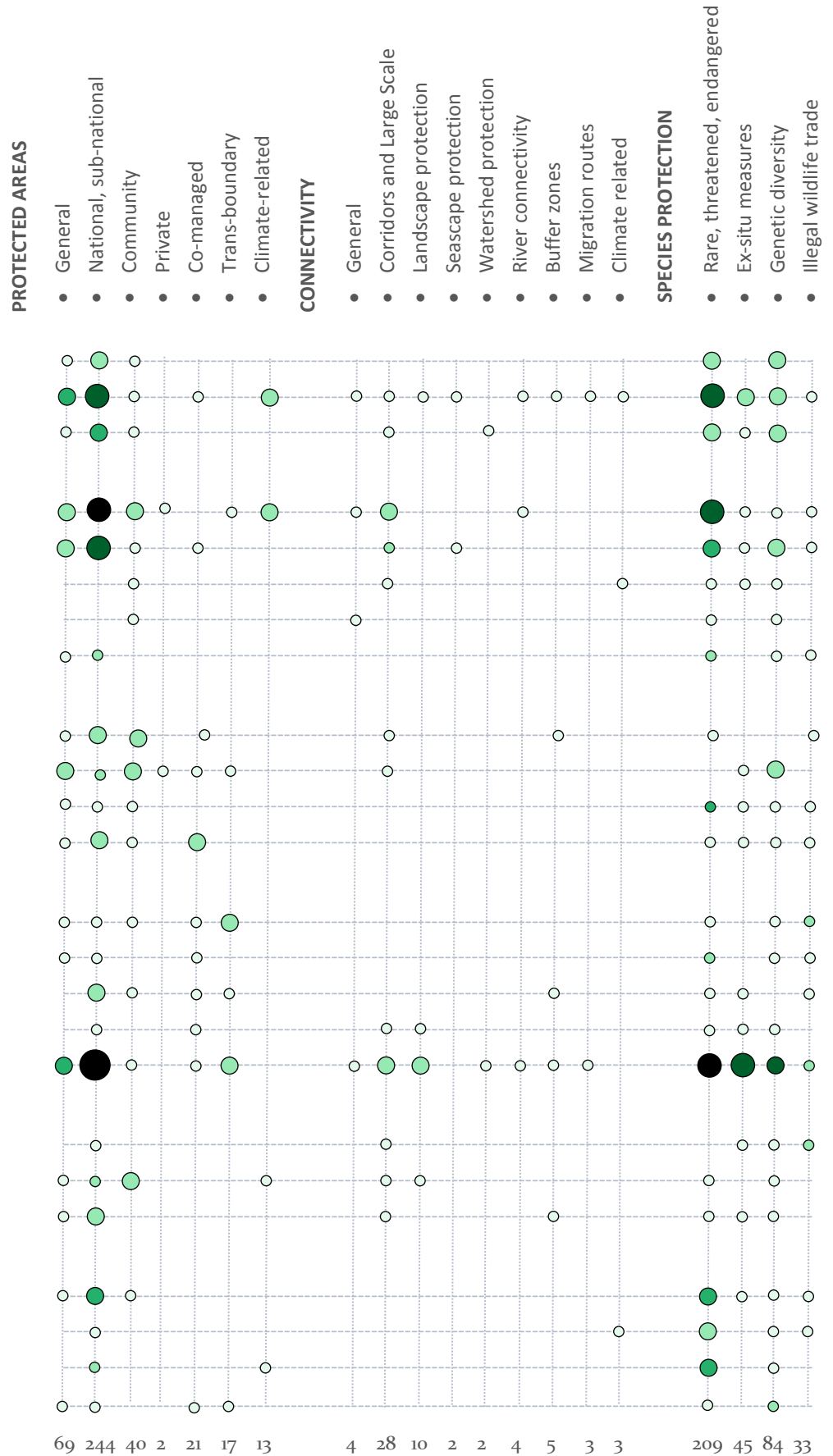
## ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

## EVALUATE

- Monitor results
- Develop data systems
- Report results

## ALL OTHER ACTIONS





# PROTECTED AREAS, SPECIES, CONNECTIVITY AND THE GLOBAL GOALS

## BENIN

Benin is developing a coherent conservation system of terrestrial (including mountains, hills and inselbergs) and marine ecosystems built on ecologically representative and well connected network of protected areas.



