

MAY 2021

UNCTAD Research Paper No. 66
UNCTAD/SER.RP/2021/9, UNCTAD

S. MacFeely,
A. Peltola,
N. Barnat,
O. Hoffmeister
and
D. Hopp

Statistics and Information
Branch, UNCTAD
steve.macfeely@un.org

Constructing a criteria-based classification for Small Island Developing States: an investigation

Abstract

What makes an island a *Small Island Developing State* (SIDS)? What are the unique features or characteristics that single out some islands from the thousands of others? Depending on the criteria (or lack of) being used, there are several SIDS classifications being used by UN or international organizations. While there is no universally agreed definition for SIDS, there is a broad consensus that SIDS are typically characterized as remote, with high vulnerability to economic and environmental shocks, and with an inability to capitalize on economies of scale. This paper investigates what make a SIDS a SIDS and whether a criteria-based classification is possible and what it might look like.

Key words: vulnerability, development, islandness



The findings, interpretations, and conclusions expressed herein are those of the author(s) and do not necessarily reflect the views of the United Nations or its official Member States. The designations employed and the presentation of material on any map in this work do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

This paper represents the personal views of the author(s) only, not the views of the UNCTAD secretariat or member States. The author(s) accept sole responsibility for any errors. Any citation should refer to the author(s) and not the publisher. This paper has not been formally edited.

Contents

Acknowledgements.....	2
Introduction.....	3
1. SIDS – A Brief History	4
2. Typical Characteristics of a SIDS	6
3. The Importance of Coherent Classification	8
4. Smallness	9
5. Islands and Islandness	11
6. Development and Vulnerability	14
7. States or Economies?	19
8. Conclusion	20
References.....	22
Appendix 1 – A Comparison of different SIDS classifications	28
Appendix 2 – Compiling a Smallness index	29
Appendix 3 – Identifying a vulnerability threshold.....	37
Appendix 4 – Compiling a Remoteness (Islandness) index.....	39
Appendix 5 – Alternate measures of development and vulnerability	43
Appendix 6 – Island states	44

Introduction

There are countless islands dotted all around the world's oceans, lakes, and rivers. They vary enormously in size, climate, and in flora and fauna. Some islands, such as the beautifully wooded Bled Island in Slovenia, or the remote and barren Skellig Michael off the coast of Ireland, now famous as a Star Wars location, are small. Others, such as Greenland or New Guinea, are massive. Some islands, such as Manhattan in New York or the tiny Santa Cruz del Islote off the coast of Colombia are crowded and densely populated. In contrast, the northern islands of Baffin or Victoria barely support human life and are very sparsely populated. Yet others, such as the Pitcairns, best known as the haven to the mutineers of the HMS Bounty, or Easter island, home to the enigmatic moai are some of the most remote islands in the world. Singapore, on the other hand, lies less than 2 km south of Malaysia and is well connected by bridges and causeways. Some islands, like the Aleutian Islands in Alaska, are frozen all year round, whereas the Seychelles or Fiji are tropical. Spanning the oceans of the world, islands hold a rich variety of linguistic and cultural history. For example, across the Caribbean islands, cultural influences from indigenous groups, Africa, Asia, North America and Europe can all be found.

But what makes an island a SIDS? What are the unique features or characteristics that single out these islands from the thousands of others? Broadly speaking SIDS are typically characterized as remote, with high vulnerability to economic and environmental shocks, and with an inability to capitalize on economies of scale. Yet there is no universally agreed upon definition for SIDS (Herbert, 2019). One might assume the answer lies in their description – they must be *Small – Islands – Developing – States*. But depending on the classification used to define SIDS by different United Nations and international and regional organisations, the number of qualifying states or economies ranges from 58 countries (using the UN-OHRLLS classification) to only 18 (using as reference the number of World Bank International Development Association (IDA) countries that can borrow on small economy terms). See Table 1.1.

Table 1.1 Eight Alternative SIDS Classifications: Number of States/Economies by Region

Region	UN OHRLLS	M49	UNESCO	AOSIS	OECD (DAC recipients)	SSF (Islands)	UNCTAD	World Bank (IDA)
Africa	6	6	6	6	6	5	5	3
Asia and Oceania	23	22	19	19	16	14	13	10
Europe	-	-	-	-	-	3	-	-
Latin America and the Caribbean	28	25	23	19	13	10	10	5
North America	1	-	-	-	-	-	-	-
Total	58	53	48	44	35	32	28	18

Source: Derived from multiple sources – See Appendix 1 for details

The range in membership can largely be accounted for by the inclusion or exclusion of large islands, developed islands, coastal rather than island countries and non-independent territories. Thus, even within the United Nations itself, there is considerable variety as to what constitutes a SIDS, depending on whether they give priority to the political or analytical dimensions. An analysis of the concordance of the composition between eight SIDS groups is presented in Table 1.2. Using Kendall's tau, a rank correlation coefficient, the weak correlation between the different classifications being employed currently is clearly illustrated¹.

¹ There are in fact only 17 economies common to all 8 classifications. Even when the most restrictive classification (the World Bank International Development Association) is excluded, there are still only 24 economies common to the remaining 7 classifications.

Table 1.2 Concordance in the composition of current SIDS classifications (Kendall's tau)

	M49	UNESCO	AOSIS	OECD (DAC Recipients)	SSF	UNCTAD	World Bank (IDA)
UN OHRLLS	0.42	0.43	0.48	0.35	0.00	0.28	0.20
M49		0.60	0.68	0.50	0.12	0.40	0.28
UNESCO			0.62	0.63	0.29	0.51	0.36
AOSIS				0.67	0.40	0.59	0.42
OECD (DAC Recipients)					0.41	0.55	0.57
SSF						0.88	0.56
UNCTAD							0.64

Note: Kendall's tau is the ratio of the difference between the number of concordant and discordant pairs of observations to the number of all possible pairs of observations.

