

Adaptation Works

GaIn™ 2011

Global Adaptation Index™ - Measuring What Matters

88 % of countries consistently improved their GaIn™ score over the past 15 years.

The world is changing fast. Countries are being challenged to prepare for and, if possible, to minimize the effects of climate change. The challenge is only greater as populations, urbanization, and the economy grow. Despite expanding resource commitments from international institutions, public funding alone is not the solution. The private sector will play a key role in providing the necessary additional resources. With appropriate information all can contribute to increasing the resilience of local communities. The Global Adaptation Index™ (GaIn™) is a navigation chart that can guide investments both private and public.

The Global Adaptation Institute www.globalai.org, a non-profit environmental organization, is guided by a vision of building resilience against climate change and other global forces as a key component of sustainable development.

The Institute recognizes that mitigation continues to remain an essential global policy goal. However, the climate will continue changing throughout this century whether or not a binding international climate policy develops. As history has shown, increases in climate-related disasters and climate change will lead to increased risks and costs for businesses, complicate political decisions, and of most concern, threaten the quality of life for vulnerable populations around the world. Therefore, it is incumbent upon leaders in government, industry, and all forms of civil society to prepare for both anticipated and unforeseen risks to human life and livelihoods.

In other words, we must adapt, and adapt in a way that is pragmatic, realistic and based on the principle that individuals should be able to take destiny into their own hands.

We are bringing together science, business and government leaders to create pragmatic and useful metrics on adaptation. These metrics are summarized in the Global Adaptation Index™ (GaIn™). In addition we will finance demonstration projects and organize outreach activities designed to move beyond just a description of climate vulnerability and to show how concrete actions can be implemented.

We recognize that rule of law, transparency, private property rights and education together with technology can unleash human innovation and creativeness to resolve the most complex problems. Thus, we assess vulnerabilities alongside the “readiness” of a country to implement solutions. In order to create real hope and generate positive momentum, we must help direct the way toward the most effective policies and actions that create opportunities for people to succeed in life.

Scientists and institutions around the world have conducted significant work throughout the last decade. GaIn™ seeks to build upon this previous work by creating an index that promotes pragmatic action among governments, the private sector and NGOs. Further, the index:

- Is open and transparent – All indicators and sources are readily available and easily accessible by the public.
- Brings the private sector to the table - Most indices focus solely on the vulnerabilities of countries; GaIn™ includes indicators that guide governments and communities in how to harness the power of the private sector.
- Focuses on sectors crucial to human well being – GaIn™ does not cover all aspects of vulnerability, but targets those sectors most important to human health and prosperity that also can be greatly improved by innovation and action from the private sector.
- Utilizes indicators potentially scalable from the national to regional and local levels.

Two Key Dimensions to Adapt

Vulnerability

Vulnerability seeks to capture exposure to climate related hazards, sensitivity to their impacts and the ability to cope with those impacts. 3 categories represent the core components of vulnerability (exposure, sensitivity, capacity), and 6 key sector indicators (Water, Food and Agriculture, Health, Coastal Protection, Energy and Transport) for each category. For three sectors (water, food, health) two types of measures are incorporated. One describes essentially quantitative measures (amount, how much is used, how many have access) and the other quality measures (exposure to poor quality, impacts on people, access to quality management measures). For coastal protection, infrastructure and energy, only quantitative indicators are used.

| | | |
|--------|-------|-----------|
| Water | Food | Health |
| Energy | Coast | Transport |

Readiness

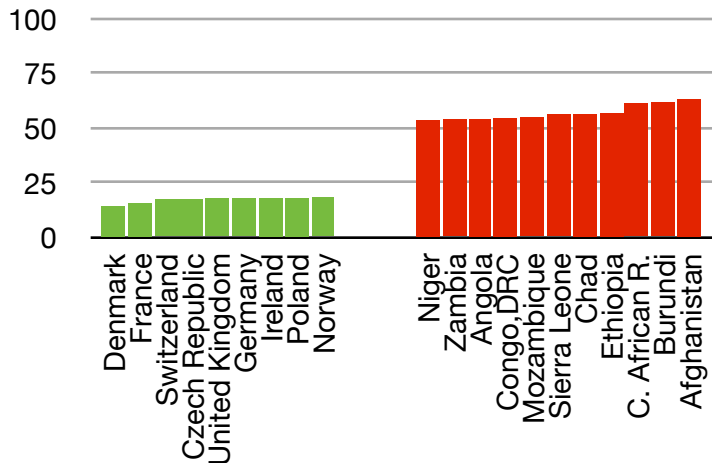
Readiness measures how well countries can respond to slow challenges (impact of changing temperatures on crops, growing water shortages) and sudden natural disasters (floods, tornados, earthquakes). Response is in part the speed and ability of a country's private and public sectors to absorb additional investment resources and apply them effectively. It is also the ease and speed of getting these resources to affected areas. The axis has 3 categories: Economy, Social, and Governance captured in 14 indicators.