## MYANMAR

Myanmar is establishing community-based participatory monitoring and management program in Ramsar sites and potential Ramsar wetlands so that communities are empowered and equipped to sustain their environments.



## SAMOA

In order to advance the restoration and protection of essential ecosystems, Samoa is conducting ecological biodiversity studies and surveys to identify new terrestrial and marine protected areas.



## DOMINICAN REPUBLIC

The Dominican Republic is working to stop the advance of the agricultural frontier within protected areas and reduce border urban development, thereby preserving threatened environments and stimulating sustainable growth.



## BOTSWANA

In order to more equitably share information, Botswana is preparing ecoregion-based threatened species lists and maps of their habitats, and initiating their systematic monitoring and reporting to the Clearing House Mechanism.



## ERITREA

Eritrea is establishing *in-situ* conservation of wild pasture species, an arboretum and botanical gardens thereby improving species protection and maintaining genetic diversity.



## TOGO

In order to ensure protected areas are respected and the livelihoods of those who use them are maintained, Togo is making transhumance corridors operational and enforcing their use.



## MALI

In order to maintain the efficacy of protected areas, Mali is developing public - private partnerships as well as facilitating bilateral and multilateral cooperation for the conservation of protected areas.



## GEORGIA

The Congo is creating corridors and border crossings between protected areas for the conservation and restoration of degraded ecosystems and a more equitable sharing of the benefits of conservation.



# ACTIONS ON RESTORATION AND ESSENTIAL ECOSYSTEM SERVICES

**550** actions on restoration, resilience and essential ecosystem services

## INFORM

- Conduct research
- Conduct assessments
- Develop maps & inventories

## FORMULATE

- Develop plans
- Develop policies
- Align plans & policies
- Develop targets & indicators
- Develop guidelines

## EMPOWER

- Consult stakeholders
- Advocate for change
- Improve awareness
- Improve skills

## EXECUTE

- Coordinate with others
- Enforce laws & policies
- Improve governance
- Develop pilot programs
- Implement actions

