



INDEX FOR RISK MANAGEMENT

RESULTS 2017

WELCOME

Welcome to the report of the INFORM Global Risk Index for 2017. INFORM is a way to understand and measure the risk of humanitarian crises and disasters, and how the conditions that lead to them affect sustainable development. This is the third annual report of INFORM and has a special focus on how INFORM is being used and how it compares to other indices available.

Since last year, we have made some changes to the INFORM methodology. 'Maternal mortality ratio' has been added as a new indicator in the 'Access to health system' component of the 'Lack of coping capacity' dimension. The Global Conflict Risk Index, which is used in the 'Projected Conflict Risk' component of INFORM, has been significantly improved. The exposure layer used to calculate the natural hazard components has been updated from LandScan to the new Global Human Settlements Layer Population Grid produced by the European Commission JRC.

In addition, we have added a new measure of reliability, which is now displayed for every country. This has been introduced to increase transparency about the quality of data used to calculate INFORM, while still ensuring we include as many countries as possible. It is presented as a Reliability Index on a scale from 0-10 and takes into account missing data, out of date data, and conflict status. Countries with lower Reliability Index scores have risk scores that are based on more reliable data.

Any changes in the INFORM methodology are always applied to at least five previous years of data, so

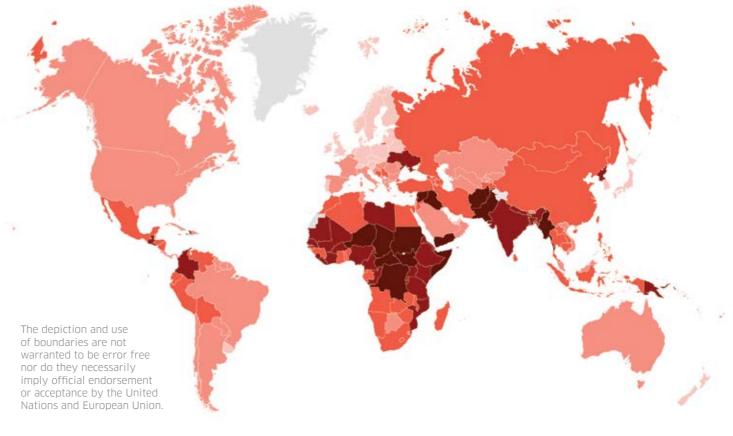
trend analysis is still valid. In this way we can continue to improve the model, while maintaining continuity.

During 2016, INFORM Subnational continues to be rolled out by local lead organisations, with projects underway in Latin America and Caribbean, Southern Africa and Central Asia regions, and in Guatemala, Honduras and Jordan. From 2017, we will be further supporting INFORM Subnational through an 'Acceleration Programme', which will result in improved guidance, training for INFORM Subnational developers and users, as well as directly supporting five additional national projects.



INFORM MEASURES THE RISK OF HUMANITARIAN CRISES AND DISASTERS IN 191 COUNTRIES

	COUNTRY	RISK	3 YR TREND		COUNTRY	RISK	3 YR TREND		COUNTRY	RISK	3 YR TREND
	Afghanistan	7.8	\rightarrow	•	Colombia	5.4	\rightarrow		Haiti	6.5	7
	Albania	2.8	\rightarrow		Comoros	3.7	\rightarrow		Honduras	4.9	7
	Algeria	4.4	7	•	Congo	5.3	7	•	Hungary	2.1	7
	Angola	4.9	7		Congo DR	7.0			Iceland	1.0	\rightarrow
	Antigua and Barbuda	2.1	\rightarrow	•	Costa Rica	2.9	\rightarrow		India	5.7	\rightarrow
	Argentina	2.5	\rightarrow	•	Côte d'Ivoire	5.7	\rightarrow		Indonesia	4.3	
	Armenia	3.7	\rightarrow	•	Croatia	2.2	\rightarrow		Iran	5.0	\rightarrow
	Australia	2.3	\rightarrow		Cuba	2.6	\rightarrow		Iraq	6.9	\rightarrow
	Austria	1.7	\rightarrow		Cyprus	2.8	\rightarrow		Ireland	1.3	\rightarrow
•	Azerbaijan	4.7	\rightarrow		Czech Republic	1.4			Israel	2.8	\rightarrow
	Bahamas	2.1	\rightarrow		Denmark	1.1	\rightarrow		Italy	2.6	\rightarrow
	Bahrain	1.8	7		Djibouti	5.3	\rightarrow		Jamaica	2.5	\rightarrow
•	Bangladesh	5.8	\rightarrow		Dominica	3.0	\rightarrow		Japan	2.0	\rightarrow
	Barbados	1.6	\rightarrow		Dominican Republic	3.4	\rightarrow		Jordan	4.1	
•	Belarus	2.0	\rightarrow	•	Ecuador	4.2	\rightarrow		Kazakhstan	2.1	\rightarrow
0	Belgium	2.1	\rightarrow	•	Egypt	4.5			Kenya	6.1	\rightarrow
	Belize	3.3	\rightarrow	•	El Salvador	5.3	7		Kiribati	3.6	
•	Benin	4.4	7		Equatorial Guinea	4.0	7		Korea DPR	5.6	7
	Bhutan	2.9	\rightarrow	•	Eritrea	5.4	\rightarrow		Korea Republic of	1.6	\rightarrow
	Bolivia	4.0	\rightarrow		Estonia	1.0	\rightarrow		Kuwait	2.0	\rightarrow
	Bosnia and Herzegovina	4.1	\rightarrow		Ethiopia	6.4	\rightarrow		Kyrgyzstan	3.5	\rightarrow
	Botswana	2.9	7		Fiji	3.1	\rightarrow		Lao PDR	4.3	\rightarrow
	Brazil	3.4			Finland	0.6	\rightarrow		Latvia	1.7	\rightarrow
	Brunei Darussalam	1.7	\rightarrow		France	2.4	\rightarrow		Lebanon	5.4	7
	Bulgaria	2.6	\rightarrow		Gabon	3.9	7		Lesotho	4.2	\rightarrow
•	Burkina Faso	5.4	\rightarrow		Gambia	3.6	\rightarrow		Liberia	5.1	\rightarrow
	Burundi	6.3	7		Georgia	3.9	\rightarrow		Libya	6.1	7
	Cabo Verde	2.5	\rightarrow		Germany	1.6	\rightarrow		Liechtenstein	1.1	\rightarrow
•	Cambodia	4.5	7		Ghana	3.6	\rightarrow		Lithuania	1.4	\rightarrow
	Cameroon	6.2	7		Greece	2.7	7		Luxembourg	0.6	\rightarrow
	Canada	2.5	\rightarrow		Grenada	1.3	\rightarrow		Madagascar	5.0	\rightarrow
•	Central African Republic	8.4	\rightarrow	•	Guatemala	5.5	\rightarrow		Malawi	4.8	7
•	Chad	7.7	7	•	Guinea	5.0	\rightarrow		Malaysia	3.4	
	Chile	2.9	\rightarrow	•	Guinea-Bissau	4.8	\rightarrow		Maldives	2.1	Z
	China	4.1	7		Guyana	3.4	7		Mali	6.1	Z
_								_			



			3 YR
	COUNTRY	RISK	TREND
	Malta	1.8	\rightarrow
	Marshall Islands	3.8	\rightarrow
•	Mauritania	5.7	\rightarrow
	Mauritius	2.1	\rightarrow
•	Mexico	4.8	<i>7</i> 1 →
	Micronesia	3.7	\rightarrow
	Moldova Republic of	2.7	\rightarrow
	Mongolia	3.8	7
• • • • •	Montenegro	2.4	И
	Morocco	3.9	7
	Mozambique	6.0	\rightarrow
	Myanmar	6.7	$\begin{array}{c} \rightarrow \\ \rightarrow \\ \rightarrow \end{array}$
	Namibia	3.7	\rightarrow
	Nauru	2.8	И
	Nepal	5.4	7
	Netherlands	1.4	\rightarrow
	New Zealand	1.8	\rightarrow
	Nicaragua	4.2	И
•	Niger	7.3	
	Nigeria	6.3	\rightarrow
	Norway	0.7	\rightarrow
	Oman	2.8	
	Pakistan	6.6	\rightarrow
	Palau	2.9	\rightarrow
	Palestine	4.8	И
	Panama	3.2	И
	Papua New Guinea	5.8	\rightarrow
	Paraguay	2.9	И
	Peru	4.1	\rightarrow

		3 YR
COUNTRY	RISK	TREND
Philippines	4.9	7
Poland	1.9	\rightarrow
Portugal	1.6	\rightarrow
Qatar	1.9	7
Romania	2.6	\rightarrow
Russian Federation	4.4	7
Rwanda	5.3	7
Saint Kitts and Nevis	2.2	\rightarrow
Saint Lucia	1.7	\rightarrow
Saint Vincent and the Grenadines	1.7	\rightarrow
Samoa	2.8	\rightarrow
Sao Tome and Principe	1.2	\rightarrow
Saudi Arabia	3.1	7
Senegal	5.1	\rightarrow
Serbia	4.2	\rightarrow
Seychelles	2.2	\rightarrow
Sierra Leone	5.2	\rightarrow
Singapore	0.4	\rightarrow
Slovakia	1.7	\rightarrow
Slovenia	1.4	
Solomon Islands	5.0	\rightarrow
Somalia	9.2	\rightarrow
South Africa	4.3	\rightarrow
South Sudan	8.8	7
Spain	2.1	\rightarrow
Sri Lanka	3.8	7
Sudan	7.0	\rightarrow
Suriname	2.7	\rightarrow
Swaziland	3.4	