| | | |
|----------|------------|--------|
| Economic | Governance | Social |
|----------|------------|--------|

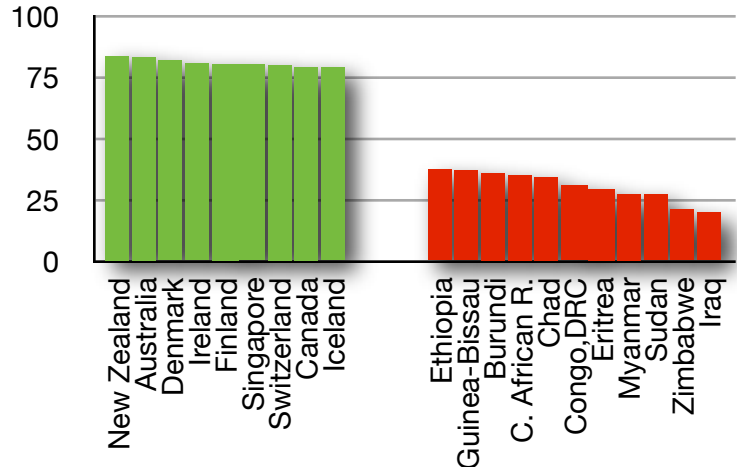
DATASET AT: www.globalai.org

Country vulnerability and readiness are combined into a single score in order to produce the Index ranking

Vulnerability



Readiness



A single numerical score of adaptation readiness is useful as an iconic indicator of progress and comparative readiness between countries. There are many ways such an index can be derived each with advantages and disadvantages. However, the primary purpose of the Index is to encourage actions to both increase readiness and reduce vulnerability so the Index should increase as both these goals are achieved. Thus the Galn™ Index is simply the score on the Readiness Axis minus the score on the Vulnerability Axis and rescaled to give values in the range of approximately 0 to 100 for ease of communication.