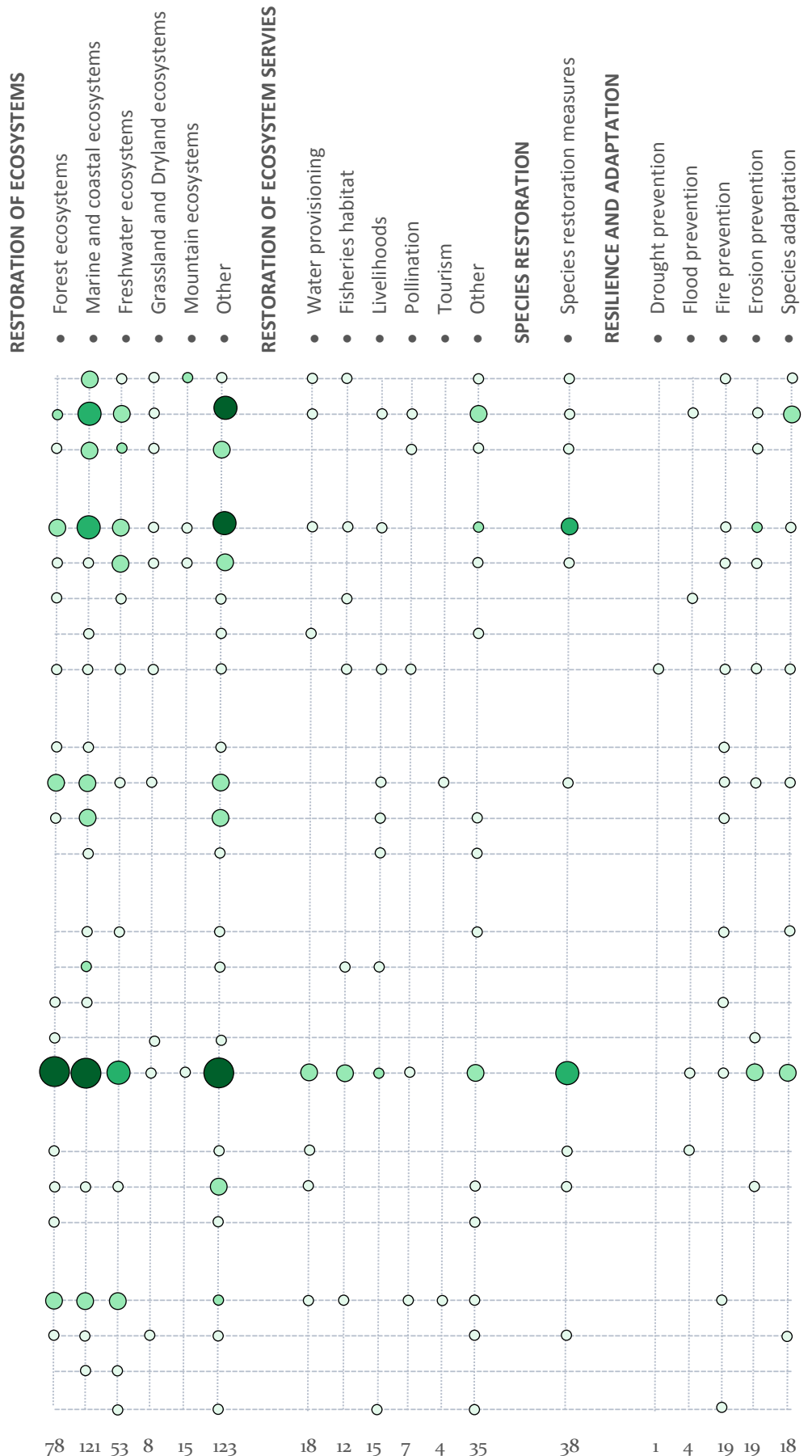
## ENABLE

- Build infrastructure
- Create mechanisms
- Mobilize resources

## EVALUATE

- Monitor results
- Develop data systems
- Report results

## ALL OTHER ACTIONS



# RESTORATION AND THE GLOBAL GOALS

## BHUTAN

Bhutan is strengthening its national fire management program in terms of human capacity, research, technology, equipment, coordination, surveillance and response system in order to restore forest ecosystems and protect associated livelihoods.



## MADAGASCAR

In order to build resilience, Madagascar is developing and implementing a national restoration plan for priority ecosystems vulnerable to the effects of climate change and desertification including refuge areas.



## CAPE VERDE

Cape Verde is identifying biodiversity and ecosystem providers of priority essential services, of particular value for biodiversity and vulnerable populations (women and the poor) and promoting their protection and monitoring.



## SRI LANKA

Sri Lanka is carrying out an assessment of species that are undergoing range expansion due to climate change and examining their impacts on ecosystems in order to develop and implement mitigation measures.



## CAMBODIA

Cambodia is establishing and supporting small- and medium-scale forest-based enterprises or cooperatives operating in each forestry cantonment for the processing of wood for export, as well as the processing of non-timber forest products.



## ZAMBIA

Zambia is imposing a moratorium on fishing of threatened species to allow for natural restocking of the threatened species, thereby ensuring that species diversity is maintained, food security is preserved, and associated livelihoods are not lost.



## TANZANIA

Tanzania is strengthening the implementation of programs for protection and restoration of coral reefs and mangroves, thereby strengthening its climate resilience and safeguarding key ecosystem services, as well as promoting food security.



## SUDAN

Sudan is adopting climate-smart farming systems such as agro-forestry and agro-silvo pastoral systems that lead to natural regeneration of native species and rehabilitation of degraded areas, especially, in vulnerable areas (traditional dry-land farming).



## BELARUS

Belarus is fostering the development of tree nurseries and adoption of new technologies of growing of planting stock of forest forming tree species with a closed root system.



# REFLECTIONS AND OBSERVATIONS

## AWARENESS

There are 1052 actions on awareness raising and education. The most frequent action (250+ actions) is implementation of existing plans for conducting awareness-raising campaigns, and rolling out biodiversity components into formal education. About a third of countries are developing awareness-related plans, and about half are planning to assess the economic values of biodiversity. The primary gap in capacity is in developing and implementing communication and awareness campaigns. There is also a very strong emphasis on researching, assessing, inventorying and mapping the status and trends of biodiversity, as well as on advocating for, and improving awareness of, traditional knowledge.