	COUNTRY	RISK	3 YR TREND
	Sweden	1.3	\rightarrow
	Switzerland	1.2	\rightarrow
•	Syria	6.9	\rightarrow
•	Tajikistan	4.4	$\begin{array}{c} \rightarrow \\ \rightarrow \\ \rightarrow \end{array}$
•	Tanzania	5.7	\rightarrow
	Thailand	4.0	\rightarrow
•	The former Yugoslav Republic of Macedonia	2.7	\rightarrow
•	Timor-Leste	4.2	\rightarrow
	Togo	4.1	Z
	Tonga	2.7	\rightarrow
	Trinidad and Tobago	2.0	\rightarrow
	Tunisia	3.1	И
•	Turkey	5.0	7
	Turkmenistan	3.2	Z
	Tuvalu	3.9	\rightarrow
•	Uganda	5.9	Z
	Ukraine	5.3	
	United Arab Emirates	2.0	\rightarrow
	United Kingdom	2.0	\rightarrow
	United States of America	3.1	\rightarrow
	Uruguay	1.5	\rightarrow
	Uzbekistan	3.1	\rightarrow
	Vanuatu	3.9	\rightarrow
	Venezuela	4.5	\rightarrow
	Viet Nam	3.5	→ -
•	Yemen	7.6	
	Zambia	4.1	\rightarrow
	Zimbabwe	4.9	Z

INFORM GLOBAL RISK INDEX

0 2.0 3.5 5.0 6.5 10.0 Very low Low Medium High Very high Not included in INFORM

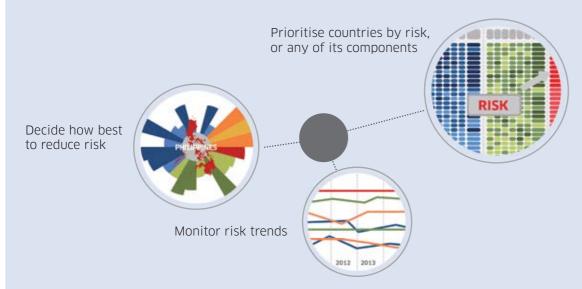
→ Stable **2** Decreasing risk

7 Increasing risk

KEY

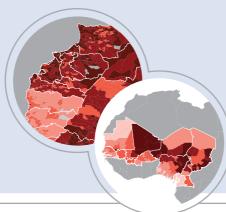
INFORM is the first global, objective and transparent tool for understanding the risk of humanitarian crises and disasters. It can help identify where and why a crisis might occur, which means we can reduce the risk, build peoples' resilience and prepare better for when crises do happen.





INFORM can be adapted...

...for your organisation or region and the same methodology can be used for national and regional risk assessment.



HOW IT WORKS

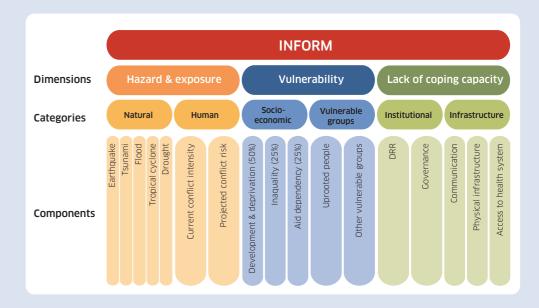
INFORM simplifies a lot of information about risk. It uses 50 different indicators to measure hazards and peoples' exposure to them, vulnerability, and the resources available to help people cope.



AFGHANISTAN
HAZARDS VULNERABILITY
WBABWE

INFORM creates a risk profile for every country. Each has a rating between 0 and 10 for risk and all of its components, so its easy to compare.

Components of risk covered by INFORM



Get the results...

INFORM results are available at www.inform-index.org, where you can: download a spreadsheet with all the results, calculations and source data; view and print country profiles; explore the data interactively; and find out more about how INFORM works and how you can use it.



www.inform-index.org

RISK OF HUMANITARIAN **CRISES AND** DISASTERS

INFORM 2017 RISK INDEX

Sudan

Chad

Niger Risk: 7.3

Risk: 8.4

Risk: 7.0

Risk: 7.7

Risk: 7.0

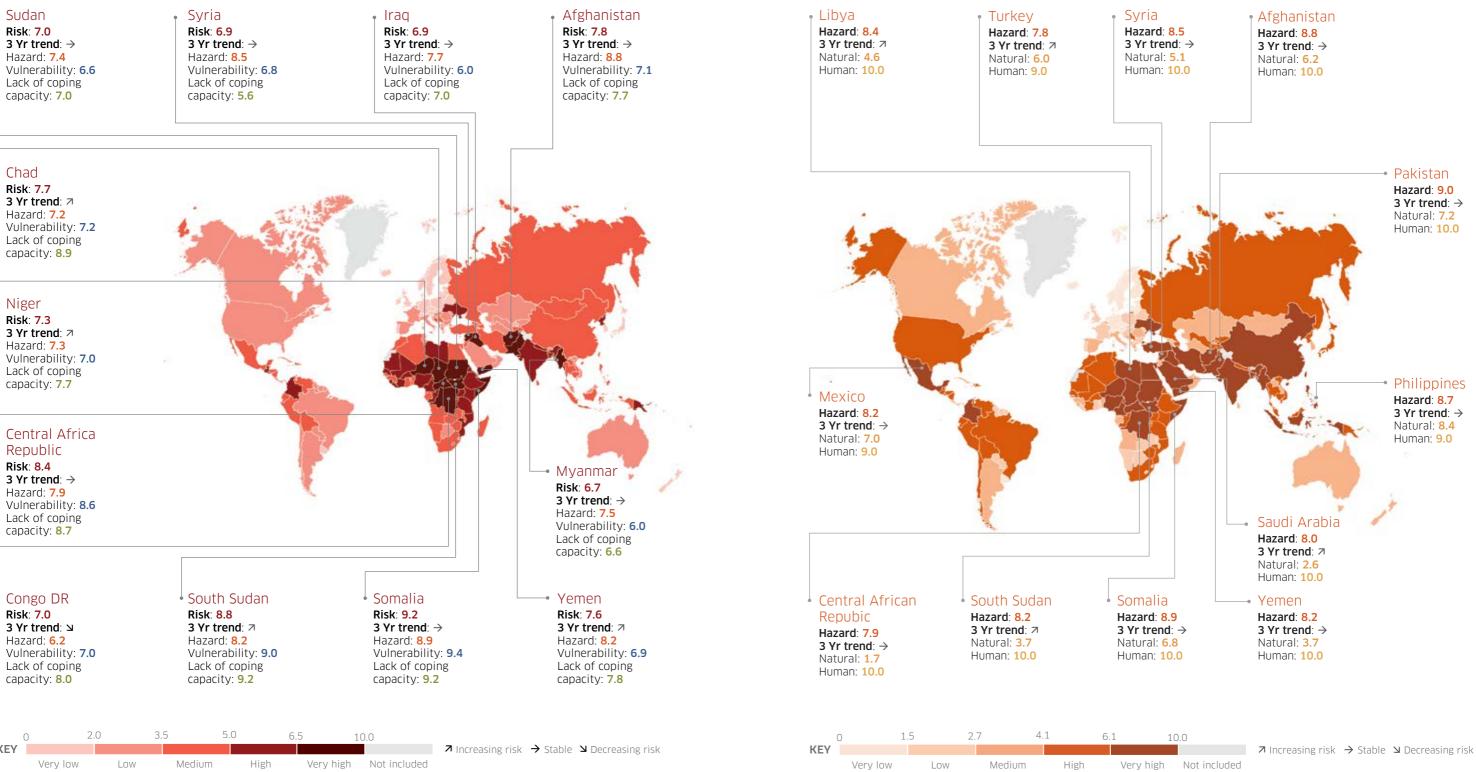
The overall INFORM risk index identifies countries at risk from humanitarian crises and disasters that could overwhelm national response capacity. It is vulnerability and lack of coping capacity. This map shows details for the 12 countries with the highest overall risk.

made up of three dimensions - hazards and exposure,

HAZARDS & EXPOSURE

This dimension of INFORM measures hazardous events that could occur and the people or assets potentially affected by them. It is made up of two categories natural hazards and human hazards. This map shows details for the 12 countries with the highest values in the hazard & exposure dimension.

INFORM 2017 HAZARD & EXPOSURE DIMENSION



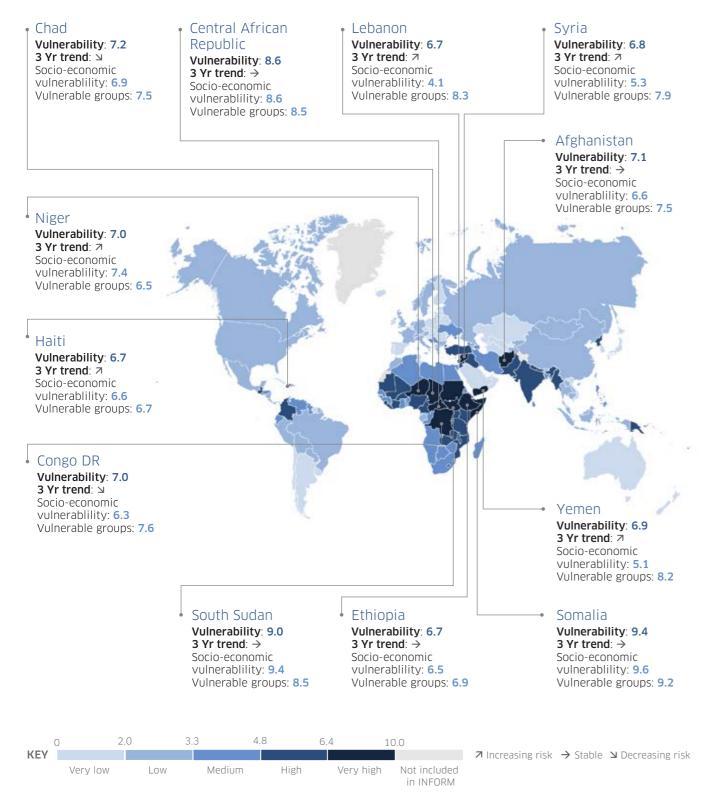
Very low Medium High Very high Not included Low in INFORM

in INFORM

VULNERABILITY

This dimension of INFORM measures the susceptibility of people to potential hazards. It is made up of two categories – socio-economic vulnerability and vulnerable groups. This map shows details for the 12 countries with the highest values in the vulnerability dimension.