Galn™ Ranking 175 Countries

| Rank | Score | Rank | Score | Rank | Score |
|------|-------------------------|------|-------|--------------------------|-------|
| 1 | Denmark | 83.8 | 116 | Morocco | 56.2 |
| 2 | Australia | 81.4 | 117 | Tonga | 56.2 |
| 3 | Switzerland | 81.4 | 118 | Gabon | 55.8 |
| 4 | Ireland | 81.4 | 119 | Ghana | 55.6 |
| 5 | New Zealand | 81.3 | 120 | Bhutan | 55.6 |
| 6 | Finland | 79.9 | 121 | Cuba | 54.8 |
| 7 | Norway | 79.6 | 122 | Guyana | 53.9 |
| 8 | United Kingdom | 79.3 | 123 | Micronesia FS | 53.7 |
| 9 | United States | 78.5 | 124 | Tajikistan | 53.2 |
| 10 | Sweden | 77.9 | 125 | Gambia | 53.2 |
| 11 | Austria | 77.5 | 126 | India | 52.7 |
| 12 | Czech Republic | 77.4 | 127 | Sao Tome & Principe | 51.7 |
| 13 | Netherlands | 77.4 | 128 | Pakistan | 51.1 |
| 14 | Iceland | 77.3 | 129 | Swaziland | 51.0 |
| 15 | Germany | 76.9 | 130 | Benin | 50.9 |
| 16 | Slovenia | 76.8 | 131 | Senegal | 49.7 |
| 17 | France | 76.8 | 132 | Madagascar | 49.6 |
| 18 | Luxembourg | 76.4 | 133 | Laos | 49.6 |
| 19 | Poland | 76.2 | 134 | Tanzania | 49.5 |
| 20 | Canada | 76.1 | 135 | Cambodia | 49.4 |
| 21 | Chile | 76.1 | 136 | Haiti | 49.2 |
| 22 | Singapore | 75.7 | 137 | Uganda | 48.9 |
| 23 | Uruguay | 75.5 | 138 | Bangladesh | 48.8 |
| 24 | Spain | 75.2 | 139 | Burkina Faso | 48.7 |
| 25 | Slovakia | 74.8 | 140 | Djibouti | 48.7 |
| 26 | Japan | 74.4 | 141 | Timor-Leste | 48.4 |
| 27 | Lithuania | 73.9 | 142 | Cote d'Ivoire | 48.3 |
| 28 | Hungary | 73.7 | 143 | Rwanda | 48.2 |
| 29 | Estonia | 73.3 | 144 | Cameroon | 48.1 |
| 30 | Italy | 73.2 | 145 | Zambia | 48.0 |
| 31 | Belgium | 73.2 | 146 | Nepal | 47.8 |
| 32 | Portugal | 72.9 | 147 | Malawi | 47.8 |
| 33 | Greece | 72.6 | 148 | Kenya | 47.7 |
| 34 | Croatia | 72.5 | 149 | Mali | 47.5 |
| 35 | Mauritius | 72.4 | 150 | Equatorial Guinea | 47.4 |
| 36 | Latvia | 72.3 | 151 | Nigeria | 47.4 |
| 37 | Romania | 72.2 | 152 | Lesotho | 47.2 |
| 38 | Cyprus | 71.8 | 153 | Papua New Guinea | 47.2 |
| 39 | Barbados | 71.7 | 154 | Mozambique | 47.0 |
| 40 | Korea, Republic of | 71.4 | 155 | Comoros | 47.0 |
| 41 | Bulgaria | 71.0 | 156 | Congo | 46.9 |
| 42 | Malta | 70.8 | 157 | Mauritania | 46.2 |
| 43 | Israel | 70.6 | 158 | Yemen | 45.1 |
| 44 | Montenegro | 70.2 | 159 | Guinea | 44.4 |
| 45 | Argentina | 69.0 | 160 | Guinea-Bissau | 44.2 |
| 46 | Macedonia | 68.7 | 161 | Togo | 44.0 |
| 47 | St Vincent & Grenadines | 68.2 | 162 | Niger | 43.9 |
| 48 | Armenia | 68.0 | 163 | Liberia | 43.5 |
| 49 | Qatar | 67.6 | 164 | Angola | 42.9 |
| 50 | United Arab Emirates | 67.6 | 165 | Sierra Leone | 42.6 |
| 51 | Malaysia | 67.5 | 166 | Myanmar | 42.5 |
| 52 | Serbia | 67.4 | 167 | Eritrea | 41.0 |
| 53 | Oman | 67.3 | 168 | Ethiopia | 40.3 |
| 54 | Kuwait | 66.9 | 169 | Iraq | 39.5 |
| 55 | Kazakhstan | 66.5 | 170 | Chad | 39.0 |
| 56 | Thailand | 66.3 | 171 | Sudan | 38.2 |
| 57 | Bosnia and Herzegovina | 66.0 | 172 | Congo, DRC | 38.1 |
| 58 | Belarus | 66.0 | 173 | Zimbabwe | 37.4 |
| 59 | Panama | 65.8 | 174 | Burundi | 37.2 |
| 60 | Costa Rica | 65.6 | 175 | Central African Republic | 37.0 |

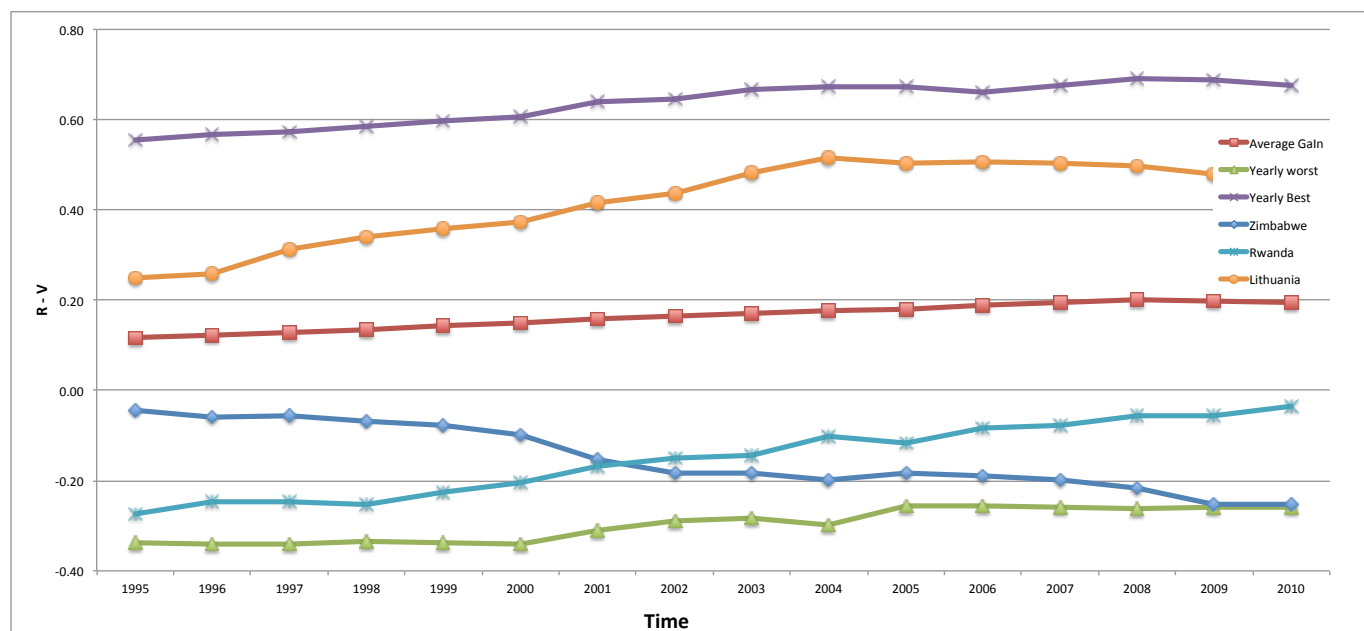
* This graph will include only nations in South America and Western Europe upon release during the global consultation process on Galn™. On release of the Index, Sept. 14, 2011, all countries will be included in the ranking.