## ACCESS AND BENEFITS SHARING

There are 189 actions on access and benefits sharing, with a strong focus on developing policies and mechanisms for benefits sharing, and on aligning policies with the Nagoya Protocol. These actions will have a particularly high impact on implementation of the Sustainable Development Goals, given the close linkages between benefits sharing, livelihoods and equity.

## MAINSTREAMING BIODIVERSITY INTO DEVELOPMENT PLANNING

The data from the previous page and the examples below show how countries are attempting to tackle the drivers of biodiversity loss by focusing on areas such as environmental impact assessments and strategic environmental assessments, as well as on overall land-use plans. About 15% of countries are also integrating biodiversity into climate change plans. However, only a few countries are integrating biodiversity into their water security and disaster reduction plans. Major gaps include the integration of biodiversity into gender plans, poverty plans and food security plans. Approximately 40% of countries plan to develop national biodiversity policies. Although there are bright spots in integrating biodiversity into a green economy, this action was rarely included in the NBSAPs actions. Resource mobilization had the most actions, with 255 in all.

## MAINSTREAMING BIODIVERSITY INTO KEY SECTORS

The emphasis of biodiversity mainstreaming, or the integration of biodiversity concerns into key sectors, has generally been on improving environmental outcomes and reducing environmental impacts. However, as the examples below illustrate, biodiversity mainstreaming can also lead to important outcomes related to poverty reduction, improved health and wellbeing, and greater social equity. Approximately half of the countries are planning to take some action on environmentally-sustainable tourism, and 10% are planning to develop socially-inclusive tourism enterprises, with an emphasis on community-based tourism. About 35% of countries plan to take actions on mining, and 35% on renewable consumptive energy (especially biofuels and charcoal). About 40% plan to take action on non-consumptive renewable energy (solar, hydro) to offset pressures on natural resources.

## SUSTAINABLE USE OF NATURAL RESOURCES

Sustainable use of natural resources is central to Aichi Biodiversity Targets 4 through 7, as well as Sustainable Goal #12. This analysis includes actions related to agriculture, forestry, fisheries, rangelands, wildlife and watershed management, with a large number of focused on environmentally sustainable forestry, fisheries and agriculture. From the examples below, it is clear that sustainable natural resource use can not only help countries achieve goals related to sustainable consumption, but while doing so, can also achieve goals related to the wellbeing of communities. However, it is interesting to note that actions on environmentally sustainable practices outnumber actions on social and community practices by an average factor of 5 to 1. It is also interesting to note that only 13 actions focus on illegal logging and illegal fisheries, two major drivers of biodiversity loss globally.

## **POLLUTION, BIOSAFETY AND INVASIVE SPECIES**

Tackling invasive species is a clear priority for many countries. Roughly half of all countries in the analysis have included actions to conduct assessments of invasive alien species, and another half plan to take direct action. Also of interest is the relatively large number of countries planning to develop maps, conduct inventories, develop policies, improve awareness and monitor results on invasive alien species. Efforts to tackle invasive species globally have been widely viewed as insufficient, and the volume of actions provides an opportunity to make global advances on this leading cause of biodiversity loss and impairment. For biosafety-related actions, the primary focus is on developing laws, policies and legal frameworks. It is also interesting to note that for pollution, the focus is more heavily weighted toward action on the ground than many other categories.

## **PROTECTED AREAS, CONNECTIVITY AND SPECIES PROTECTION**

Protected areas are the cornerstone of biodiversity conservation, hence it is no surprise to see such a large number of actions focused on protected areas. What is surprising is to see such a large focus on protected area assessments, plans, policies, research and consultation, given that the Convention on Biological Diversity's Programme of Work on Protected Areas was agreed to in 2004. Nonetheless, there are many opportunities for taking action on the ground. It is clear from the examples below that protected areas can have major benefits for communities. There is also a large number of actions related to species protection, also with a weight toward plans, policies and research, but also many opportunities for action. The relative scarcity of actions related to connectivity is surprising, given that this is a major focus of the CBD Programme of Work on Protected Areas.