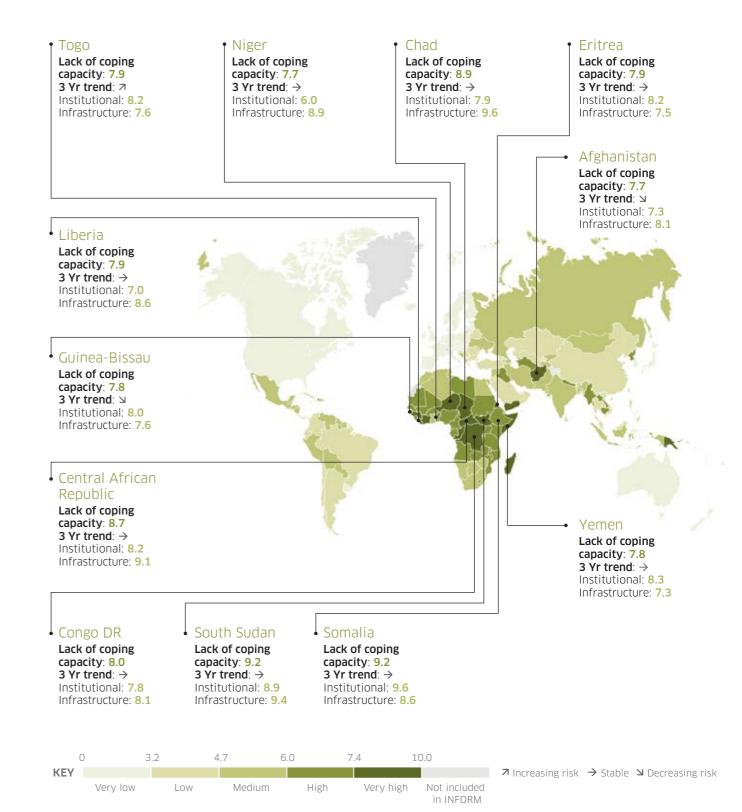
INFORM 2017 VULNERABILITY DIMENSION



LACK OF COPING CAPACITY

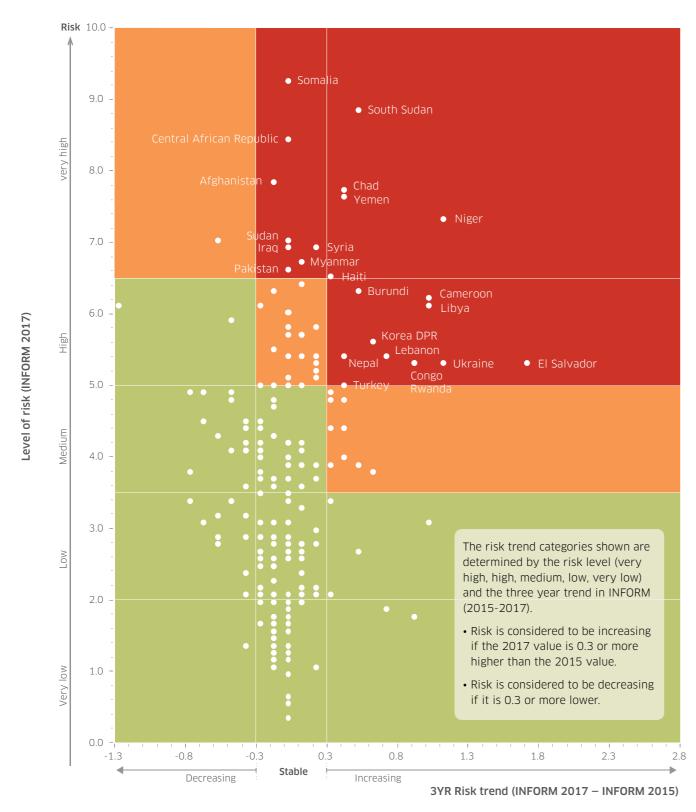
This dimension of INFORM measures the lack of resources available that can help people cope with hazardous events. It is made up of two categories – institutions and infrastructure. This map shows details for the 12 countries with the highest values in the lack of coping capacity dimension.

INFORM 2017 LACK OF COPING CAPCITY DIMENSION



PRIORITISING USING RISK LEVEL AND TRENDS

INFORM can be used to group countries based on their current level of risk and the trend over previous years. For example, large increases in countries already with high levels of risk could be used to prioritise them for increased crisis and disaster prevention, preparedness and response.



Very high and decreasing

Congo DR

Very high and stable					
Afghanistan	Pakistan				
Central African	Somalia				
Republic	Sudan				
Iraq	Syria				
Myanmar					

Very high and increasing

Chad	South Sudan
Haiti	Yemen
Niger	

High and decreasing

Mali Uganda

High and stable

Bangladesh	Kenya
Burkina Faso	Liberia
Colombia	Madagascar
Côte d'Ivoire	Mauritania
Ojibouti	Mozambique
Eritrea	Nigeria
Ethiopia	Papua New Guinea
Guatemala	Senegal
Guinea	Sierra Leone
ndia	Solomon Islands
ran	Tanzania

High and increasing

Burundi	Libya		
Cameroon	Nepal		
Congo	Rwanda		
El Salvador	Turkey		
Korea DPR	Ukraine		
Lebanon			

Medium and decreasing

Algeria Kiribati
Angola Nicaragua
Cambodia Palestine
China Philippines
Egypt Sri Lanka
Indonesia Togo
Jordan Zimbabwe

Medium and stable

Armenia	Marshall Islands
Azerbaijan	Micronesia
Bolivia	Namibia
Bosnia and	Peru
Herzegovina	Serbia
Comoros	South Africa
Ecuador	Tajikistan
Gambia	Thailand
Georgia	Timor-Leste
Ghana	Tuvalu
Guinea-Bissau	Vanuatu
Kyrgyzstan	Venezuela
Lao PDR	Viet Nam
Lesotho	Zambia

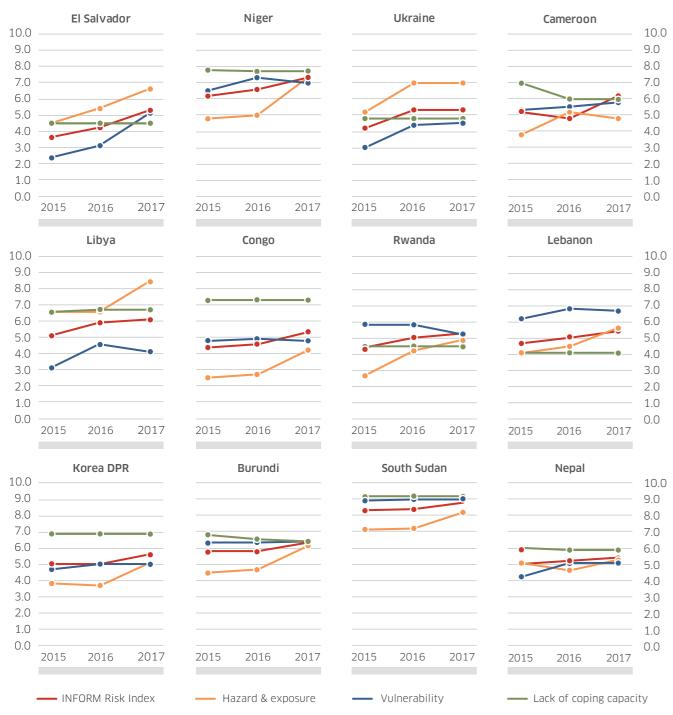
Medium and increasing

Benin	Mexico	
Equatorial Guinea	Mongolia	
Gabon	Morocco	
Honduras	Russian	
Malawi	Federation	

DRIVERS OF INCREASING RISK

These charts show the trend of the overall INFORM Risk Index and its dimensions during the last three years for countries with the largest increases in risk in the very high and high risk categories.

Most large increases in risk result from an increase in the hazard and exposure dimension, especially human hazards. You can also use the charts to see how the dimensions contribute to the overall risk.



UNDERSTANDING THE RELIABILITY OF INFORM

For the 2017 INFORM, we have introduced a measure of reliability, which is displayed for every country. It is presented as a Reliability Index on a scale of 0-10, where countries with lower scores have a risk score that is based on more reliable data. The Reliability Index has been added to increase transparency about the quality of data used to calculate INFORM, while still ensuring we include as many countries as possible.

In some cases, for example due to an ongoing conflict, the most recent data available does not accurately reflect the current situation. Rather than to exclude these countries from the analysis, or impute missing data, INFORM partners decided to add a measure of reliability so that users will be aware of such cases.

The Reliability Index takes into account: 1) missing data; 2) out of date data, and 3) conflict status. It is designed to be as simple as possible and use quantitative measures of reliability from data or metadata used in INFORM. The first two dimensions are normalised between 0 and 10, while conflict status counts as an aggravating factor of 30%.

INFORM RELIABILITY INDEX

MISSING DATA

The total number of original indicators missing, including any that have been estimated (e.g. HDI derived from GDP per capita).

OUT OF DATE DATA

The average of the total number of years older than the reference year per indicator, to account for any older data used as a proxy for the most recent year

CONFLICT STATUS

We define a country in conflict if the Conflict Barometer of the Heidelberg Institute for International Conflict Research (HIIK) sets a conflict intensity 4 o 5 (highly violent conflict), to account for the challenges of data collection in a country affected by conflict.

12 COUNTRIES IN INFORM WITH LEAST RELIABLE DATA

COUNTRY	INFORM RISK	RELIABILITY INDEX	NUMBER OF MISSING INDICATORS	RECENTNESS (AVERAGE YEARS)	COUNTRIES IN HIGHLY VIOLENT CONFLICT
Somalia	9.2	7.1	10	0.57	YES
Syria	6.9	6.5	7	0.63	YES
Nauru	2.8	6.4	15	0.45	
Libya	6.1	5.6	9	0.39	YES
Dominica	3.0	5.6	13	0.39	
Tuvalu	3.9	5.5	15	0.27	
Marshall Islands	3.8	5.3	14	0.29	
Uzbekistan	3.1	5.1	4	0.78	
Palau	2.9	5.0	10	0.43	
Turkmenistan	3.2	4.9	9	0.47	
South Sudan	8.8	4.6	8	0.29	YES

INFORM USER CASE STUDY



United Nations Central Emergency Response Fund (CERF)

The United Nations Central Emergency Response Fund (CERF) is one of the fastest and most effective ways to support rapid humanitarian response for people affected by natural disasters and conflict. The Fund is also a lifeline for the world's most neglected, underfunded and often protracted crises.