OECD

High
Income
(Non-OECD)Upper
Middle
IncomeLower
Middle
IncomeLeast
Developed

Galn™ Score Over Time

13 countries have improved at least 20 positions in their Index ranking since 1995. However, 11 have fallen by at least 20 positions since 1995, increasing risks to their most vulnerable citizens.



The Index can also show progress over time. Above, average scores have slightly improved for all countries over a 15-year period. Some countries that began with low scores have improved steadily, such as Rwanda. Others, such as Zimbabwe, have been in decline.

A country can change their position in the Index, listed in Galn™ Rankings, by improving upon specific vulnerability and/or readiness indicators.

- Readiness for adaptation is not confined to the wealthiest nations – Uruguay, Slovakia, Mauritius, Armenia, and Kazakhstan score better than many wealthier nations.
- Life-saving improvements can be made within a decade. Between 1995 and 2010, 88 percent of countries consistently improved their Galn™ score. And, progress can be made in any part of the world – Rwanda, Lithuania, Angola, Azerbaijan are among the most improved countries.

Estimates of the costs of achieving a more climate resilient society vary widely and have not received as much attention as the associated costs for mitigation. However, they are of the same order, i.e. rising to some tens or even hundreds of billions of dollars per year over the next decade or so. Current expenditure is only a few hundreds of millions of dollars. Most of the investments in achieving a more climate resilient future will come from the private sector, small and large, in protecting their assets and pursuing commercial opportunities.

By providing a navigation chart to measure vulnerability and readiness, Galn™ is helping reshape the debate and focus on adaptation and development. Ultimately, our work is about helping people, and it is not compassion unless it really works. “If you cannot measure it,” Lord Kelvin famously remarked, “you cannot improve it.”

Galn™ Indicators

| Vulnerability | | | |
|----------------|-----------------------------|--|--|
| | Exposure | Sensitivity | Capacity |
| Water | Precipitation Projections | Freshwater water extraction | Access to water |
| | Temperature Projections | Water-borne diseases | Water Sanitation |
| Food | Agricultural impacts | Rural Population | Agricultural Capacity |
| | Variation in crop yields | Food Sufficiency | Malnutrition |
| Health | Disease Increase | Health worker levels | Longevity |
| | Mortality from diseases | Dependence on external healthcare | Maternal mortality |
| Infrastructure | | | |
| Coast | Land below 5 m at sea-level | Population less than 5 m above sea-level | Measured on the Readiness Axis |
| Energy | Access to electricity | Energy sources at risk | |
| Transport | Frequency of floods | Roads paved | |
| Readiness | | | |
| Economic | IEF Buss. Free | Governance | WGI Voice & Account |
| | IEF Trade Free | | WGI Political Stability & Non-Violence |
| | IEF Fiscal Free | | WGI Control of Corrupt. |
| | IEF Gov. Spend | Social | Mobiles per 100 person |
| | IEF Monet. Free | | IEF Labor Free |
| | IEF Invest. Free | | Tertiary Education |
| | IEF Financ. Free | | WGI Rule of Law |