## **RESTORATION AND ESSENTIAL ECOSYSTEM SERVICES**

There are numerous restoration-related actions, and nearly every country (94%) has some actions planned for restoration. There is a strong focus on restoration of marine and coastal ecosystems and freshwater ecosystems. There are considerably fewer actions for grassland, dryland and montane ecosystems. The large number of 'other' restoration actions includes those related to restoring ecological infrastructure, biomass and soil, among others. Efforts to restore ecosystems specifically for the purpose of restoring essential ecosystem services are far fewer, as are efforts to restore ecosystems in order to strengthen climate resilience and adaptation. However, at least half of countries are planning to take action in this area. Compared to other thematic areas, there is a relatively strong weight toward taking action on the ground for species restoration measures and species adaptation.

## **OVERALL OBSERVATIONS:**

This analysis highlights several trends in NBSAPs. First, there is a relatively high percentage of actions focused on research, assessments, inventories, plans, policies, indicators and guidelines versus direct action on the ground across most of the thematic categories. The implications are that thematic areas with high percentage of plans are likely not yet ready to be translated into action on the ground, and may need focused technical support to help develop plans and policies. Second, several gaps emerge from this analysis. The areas of illegal wildlife trade, illegal fisheries, illegal forestry, extractive industries and pollution are all important drivers of biodiversity loss, yet there are relatively few actions focused on these areas within the NBSAPs. Two major opportunities with relatively few actions include private protected areas and connectivity, including corridors. Third, with the exception of mainstreaming biodiversity into development planning, there are relatively few actions focused on aligning plans and policies. Fourth, there are key areas that emerge where focused technical and financial support could be useful to countries in order to jumpstart actions on Sustainable Development Goals. These include biodiversity awareness and education; assessing biodiversity trends and status, resource mobilization, invasive species, restoration and protected areas. These thematic areas have a high number of direct action, and are ready for immediate implementation. And finally, even though many of the actions can help to achieve multiple Sustainable Development Goals, the NBSAP actions generally miss the opportunity to explicitly achieve multiple outcomes. For example, there are relatively few actions focusing on restoration of ecosystem services, on climate resilience, and relatively few on protection for climate-related outcomes. A major opportunity will be to incorporate multiple SDG outcomes into the plans and policies that have yet to be written, and into the implementation of those that already exist.

## RECOMMENDED NEXT STEPS

### VALIDATING TAGGING OF ACTIONS

The tagging for this analysis was completed by a team of over a dozen researchers over the course of a year. Although they all received the same training, it is possible that there is some variation in interpretation. The next step is to encourage countries to validate the tagging of each action, to ensure accurate interpretation.

### COMPLETE THE ANALYSIS FOR REMAINING COUNTRIES

This analysis covers the NBSAPs of 60 countries, all of them eligible for official development assistance (ODA) (e.g., funding from the Global Environmental Facility). This represents about 80% of the ODA-eligible countries that have submitted NBSAPs to date. However, many more will be submitted within the next six months. Pending availability of funds, UNDP plans to continue tagging all actions, and analyzing the results.

### MAKE THE DATA ACCESSIBLE TO ALL

Once the data are validated by countries, UNDP will make the underlying data widely available through a web portal accessible through the NBSAP Forum ([www.nbsapforum.net](http://www.nbsapforum.net)). This portal will enable users to query specific actions and thematic categories, and run analyses of their own.

### SPATIALIZE THE DATA

A useful next step would be to spatialize the data, allowing users to quickly see which countries are planning which actions on various themes.

### CONTENT MANAGEMENT SYSTEM

The taxonomy developed through this analysis could be used as a robust content management system that would allow multiple users to organize and make accessible information regarding the various components of NBSAPs. For example, it would enable users to share information regarding various plans and policies related to each thematic category, share lessons in implementing communication and awareness campaigns, and learn about successes in resource mobilization.

### ENABLE PEER-TO-PEER LEARNING

The information contained in this report, if imported into a user-friendly portal, would enable users to strengthen communities of practice around key areas, and would enable peer-to-peer learning and sharing of information.

### DEVELOP SUPPORT MATERIALS, TOOLS AND GUIDANCE DOCUMENTS

The data clearly reveal opportunities for developing technical support to countries as they implement their NBSAPs. The data also reveal potential gaps, where concerted action by support organizations could help advance progress.

### INTEGRATE INTO VOLUNTARY REPORTING AND MONITORING FRAMEWORKS

The taxonomy provides a transparent, consistent way to describe any action, and it provides a useful framework that could be integrating into voluntary reporting and monitoring frameworks on progress in implementing NBSAPs.

## NOTES



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Resilient nations.*

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