The UN General Assembly established CERF as a fund "by all, for all", reflecting available through OCHA's Financial the spirit of global solidarity. The Fund was launched in March 2006 with a US\$450 million annual target. Since then, it has allocated more than \$4.6 billion to help hundreds of millions of people in 98 countries and territories across the globe.

CERF provides funding to kick-start humanitarian assistance in new crises via its 'Rapid Response Window' yearround, as needs arise. In addition, the Fund supports aid agencies in forgotten crises via its 'Underfunded Emergencies Window', in twice-yearly allocation rounds.

For each allocation round for underfunded emergencies, CERF conducts a rigorous empirical analysis, consults aid agencies, and reviews humanitarian strategies and reports in order to make a recommendation to the Emergency Relief Coordinator about which underfunded emergencies to support. Crises are analyzed along two main dimensions: the funding gap and the severity of humanitarian needs. Those crises that combine low funding with severe needs are selected.

While data on funding levels are Tracking Service, 'severity of humanitarian needs' is more difficult to measure. CERF has developed an index the CERF Index for Risk and Vulnerability (CIRV) - which heavily relies on INFORM. combining the risk index with a handful of additional measures, e.g. on the risk of future humanitarian needs (from the IASC early warning reports), food insecurity and human rights. INFORM is weighted much more heavily than the other measures in the CERF index as it already includes about 50 indicators and covers many dimensions that are directly relevant to the analysis of underfunded emergencies. The adaptation of INFORM and its use alongside other sources of analysis is quite typical for INFORM users.

CERF's reliance on, among other aspects, an empirical analysis of funding and humanitarian needs has helped ensure that funding goes to the people in greatest needs, in the most neglected humanitarian crises around the world.

CERF Index of risk and vulnerability

The CIRV consists of 6 measures, including INFORM

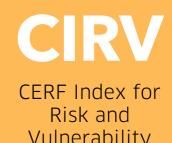


Risk of humanitarian needs (10%)



Risk and Vulnerability

Conflict prevalence (10%)





Human rights (10%)

Food insecurity (10%)





Conflict dynamics (10%)

INFORM USER CASE STUDY

EU Aid Volunteers We Care, We Act



EU Aid Volunteers

The EU Aid Volunteers initiative enables European citizens to contribute to humanitarian assistance in countries where help is needed. It brings volunteers and organisations from different countries to work together on joint projects in areas such as resilience-building, early warning and disaster risk management, as a practical expression of solidarity with communities vulnerable to humanitarian crises.

The European Commission has set up a common European training programme for humanitarian volunteers and has developed European standards for humanitarian organisations to work with volunteers in EU-funded projects worldwide to help strengthen and support local capacities to prevent, prepare for and recover from disasters.

Investing in capacity building of humanitarian organisations, local communities and first responders in disaster-affected countries is an essential pre-requisite for creating a more effective, principled humanitarian response and is further supported under the EU Aid Volunteers initiative.

The EU Aid Volunteers initiative uses INFORM to produce the annual list of countries that is published as part of the call for proposals and lists all countries to which EU Aid volunteers could potentially be deployed. This is a five-step process.

First, the overall INFORM risk category is used as a basis to select countries at risk of humanitarian crisis or disaster. Second, all countries that do not receive Overseas Development Assistance, as

defined by the OECD Development
Assistance Committee, are removed
from the list. Third, the component
of INFORM that measures current
conflict intensity is used to assess
security. Volunteers are not deployed
to operations conducted in the theatres
of international and non-international
armed conflict.

Fourth, the European Commission's Directorate-General for European Civil Protection and Humanitarian Aid Operations' (DG ECHO) annual global needs and risk assessment exercise is used to remove countries that are not priorities for DRR. Lastly, DG ECHO's internal security list for staff is used to identify countries where further additional security advice is required, especially if EU Aid Volunteers are based outside capitals.

EU Aid Volunteers country selection process





INFORM RISK INDEX

Countries in the four highest risk categories of the overall INFORM Risk Index are included.





DAC List of ODA Recipients

All countries which do not receive Overseas Development Assistance, as defined by the DAC List of ODA Recipients effective at 1 January 2015 are removed from the list.





INFORM conflict intensity component

Countries with a score of 9 or 10 in INFORM's current conflict intensity component are removed. Countries scoring 7 or 8 are flagged for further additional security advice.





DG ECHO annual global needs and risk assessment exercise

DG ECHO's humanitarian experts identify annual EU humanitarian aid priorities for disaster risk reduction. Countries that are clearly identified as having no scope for DRR are removed.





DG ECHO internal security list for staff

ECHO's internal security list for staff is used to identify countries where further additional security advice is required.

COMPARISON OF GLOBAL RISK INDICES

Indices to analyze global risk patterns are increasingly in demand and available. Although most have similarities in their conceptual approach and methodology, the details of their calculation methods and indicators used differ. Do these different indices provide similar results?

The United Nations University
Institute for Environment and Human
Security (UNU-EHS)¹ has conducted
a comparative spatial and statistical
analysis of INFORM and four other
widely used global risk indices, some
of which is summarised here.² The
tables below show the strengths of
the statistical relationships between
the indices and how they overlap and
identify hotspots of risk.

There is considerable disagreement among the indices analysed and the level of agreement differs between regions. For example, there is higher agreement between the indices in Asia than Africa and Latin America. The results highlight the importance of understanding the conceptual framework behind each index and matching it to the decision being made.

STRENGTH OF ASSOCIATION BETWEEN GLOBAL RISK INDICES

INFORM	1				
WRI	0.55*	1			
CRI	0.19*	0.14	1		
DRI	0.48*	0.522*	0.32*	1	
ND-GAIN	0.74*	0.66*	-0.06	0.46*	1
	INFORM	WRI	CRI	DRI	ND-GAIN

Values close to +1 or -1 indicate a very strong positive or negative association. Values close to 0 indicate a very weak association.

OVERLAPS BETWEEN 25 HIGHEST RISK COUNTRIES FROM FIVE RISK INDICES

COUNTRY	OVERLAPS	INFORM	WRI	CRI	DRI	ND-GAIN
Haiti	5	•	•	•	•	•
Bangladesh	4	•	•	•	•	
Madagascar	4		•	•	•	•
Afghanistan	3	•		•		•
India	3	•		•	•	
Mali	3	•			•	•
Myanmar	3	•		•		•
Niger	3	•	•			•
Pakistan	3		•	•	•	
Philippines	3		•	•	•	
Solomon Islands	3		•		•	•
Viet Nam	3		•	•	•	
Yemen	3	•			•	•

Only countries where at least three indices overlap are shown. The following countries appear in two indices: Burundi, Cambodia, CAR, Chad, Congo, DR Congo, Ethiopia, Gambia, Guatemala, Guinea-Bissau, Indonesia, Kenya, Mauritius, Mozambique, Nepal, Nicaragua, Papua New Guinea, Sudan, Vanuatu.

CONCEPTS USED IN GLOBAL RISK INDICES

INFORM

IASC and European Commission

Hazards (natural and human), vulnerability and lack of coping capacity

World Risk Index (WRI)

UNU-EHS, BEH, University of Stuttgart

Social vulnerability and natural hazards

Disaster Risk Index (DRI)

UNEP

Natural hazards

Global Climate Risk Index (CRI)

Germanwatch

Human and economic losses from extreme weather events

Notre Dame Global Adaptation Country Index (ND-GAIN)

University of Notre Dame

Vulnerability to climate change and other challenges and readiness to improve resilience

1 This section of the report was provided by M. Garschagen & M. Hagenlocher of United Nations University Institute for Environment and Human Security (UNU-EHS).

2 Garschagen, M., Fekete, A., Fiedrich, F., Welle, T., Birkmann, J., Bussing, J., Chojnowska, P., Hagenlocher, M., Sabelfeld, R., & Sandholz, S. & (2016): Identification of Priority Countries and Topics for International Research on Disaster Risk Reduction [Länderanalyse zum Katastrophenund Risikomanagement]. Study presented to the German Federal Ministry of Science and Education. 117 pages. Bonn.

STATISTICAL VALIDATION OF INFORM

INFORM is a composite indicator that combines 54 indicators. The INFORM model builds up an overall risk score by aggregating the indicators into components, categories and dimensions (see page 5). There are many conceptual and practical challenges when trying to model something as complex as the risk of crisis and disaster. Conceptual challenges can be overcome by working in partnership to arrive at a common understanding of risk. But what about practical challenges?

The Competence Centre on Composite Indicators & Scoreboards (COIN) at the Joint Research Centre of European Commission has carried out a statistical audit of INFORM to analyse the soundness of the structure of the index, understand the impact of key modelling assumptions, as well as the uncertainty and sensitivity of INFORM scores. Some of the results are presented here and have already lead to improvements in the INFORM methodology (e.g., the introduction of cluster analysis to define the risk categories). We hope this external

check will improve the transparency and reliability of INFORM for users.

The tables show how INFORM performs in two key tests of a composite indicator. Firstly, how its components correlate with the overall index. Most components should show positive correlation and a weak or lacking correlation indicates that information from that component may be lost in the overall aggregation. Secondly, whether the weights assigned to different components are maintained during aggregation. INFORM performs well against these tests

NOMINAL WEIGHTS OF INFORM DIMENSIONS AND CATEGORIES VERSUS THEIR IMPLICT WEIGHTS

INFORM		
HAZARD & EXPOSURE	33%	67%
VULNERABILITY	33%	80%
LACK OF COPING CAPACITY	33%	71%
HAZARD & EXPOSURE		
Natural	50%	50%
Human	50%	83%
VULNERABILITY		
Socio-Economic Vulnerability	50%	71%
Vulnerable Groups	50%	77%
LACK OF COPING CAPACITY		
Institutional	50%	81%
Infrastructure	50%	88%

The table shows the results of a statistical analysis (Pearson correlation, kernel estimates) that measures how closely the nominal weights given to dimensions and categories in INFORM (left column) are achieved in the aggregation of the index. Closer values in the second column indicate an equal balance at that level of aggregation. For example, in the Vulnerability dimension, the analysis shows that the nominal weights of the two categories (50% vs 50%) is achieved because the implicit weights are close in value (71% vs 77%). In the Hazard dimension, the Human category has slightly higher implicit weight (83% vs 50%) than indicated by the nominal weight (50% vs 50%). Overall, the index is well balanced at all levels of aggregation.

CORRELATION OF INFORM DIMENSIONS, CATEGORES AND COMPONENTS WITH THE OVERALL INDEX

INFORM	1
HAZARD & EXPOSURE	0.82
Natural	0.43
Earthquake	0.17
Flood	0.50
Tsunami	0.11
Tropical Cyclone	0.02
Drought	0.45
Human	0.84
Projected Conflict Risk	0.82
Current Highly Violent Conflict Intensity	0.63
VULNERABILITY	0.89
Socio-Economic Vulnerability	0.73
Development & Deprivation	0.75
Inequality	0.62
Aid Dependency	0.38
Vulnerable Groups	0.82
Uprooted people	0.61
Health Conditions	0.48
Children U5	0.76
Recent Shocks	0.30
Food Security	0.66
Other Vulnerable Groups	0.69
LACK OF COPING CAPACITY	0.84
Institutional	0.72
DRR	0.43
Governance	0.80
Infrastructure	0.81
Communication	0.75
Physical infrastructure	0.78
Access to health care	0.77
Value alam to 14 au 4 indicate a 1	

Values close to +1 or -1 indicate a very strong positive or negative association. Values close to 0 indicate a very weak association. All dimensions, categories and components show a strong positive correlation, except those highlighted, which show a weak, positive or statistically insignificant correlation. These lose their information content at the level of the overall INFORM Index.

^{*} Indicates a statistically significant correlation (p < 0.1)

INFORM SUBNATIONAL PROGRESS UPDATE



An INFORM Subnational risk index shows a detailed picture of risk and its components that is comparable across a single region or country. It can be used by decision-makers to analyse and visualise risk. Developing an INFORM Subnational model is a locally owned and managed, costeffective process that is supported by the global INFORM initiative. This ensures that each model has local buy-in, is used in local analysis and decision-making processes and is adapted according to local risks, but can draw on global resources and expertise and is validated according to global standards and best practice.

During 2015, the INFORM methodology and process was used to develop individual risk models for Colombia, Lebanon, the Sahel and the Greater supported the implementation of more Subnational models in other countries or regions. An INFORM Subnational 'Acceleration Programme', funded by the Subnational developers and users. European Union humanitarian aid and managed by UNDP, will start in 2017.

This aims to improve shared analysis and decision-making in humanitarian

and development sectors through the accelerated implementation and use of INFORM models at country level. It will include direct support for local partners Horn of Africa. From 2016, INFORM has to establish INFORM Subnational models in five priority countries, improved guidance and tools for local partners, and a training programme for INFORM

> Results of INFORM Subnational models and further information are available on the INFORM website

STATUS OF INFORM SUBNATIONAL MODELS

Complete	Local lead
Lebanon	RCO Lebanon
Colombia	UNICEF/OCHA Colombia
East Africa	OCHA/IGAD
Sahel	OCHA/IASC

In development	Local lead
Southern Africa	OCHA/SADC
Guatemala	UNICEF/OCHA
Honduras	UNICEF/OCHA
LAC	UNICEF/OCHA
Jordan	OCHA/Government of Jordan
Central Asia	OCHA/IASC

INFORM SUBNATIONAL ACCELERATION PROGRAMME

OUTCOME - a shared and open analysis of crisis and disaster risk among national development and humanitarian actors enabling better risk-informed decision-making for planning and programming. In particular, that shared risk analysis is used across humanitarian and development sectors, and that strategies and programmes are better aligned to address the location and types of risks.

Establish a support facility to provide technical assistance to local partners in 5 priority countries to develop an INFORM Subnational model.

Build capacity at regional and national level to develop, use and expand INFORM Subnational through training staff in INFORM Partner organisations, regional organisations and governments and improving and increasing tools, guidance and capacity to support the roll-out of INFORM Subnational.

Conduct an assessment to understand the added value and sustainability of INFORM Subnational projects so that future implementation can be adjusted and improved.

INFORM SUBNATIONAL IN LATIN AMERICA AND THE CARIBBEAN

The Latin America and Caribbean (LAC) region is one of the world's most disater-prone, with varying levels of national and local response capacity. Despite its growing prosperity, countries struggle with widespread poverty, social unrest, conflict and violence. The ongoing drought in the 'dry corridor' of Central America, compounded by 2016's El Niño phenomenon, is one of the most severe in the recent history of the area.

Regional humanitarian organisations have been working to ensure response mechanisms developed by the international community are embedded in the efforts of governments. However, the lack of systematic information to analyse, comprehend and present the magnitude of the risks and humanitarian needs is a key challenge. Governments and humanitarian actors are increasingly seeking to build resilience in the LAC region, especially through improved analysis of risk and vulnerability.

To support this, a first pilot of an INFORM Subnational model in the region was initiated by OCHA and UNICEF in 2015 with the development of INFORM Colombia. It was implemented at municipal-level and identifies threats, vulnerabilities and response capacities throughout the country and includes specific components to evaluate risk levels for children and adolescents. Its results have been used so far in the Humanitarian Needs Overview 2016, and by UNICEF planners and donors.

since decided there is a need to support regional prevention and preparedness actions through the development of a regional INFORM model and the extension of the initiative to additional countries in the region, starting with Guatemala and Honduras. This will help develop a shared analysis of crisis and disaster risk among government entities, humanitarian and development organizations and donors, and better align collective disaster risk management efforts.

OCHA, UNICEF and other partners have



PLANNED REGIONAL INFORM MODEL ADAPTED TO REGIONAL RISKS. **VULNERABILITES AND CAPACITIES**

INFORM 2017 FULL RESULTS

These tables show the results of INFORM to the category level for 2017. For the latest results, including component level, indicators and source data, visit the INFORM website: www.inform-index.org.

COUNTRY	RANK	INFORM RISK	3 YR TREND	HAZARD & EXPOSURE	3 YR TREND	Natural	Human	VULNERABILITY	3 YR TREND	Socio-Economic Vulnerability	Vulnerable Groups	LACK OF COPING CAPACITY	3 YR TREND	Institutional	Infrastructure	RELIABILITY INDEX*
Afghanistan	4	7.8	\rightarrow	8.8	\rightarrow	6.2	10.0	7.1	\rightarrow	6.6	7.5	7.7	И	7.3	8.1	3.9
Albania	120	2.8	\rightarrow	3.5	\rightarrow	5.8	0.1	1.4	\rightarrow	2.0	0.7	4.4	\rightarrow	5.8	2.7	2.2
Algeria	62	4.4	И	5.5	И	4.1	6.7	3.3	\rightarrow	3.1	3.4	4.8	\rightarrow	4.9	4.6	2.6
Angola	50	4.9	И	3.9	И	2.1	5.4	4.4	→	4.4	4.4	7.0	\rightarrow	6.6	7.4	3.6
Antigua and Barbuda	145	2.1	\rightarrow	1.7	\rightarrow	2.7	0.6	1.4	\rightarrow	1.8	0.9	3.8	\rightarrow	5.3	2.0	4.2
Argentina	135	2.5	→	3.0	R	3.5	2.4	1.4	→	1.6	1.1	3.7	→	5.0	2.2	3.3
Armenia	91	3.7	→	3.5	→	4.4	2.4	2.9	→	2.1	3.7	4.9	<u>→</u>	6.7	2.4	2.1
Australia	141	2.3	→	3.6	→	6.0	0.1	1.7	→	0.6	2.6	2.1	<u>→</u>	2.2	1.9	2.9
Austria	164	1.7	→	1.3	→	2.4	0.0	2.3	→	0.8	3.5	1.6	→	2.1	1.0	2.1
Azerbaijan	58	4.7	→	5.0	, R	4.5	5.5	4.4	→	1.4	6.5	4.8	<u>→</u>	6.4	2.6	2.6
Bahamas	145	2.1	→	2.0	→ -	3.6	0.0	1.6	→	2.3	0.9	2.9	<u>→</u>	3.3	2.5	3.2
Bahrain	161	1.8	7	1.4	71	0.1	2.5	1.4	→	1.8	0.9	2.8	<u>→</u>	4.1	1.2	3.3
Bangladesh	24	5.8	→	7.5	→	8.3	6.5	4.7	→	3.7	5.6	5.5	<u>→</u>	5.0	5.9	1.3
Barbados	170	1.6	→	1.3	→	2.5	0.0	1.2	→ `	1.9	0.5	2.4	<u>→</u>	2.7	2.1	2.7
Belarus	153	2.0	→	2.2	→ -	2.3	2.0	1.2	→	1.0	1.3	3.2	<u>→</u>	4.6	1.4	3.3
Belgium	145 105	2.1	→ →	3.5	<i>7</i> 1 →	1.6 5.2	5.1 0.1	1.7 2.3	→ 	0.6 3.0	2.7	1.5 5.3	→ →	2.36.3	0.7	2.2
Belize Benin	62	4.4		2.8		1.5	3.9	4.2			1.5			5.9	7.8	1.8
		2.9	<i>7</i> 1 →	1.8	<i>7</i> 1 →	3.2			<i>→</i>	5.8 4.2	2.0	7.0	>	4.3		2.1
Bhutan Bolivia	114 80	4.0	 →	4.6	7	3.8	0.1 5.4	2.8	→ ×	3.4	1.2	4.7 5.4	→ ×	6.0	5.1	2.1
Bosnia and Herzegovina	74	4.0		3.8	7	4.2	3.4	4.0	<u>7</u> И	2.3	5.3	4.5	 →	6.1	2.4	2.5
Botswana	114	2.9		1.5	 	2.7	0.1	3.5	→ →	4.1	2.9	4.8	→ →	4.9	4.6	2.0
Brazil	100	3.4	ע	4.7	וצ	3.7	5.5	2.1	R	2.5	1.6	4.0	→ →	5.1	3.0	1.7
Brunei Darussalam	164	1.7	<u>_</u>	1.3	→ →	2.3	0.1	0.8	→ →	1.0	0.6	4.5	→ →	4.7	4.2	4.1
Bulgaria	131	2.6	→	2.5	, 	3.4	1.6	2.3	7	2.0	2.6	3.1		4.3	1.7	2.8
Burkina Faso	32	5.4		4.2	7	2.8	5.3	6.2	 	7.3	4.9	6.2		4.7	7.4	2.4
Burundi	16	6.3	7	6.1	71	3.0	8.0	6.4	 →	6.9	5.8	6.4		6.1	6.7	3.9
Cabo Verde	135	2.5	→	1.0	→	1.9	0.1	4.0	<i>→</i>	6.1	1.0	4.1	_ <u>-</u> →	4.1	4.0	2.0
Cambodia	59	4.5	, K	4.8	, K	5.4	4.2	3.0	, K	4.1	1.7	6.5		7.0	6.0	2.2
Cameroon	18	6.2	7	6.8	7	2.3	9.0	5.8	7	4.9	6.5	6.0	 	4.8	6.9	2.7
Canada	135	2.5	→	3.0	→	4.9	0.6	2.3	→	0.8	3.5	2.3	\rightarrow	2.2	2.3	2.9
Central African Republic	3	8.4	→	7.9	→	1.7	10.0	8.6	→	8.6	8.5	8.7	→	8.2	9.1	4.0
Chad	5	7.7	7	7.2	7	3.7	9.0	7.2	R	6.9	7.5	8.9	\rightarrow	7.9	9.6	2.6
Chile	114	2.9	→	4.5	→	6.6	1.3	1.9	→	2.3	1.5	2.9	→	3.1	2.6	1.8
China	74	4.1	И	6.9	→	7.9	5.5	2.7	И	1.8	3.6	3.7	\rightarrow	3.9	3.5	2.3
Colombia	32	5.4	\rightarrow	6.8	\rightarrow	6.5	7.0	5.8	→	2.7	7.8	4.1	\rightarrow	4.4	3.7	2.2
Comoros	91	3.7	\rightarrow	1.7	\rightarrow	2.6	0.6	4.4	→	5.8	2.6	7.0	\rightarrow	7.9	5.8	4.1
Congo	37	5.3	7	4.2	71	2.5	5.5	4.8	→	3.9	5.5	7.3	\rightarrow	7.5	7.1	1.8
Congo DR	8	7.0	И	6.2	И	3.3	8.0	7.0	И	6.3	7.6	8.0	\rightarrow	7.8	8.1	2.3
Costa Rica	114	2.9	\rightarrow	3.8	\rightarrow	6.3	0.1	2.3	И	2.8	1.7	2.8	\rightarrow	3.0	2.6	1.8
Côte d'Ivoire	26	5.7	\rightarrow	4.3	\rightarrow	2.0	6.0	5.7	71	5.5	5.8	7.5	\rightarrow	7.3	7.6	1.8
Croatia	142	2.2	\rightarrow	3.1	\rightarrow	5.0	0.7	1.2	→	1.5	0.9	3.0	7	4.4	1.4	2.2
Cuba	131	2.6	\rightarrow	3.7	\rightarrow	5.6	1.1	1.5	\rightarrow	2.7	0.2	3.1	\rightarrow	3.9	2.2	3.0

KEY 7 Increasing risk → Stable → Decreasing risk *Reliability Index: more reliable **0** — **10** less reliable

*Countries with lower Reliability Index scores have risk scores that are based on more reliable data

COUNTRY	RANK	INFORM RISK	3 YR TREND	HAZARD & EXPOSURE	3 YR TREND	Natural	Human	VULNERABILITY	3 YR TREND	Socio-Economic Vulnerability	Vulnerable Groups	LACK OF COPING CAPACITY	3 YR TREND	Institutional	Infrastructure	RELIABILITY INDEX*
Cyprus	120	2.8	\rightarrow	1.9	\rightarrow	3.0	0.6	4.5	\rightarrow	1.3	6.6	2.5	\rightarrow	3.3	1.6	2.3
Czech Republic	175	1.4	И	1.2	→	2.1	0.1	1.1	И	0.8	1.4	2.1	R	3.1	1.0	2.0
Denmark	184	1.1	→	0.5	→	1.0	0.0	1.7	7	0.4	2.9	1.4	7	2.0	0.8	2.0
Djibouti	37	5.3	\rightarrow	4.1	7	4.9	3.2	5.7	→	5.6	5.8	6.5	\rightarrow	6.2	6.7	3.3
Dominica	113	3.0	→	2.0	→	3.6	0.0	3.7	7	4.1	3.2	3.8	\rightarrow	4.6	2.9	5.6
Dominican Republic	100	3.4	→	4.3	7	5.7	2.6	2.0	→	2.6	1.3	4.6	\rightarrow	5.5	3.6	0.6
Ecuador	69	4.2	→	4.8	\rightarrow	6.8	1.9	3.5	→	2.4	4.5	4.3	\rightarrow	4.7	3.8	0.7
Egypt	59	4.5	И	6.3	R	5.5	7.0	3.3	→	2.5	4.1	4.5	\rightarrow	5.4	3.5	1.8
El Salvador	37	5.3	71	6.6	71	6.1	7.0	5.1	71	3.7	6.2	4.5	\rightarrow	5.4	3.4	2.8
Equatorial Guinea	80	4.0	7	3.1	7	1.5	4.5	2.9	→	3.8	1.9	7.2	\rightarrow	8.0	6.3	3.2
Eritrea	32	5.4	\rightarrow	4.2	7	4.1	4.3	4.8	R	5.9	3.5	7.9	\rightarrow	8.2	7.5	3.3
Estonia	186	1.0	→	0.5	→	0.9	0.1	1.1	→	1.2	1.0	2.1	\rightarrow	3.0	1.0	2.2
Ethiopia	15	6.4	\rightarrow	5.6	7	4.3	6.6	6.7	→	6.5	6.9	6.9	\rightarrow	4.6	8.4	1.9
Fiji	108	3.1	→	2.4	→	3.8	0.8	3.5	7	3.7	3.3	3.7	-	2.9	4.4	3.2
Finland	189	0.6	→	0.1	→	0.1	0.0	1.5	→	0.7	2.3	1.3	\rightarrow	1.6	0.9	2.2
France	139	2.4	→	2.7	7	3.8	1.5	2.5	→	0.9	3.9	2.0	\rightarrow	2.8	1.1	1.9
Gabon	83	3.9	7	3.6	7	1.9	5.0	2.8	→	3.0	2.6	6.0		6.6	5.4	1.8
Gambia	95	3.6	→	1.7	7	2.2	1.1	5.1	K	6.3	3.5	5.5	 	4.9	6.0	1.9
Georgia	83	3.9	→	3.7	→	4.5	2.8	4.6	→	2.9	5.9	3.4	\rightarrow	4.6	2.0	2.4
Germany	170	1.6	→	1.2	→	2.2	0.1	2.4	→	0.5	4.0	1.5	→ →	2.2	0.7	2.8
Ghana	95	3.6	→	2.5	→	2.4	2.6	3.5	→	4.0	3.0	5.3	<u>·</u>	4.4	6.1	2.1
Greece	126	2.7	7	3.9	7	4.7	2.9	2.2	7	1.5	2.8	2.4	→	3.6	1.0	2.1
Grenada	179	1.3	→	0.3	→	0.5	0.1	1.9	→	3.1	0.5	3.8	<u>·</u>	5.0	2.4	3.7
Guatemala	31	5.5	→	6.0	7	6.9	4.8	4.9	, K	4.4	5.4	5.7		6.2	5.2	1.8
Guinea	45	5.0	→	3.4	 K	2.4	4.2	4.8	<u>−</u>	5.7	3.8	7.5		6.3	8.4	1.9
Guinea-Bissau	54	4.8	<i>→</i>	2.3	 →	2.4	2.2	6.0	<i>→</i>	7.2	4.5	7.8		8.0	7.6	2.6
Guyana	100	3.4	7	1.8	<u>,</u>	3.1	0.4	3.9	7	4.2	3.6	5.5	_ <u>-</u> →	6.3	4.6	2.6
Haiti	14	6.5	71	5.4	7	5.6	5.2	6.7	7	6.6	6.7	7.5		7.7	7.3	1.9
Honduras	50	4.9	71	4.9	→	5.8	3.9	4.6	7	4.0	5.2	5.2	,	6.0	4.3	1.3
Hungary	145	2.1	7	2.7	7	3.6	1.8	1.6	→	1.5	1.7	2.0		2.9	1.1	1.9
Iceland	186	1.0	→	0.7	<i>→</i>	1.3	0.0	0.8	→	0.6	0.9	1.9		2.1	1.7	2.6
India	26	5.7	<i>'</i>	7.3	<i>'</i>	7.9	6.7	5.4	7	3.9	6.6	4.8	 	3.8	5.6	2.7
Indonesia	66	4.3	, K	7.2	→	7.8	6.6	2.3		2.3	2.3	4.8	<u>-</u> →	4.5	5.1	1.3
Iran	45	5.0	<u>→</u>	6.3	<i>,</i>	7.2	5.3	4.2	<u>→</u>	2.7	5.5	4.7		5.5	3.7	2.5
Iraq	10	6.9	'	7.7	, K	5.5	9.0	6.0	7	2.8	8.0	7.0		8.2	5.3	2.2
Ireland	179	1.3		1.0	 →	2.0	0.0	1.2	→	0.7	1.7	1.8		2.2	1.3	1.9
Israel	120	2.8	<i>→</i>	4.4	7	4.3	4.5	2.1	<i>→</i>	1.2	2.9	2.3		3.3	1.1	2.5
Italy	131	2.6	→	3.4	→	5.0	1.3	2.2	<i>→</i>	1.0	3.3	2.4		3.7	0.9	1.7
Jamaica	135	2.5	<i>→</i>	2.5	→	3.7	1.1	1.7	, K	2.5	0.9	3.9		4.3	3.5	3.1
Japan	153	2.0	<i>→</i>	5.7	<i>→</i>	8.3	0.6	0.9		0.9	0.8	1.5		2.0	1.0	3.3
Jordan	74	4.1	, 	2.8	, 	3.9	1.5	6.1	→	3.8	7.7	4.1		5.4	2.6	2.3
Kazakhstan	145	2.1	<u> </u>	3.0		4.3	1.5	0.8	, →	1.2	0.4	3.8		5.0	2.4	2.7
Kenya	19	6.1	<i>→</i>	6.1	→ →	4.9	7.0	5.9	<i>→</i>	4.9	6.7	6.4		5.3	7.3	3.0
Kiribati	95	3.6	, 	1.7	→	3.0	0.1	4.6	<i>→</i>	6.1	2.7	6.0		6.2	5.8	4.3
Kiribati Korea DPR	30	5.6	71	5.1	7	4.8	5.3	5.0	7	5.0	5.0	6.9	→ 	8.8	3.4	4.0
Korea Republic of	170	1.6	<i>→</i>	3.7	7	5.2	1.8	0.6	<i>→</i>	0.8	0.4	1.9	 →	2.5	1.3	2.8
Kuwait	153	2.0	→ →	1.4	צ	2.3	0.4	1.7	→	2.4	0.4	3.5	 →	5.2	1.4	2.0
Kyrgyzstan	98	3.5	→ →	4.7	→ ×	5.9	3.2	2.1	→ →	3.0	1.0	4.5	 - 	5.4	3.4	1.6
Lao PDR	66	4.3	→ →			4.7			ح لا	4.2	2.0	6.2		6.4	6.0	
				3.9	→ ->		2.9	3.2								1.7 2.3
Latvia	164	1.7	\rightarrow	1.3	\rightarrow	2.3	0.2	1.3	\rightarrow	1.6	0.9	2.8	\rightarrow	3.8	1.6	2.3

KEY 7 Increasing risk → Stable 2 Decreasing risk
*Reliability Index: more reliable 0 — 10 less reliable

*Countries with lower Reliability Index scores have risk scores that are based on more reliable data **KEY** 7 Increasing risk → Stable 2 Decreasing risk
*Reliability Index: more reliable 0 —10 less reliable

*Countries with lower Reliability Index scores have risk scores that are based on more reliable data

COUNTRY	RANK	INFORM RISK	3 YR TREND	HAZARD & EXPOSURE	3 YR TREND	Natural	Human	VULNERABILITY	3 YR TREND	Socio-Economic Vulnerability	Vulnerable Groups	LACK OF COPING CAPACITY	3 YR TREND	Institutional	Infrastructure	RELIABILITY INDEX*
Lebanon	32	5.4	7	5.6	7	3.7	7.0	6.7	7	4.1	8.3	4.1	\rightarrow	5.6	2.3	4.4
Lesotho	69	4.2	\rightarrow	2.2	\rightarrow	1.9	2.4	5.2	И	5.5	4.9	6.7	\rightarrow	7.1	6.2	2.0
Liberia	43	5.1	→	2.6	\rightarrow	3.0	2.2	6.4	И	7.7	4.6	7.9	\rightarrow	7.0	8.6	2.8
Libya	19	6.1	7	8.4	71	4.6	10.0	4.1	7	1.6	6.0	6.7	\rightarrow	8.4	3.9	5.6
Liechtenstein	184	1.1	→	0.9	И	1.3	0.5	1.0	\rightarrow	0.5	1.4	1.3	\rightarrow	1.6	0.9	4.1
Lithuania	175	1.4	→	0.9	→	1.8	0.0	1.2	\rightarrow	1.4	1.0	2.4	→	3.5	1.1	2.3
Luxembourg	189	0.6	→	0.2	→	0.4	0.0	1.1	→	0.9	1.3	1.2	\rightarrow	1.8	0.6	2.2
Madagascar	45	5.0	→	4.0	→	5.9	1.4	4.1	→	5.3	2.7	7.6	→	6.1	8.6	3.2
Malawi	54	4.8	7	2.7	7	3.7	1.5	6.3	71	6.8	5.7	6.4	→	5.4	7.2	1.9
Malaysia	100	3.4	И	4.2	R	4.8	3.6	3.0	И	2.3	3.7	3.1	→	3.3	2.9	3.1
Maldives	145	2.1	K	1.7	→	3.1	0.1	1.4	→	2.1	0.7	4.0		5.8	1.5	4.3
Mali	19	6.1	И	5.4	R	3.3	7.0	6.1	R	6.8	5.2	6.8	→	5.9	7.5	2.6
Malta	161	1.8	→	1.1	→	2.1	0.0	2.2	→	1.6	2.8	2.4	→	3.7	0.8	2.4
Marshall Islands	88	3.8	→	1.6	→	2.1	1.1	5.2	K	7.3	2.0	6.6	→	7.7	5.2	5.3
Mauritania	26	5.7	→	5.2	7	5.1	5.2	5.1	И	5.2	4.9	7.0	→	5.9	7.9	2.6
Mauritius	145	2.1	→	1.9	→	3.4	0.1	1.8	→	2.9	0.6	2.8		3.5	2.0	1.6
Mexico	54	4.8	71	8.2	→	7.0	9.0	3.1	→	2.2	3.9	4.4	7	5.4	3.3	1.4
Micronesia	91	3.7	→	1.7		3.0	0.1	5.3	7	6.5	3.9	5.7	→	6.0	5.3	4.5
Moldova Republic of	126	2.7	→	2.3	, K	3.9	0.4	1.9	→	2.5	1.3	4.7	'	6.3	2.5	1.8
Mongolia	88	3.8	7	3.6	7	3.6	3.6	3.1	7	2.6	3.6	5.1	→	5.6	4.5	2.0
Montenegro	139	2.4	<i>א</i>	2.3	→	4.0	0.2	1.8	צ	1.9	1.7	3.4	<u>·</u>	4.6	2.0	2.4
Morocco	83	3.9	7	4.5	→	4.9	4.1	2.6	7	3.3	1.9	5.0	→	5.8	4.1	2.8
Mozambique	22	6.0	→	5.3	→	5.9	4.6	6.0	→	7.0	4.7	6.7	<u>,</u>	4.4	8.2	2.3
Myanmar	12	6.7	→	7.5	→	8.0	7.0	6.0	7	5.0	6.9	6.6	<u>,</u>	7.4	5.7	3.4
Namibia	91	3.7	→	2.4	→	4.1	0.4	4.0	R	4.5	3.5	5.3	→ →	4.6	5.9	2.7
Nauru	120	2.8	, K	0.8	→	1.4	0.2	4.5	- -	5.6	3.1	5.9	'	7.2	4.3	6.4
Nepal	32	5.4	7	5.3	→	5.5	5.0	5.1	7	4.1	5.9	5.9	→	6.2	5.5	1.7
Netherlands	175	1.4	→	1.0	→	1.9	0.0	2.1	→	0.4	3.5	1.2	<u>,</u>	1.5	0.9	2.2
New Zealand	161	1.8	→	3.0	→	5.2	0.0	0.9	→	0.8	1.0	2.0	→	1.9	2.1	3.1
Nicaragua	69	4.2	, K	5.1	→	6.6	3.1	2.6	, ,	3.6	1.5	5.4	<u>·</u>	5.9	4.8	2.5
Niger	7	7.3	7	7.3	7	4.2	9.0	7.0	7	7.4	6.5	7.7	<u>,</u>	6.0	8.9	1.7
Nigeria	16	6.3	→	6.9	→	2.8	9.0	5.5		4.2	6.6	6.6		5.1	7.7	2.6
Norway	188	0.7	<i>→</i>	0.1		0.2	0.0	2.0	_ →	0.2	3.5	1.6		1.9	1.3	1.8
Oman	120	2.8	<i>→</i>	3.9	→	6.2	0.4	1.5	<i>→</i>	2.1	0.9	3.9		5.0	2.6	2.2
Pakistan	13	6.6	<i>→</i>	9.0	→	7.2	10.0	5.5	→	3.9	6.7	5.7		5.4	6.0	1.8
Palau	114	2.9	<i>→</i>	1.7		3.1	0.1	2.9	, K	4.5	0.8	4.9		6.1	3.4	5.0
Palestine	54	4.8	لا	3.8	, K	3.2	4.4	6.3	<u>-</u>	4.3	7.7	4.6		6.0	2.7	3.8
Panama	106	3.2		2.8		4.9	0.1	2.9	→	2.9	2.9	4.1	→	4.8	3.3	1.9
Papua New Guinea	24	5.8	 →	4.5		5.3	3.7	5.7	7	5.7	5.6	7.7		6.8	8.4	3.2
Paraguay	114	2.9	, K	2.2		1.9	2.5	2.4		3.7	0.9	4.6		5.4	3.6	1.6
Peru	74	4.1	<u>−</u>	5.2		7.0	2.5	2.8		2.3	3.3	4.6		4.8	4.3	1.0
Philippines	50	4.9	, ,	8.7	→	8.4	9.0	3.4	- -	2.6	4.1	4.1	<u>,</u>	4.6	3.6	2.0
Poland	159	1.9	 →	1.5		2.4	0.4	1.6	_ →	1.3	1.9	2.8		4.0	1.3	1.6
Portugal	170	1.6	→	2.0	<i>→</i>	3.6	0.0	1.1	→	1.5	0.7	2.0	 	3.0	0.9	2.1
Qatar	159	1.9	7	2.0	7	1.0	2.9	1.6	→	2.5	0.7	2.3	<u></u>	3.9	0.4	2.7
Romania	131	2.6	→	3.3	א	4.7	1.5	1.6	→	1.8	1.3	3.5	`	4.6	2.3	1.9
Russian Federation	62	4.4	7	6.0	וג	6.3	5.7	3.2	7	2.1	4.1	4.5	→ →	6.2	2.2	2.8
Rwanda	37	5.3	7	4.9	71	3.2	6.2	6.0	→	6.5	5.5	5.2	→	3.9	6.2	1.9
Saint Kitts and Nevis	142	2.2	→	0.9	<i>→</i>	1.7	0.2	3.3	7	5.3	0.5	3.5	→	4.6	2.3	4.4
Saint Lucia	164	1.7	→	1.1	→	1.8	0.3	1.2	א	1.9	0.5	3.7	→	4.6	2.7	3.4
Julin Lociu	104	1./		1.1		1.0	0.5	1.2		1.5	0.5	5.7	- /	4.0	2.7	J.4

COUNTRY	RANK	INFORM RISK	3 YR TREND	HAZARD & EXPOSURE	3 YR TREND	Natural	Human	VULNERABILITY	3 YR TREND	Socio-Economic Vulnerability	Vulnerable Groups	LACK OF COPING CAPACITY	3 YR TREND	Institutional	Infrastructure	RELIABILITY INDEX*
Saint Vincent and the Grenadines	164	1.7	→	0.8	→	1.0	0.6	1.7	И	2.7	0.6	3.6	\rightarrow	4.1	3.0	3.6
Samoa	120	2.8	→	1.5	→	2.7	0.1	3.4	→	5.5	0.4	4.1	→	4.6	3.6	3.3
Sao Tome and Principe	182	1.2	\rightarrow	0.1	→	0.1	0.1	3.3	R	4.8	1.4	5.6	\rightarrow	6.3	4.7	3.3
Saudi Arabia	108	3.1	7	8.0	71	2.6	10.0	1.1	→	1.8	0.4	3.5	\rightarrow	4.7	2.1	3.5
Senegal	43	5.1	\rightarrow	4.5	71	4.3	4.6	4.8	\rightarrow	5.5	3.9	6.0	\rightarrow	5.2	6.7	0.9
Serbia	69	4.2	→	4.7	→	4.6	4.8	4.1	И	1.6	5.9	3.9	\rightarrow	5.2	2.3	1.7
Seychelles	142	2.2	\rightarrow	1.3	→	2.5	0.0	2.2	И	3.3	0.9	3.6	\rightarrow	4.4	2.6	3.9
Sierra Leone	42	5.2	\rightarrow	3.5	71	2.3	4.6	5.7	\rightarrow	7.4	3.3	7.2	\rightarrow	5.4	8.5	1.7
Singapore	191	0.4	\rightarrow	0.1	→	0.1	0.1	0.5	\rightarrow	0.6	0.3	1.1	\rightarrow	1.2	0.9	3.3
Slovakia	164	1.7	\rightarrow	1.9	\rightarrow	3.4	0.1	1.0	\rightarrow	1.1	0.9	2.6	\rightarrow	3.8	1.1	1.8
Slovenia	175	1.4	\rightarrow	2.1	\rightarrow	3.8	0.0	0.8	\rightarrow	0.6	0.9	1.7	\rightarrow	2.2	1.2	1.7
Solomon Islands	45	5.0	\rightarrow	3.5	→	5.5	0.8	5.1	И	7.2	1.9	6.9	R	6.9	6.8	4.6
Somalia	1	9.2	\rightarrow	8.9	\rightarrow	6.8	10.0	9.4	\rightarrow	9.6	9.2	9.2	\rightarrow	9.6	8.6	7.1
South Africa	66	4.3	\rightarrow	4.5	И	4.4	4.6	4.0	71	3.3	4.7	4.4	R	4.5	4.2	1.5
South Sudan	2	8.8	7	8.2	71	3.7	10.0	9.0	\rightarrow	9.4	8.5	9.2	\rightarrow	8.9	9.4	4.6
Spain	145	2.1	\rightarrow	3.7	71	4.5	2.8	1.3	\rightarrow	1.1	1.4	1.9	R	2.9	0.7	1.6
Sri Lanka	88	3.8	И	3.7	И	4.9	2.3	3.6	И	2.7	4.4	4.1	\rightarrow	4.6	3.6	1.6
Sudan	8	7.0	\rightarrow	7.4	\rightarrow	4.7	9.0	6.6	\rightarrow	4.8	7.9	7.0	\rightarrow	6.7	7.3	3.9
Suriname	126	2.7	\rightarrow	2.0	\rightarrow	3.5	0.1	1.9	\rightarrow	2.8	0.8	4.9	\rightarrow	5.9	3.8	2.3
Swaziland	100	3.4	И	1.9	\rightarrow	2.0	1.8	3.9	\rightarrow	4.5	3.3	5.5	И	5.2	5.8	2.8
Sweden	179	1.3	\rightarrow	0.6	\rightarrow	1.1	0.0	2.7	71	0.5	4.4	1.4	\rightarrow	1.9	0.9	1.9
Switzerland	182	1.2	\rightarrow	1.0	\rightarrow	1.9	0.1	2.1	\rightarrow	0.4	3.6	0.8	\rightarrow	1.0	0.6	1.9
Syria	10	6.9	\rightarrow	8.5	\rightarrow	5.1	10.0	6.8	71	5.3	7.9	5.6	\rightarrow	6.4	4.6	6.5
Tajikistan	62	4.4	\rightarrow	5.9	R	6.1	5.7	2.8	\rightarrow	2.7	2.9	5.0	\rightarrow	5.8	4.1	2.3
Tanzania	26	5.7	\rightarrow	5.0	R	4.6	5.3	5.6	71	5.3	5.8	6.5	\rightarrow	5.1	7.5	1.4
Thailand	80	4.0	\rightarrow	5.4	И	6.4	4.3	3.0	\rightarrow	2.1	3.8	4.0	71	5.0	2.9	2.2
The former Yugoslav Republic of Macedonia	126	2.7	\rightarrow	2.7	→	3.6	1.8	2.0	71	2.4	1.5	3.6	\rightarrow	4.6	2.4	2.5
Timor-Leste	69	4.2	\rightarrow	2.1	\rightarrow	3.6	0.2	5.0	71	4.9	5.0	7.0	\rightarrow	6.8	7.2	4.2
Togo	74	4.1	И	1.9	R	1.6	2.2	4.6	\rightarrow	5.1	4.0	7.9	7	8.2	7.6	1.2
Tonga	126	2.7	\rightarrow	1.2	\rightarrow	2.2	0.1	3.7	\rightarrow	5.8	0.9	4.6	Я	5.5	3.6	4.0
Trinidad and Tobago	153	2.0	\rightarrow	1.3	\rightarrow	2.3	0.2	1.7	\rightarrow	2.0	1.3	3.5	\rightarrow	4.9	1.8	3.3
Tunisia	108	3.1	Я	4.4	И	4.5	4.3	1.4	\rightarrow	2.1	0.7	4.9	\rightarrow	6.1	3.3	2.3
Turkey	45	5.0	7	7.8	71	6.0	9.0	5.0	71	2.8	6.6	3.2	\rightarrow	3.6	2.7	1.6
Turkmenistan	106	3.2	И	3.0	\rightarrow	4.6	1.1	1.8	R	2.7	0.9	6.3	\rightarrow	7.5	4.6	4.9
Tuvalu	83	3.9	\rightarrow	1.8	\rightarrow	2.6	1.0	5.8	71	7.3	3.7	5.8	\rightarrow	6.9	4.3	5.5
Uganda	23	5.9	И	5.0	R	3.4	6.2	6.0	\rightarrow	5.7	6.3	6.9	\rightarrow	6.7	7.1	1.8
Ukraine	37	5.3	7	7.0	7	3.2	9.0	4.5	71	1.6	6.5	4.8	\rightarrow	6.6	2.4	1.9
United Arab Emirates	153	2.0	\rightarrow	3.6	\rightarrow	6.0	0.0	1.2	\rightarrow	1.7	0.7	1.9	\rightarrow	2.3	1.5	2.9
United Kingdom	153	2.0	\rightarrow	2.3	\rightarrow	2.1	2.4	2.2	\rightarrow	0.9	3.3	1.5	\rightarrow	2.0	0.9	1.8
United States of America	108	3.1	\rightarrow	5.8	7	6.9	4.3	2.3	\rightarrow	1.2	3.3	2.2	\rightarrow	2.7	1.6	2.5
Uruguay	174	1.5		0.7	→	1.3	0.0	1.8	\rightarrow	2.4	1.1	2.8	\rightarrow	3.7	1.8	1.9
Uzbekistan	108	3.1	\rightarrow	5.6	71	6.1	5.0	1.3	И	1.9	0.7	4.1	\rightarrow	4.9	3.3	5.1
Vanuatu	83	3.9	\rightarrow	2.3	\rightarrow	4.2	0.0	4.2	71	5.0	3.2	6.1	Я	5.8	6.4	3.5
Venezuela	59	4.5	\rightarrow	5.9	71	5.9	5.8	3.5	\rightarrow	2.9	4.1	4.4	7	5.2	3.4	2.5
Viet Nam	98	3.5	\rightarrow	5.4	→	7.2	2.8	1.8	\rightarrow	2.6	0.9	4.3	→	5.1	3.4	1.8
Yemen	6	7.6	71	8.2	→	3.7	10.0	6.9	71	5.1	8.2	7.8	→	8.3	7.3	3.3
Zambia	74	4.1	\rightarrow	2.1	И	2.4	1.8	5.3	\rightarrow	5.2	5.3	6.1	\rightarrow	4.8	7.1	2.3
Zimbabwe	50	4.9	И	4.4	И	4.7	4.1	4.7	И	4.8	4.5	5.8	7	5.2	6.4	1.6



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