In spite of some common characteristics, there is a large degree of differentiation amongst the SIDS (House, 2013). The challenges facing remote islands in the Pacific Ocean are not necessarily the same as those facing islands in the Indian Ocean or in the Caribbean Sea. Some extremes, and some surprising inclusions, illustrate the point. For example, some SIDS, such as Belize, Guinea-Bissau, Guyana or Suriname are not even islands (see section 5 - Islands and islandness); some, such as Papua New Guinea, Cuba, Dominican Republic or Singapore, are not small (see section 4 – Smallness). SIDS' economic and environmental vulnerability indices range between highly vulnerable (Kiribati) to not very vulnerable (Bahrain) – see section 6 - Development and Vulnerability; their Human Development ranges between very high (Seychelles or Singapore) to low (Comoros or Tonga); and their income, as measured by GNI per capita, ranges from high (Bahamas or Bermuda) to low (Haiti or Guinea-Bissau). The lack of a clear SIDS definition or qualification criteria facilitates, and arguably exacerbates, the heterogeneity of the group (Herbert, 2019). As yet, there has been insufficient 'political support across the UN member States for the creation of a criteria-defined category' (Alonzo et. al., 2014: 18).

In this paper SIDS are examined from a statistical perspective. The decision or the justification for a SIDS group is not examined but taken as read. Instead, the focus is on what the abbreviation SIDS means and what might be appropriate statistical criteria for SIDS qualification.

1. SIDS – A Brief History

The SIDS, that set of countries recognized as being particularly vulnerable to economic and environmental shocks, was first formally recognized at the United Nations Conference on Environment and Development (UNCED), also known as the *Earth Summit*, held in Rio de Janeiro, Brazil in 1992. But the international community had recognized that developing island countries were a special category from a developmental perspective long before that. The plight of island nations has been an issue of analyses and concern going back to the 1960's. From a UN perspective, this recognition was first formalized during the 3rd UNCTAD quadrennial conference in Santiago, Chile in May, 1972, where the particular geographic and socioeconomic problems facing Island Developing Countries (IDCs), such as insularity and remoteness, were discussed (UNCTAD, 1972). Resolution 65 (III) of that conference asked that a panel be established to study the particular problems of IDCs (UNCTAD, 2017).

Among other things, the resulting report highlighted the challenges of classification, noting the 'classification of these countries is not without its problems in view of their heterogeneity' (UNCTAD, 1974: 3). The challenging issue of size was especially highlighted. The authors concluded that size matters, as small countries tend to be more dependent on foreign trade and are typically price takers, they tend to have a limited range of resources available, they are often reliant on one external company that may monopolize trade and resources, they normally have a narrower range of institutions and may be dependent for certain services on other countries to provide services, they are likely to have a narrow

range of skilled manpower, often suffer from diseconomies of small scale in the provision of infrastructure or administrative services, and will typically have a narrow local market, and will struggle to replace imports. In turn, 'smallness' would impact on countries in relation to problems of specialization and dependence, manpower and migration and could impact on their overall viability.

Between 1972 to 1992, work and discussions on IDCs has been characterized as largely diagnostic (UNCTAD, 2017). In 1976, UNCTAD IV recommended special assistance for all island developing countries and in 1977, the United Nations General Assembly requested that United Nations agencies incorporate these recommendations into their programs (Fry, 2019). The World Bank adopted the 'small island exception' in 1985 for differentiating development finance where middle-income countries would continue to enjoy low-income country treatment as SIDS, an unofficial status that was synonymous with fragility and justified special treatment irrespective of other criteria.

The United Nations formally replaced the notion of IDCs with the more focused denomination 'SIDS' in 1994 (Hein, 2004) at the first *Global Conference on the Sustainable Development of Small Island Developing States* held in Barbados, in 1994. This was a landmark conference, as it was the first time a United Nations conference was entirely devoted to SIDS. The conference declaration (United Nations, 1994) set out what has become known as the *Barbados Programme of Action*, covering 14 themes targeted on sustainable development, half of them ecological².

This programme has been reviewed and renewed on a number of occasions since then. In 1999, at a special session of the United Nations General Assembly (UNDESA, 1999), and in 2005 by the *Mauritius Strategy for Implementation of the Programme of Action for the Sustainable Development of SIDS* (United Nations, 2010). In 2010, an important event was the request from the United Nations General Assembly to 'put forward concrete recommendations' and 'consider what improved and additional measures might be needed to more effectively address the unique and particular vulnerabilities and development needs of small island developing States' (United Nations, 2010: Para 33). The third international conference on SIDS in 2014, the outcome of which was the *SIDS Accelerated Modalities of Action Pathway*, commonly known as the *SAMOA Pathway* (United Nations, 2014a), reaffirmed the international commitments made in the Barbados Programme of Action and the Mauritius Strategy and pledged to take urgent and concrete action to address the vulnerability of SIDS and help them achieve sustainable development. In recognition, 2014 was also designated 'The International Year of Small Island Developing States' with the then United Nations (2014b) Secretary General Ban Ki-moon saying this was an opportunity 'to appreciate the extraordinary resiliency and rich cultural heritage of the people of small island developing States'. In 2015, 10 of the SDG targets of the 2030 Agenda mentioned SIDS explicitly (United Nations, 2015a)³.

2. Typical Characteristics of a SIDS

A common feature of SIDS is their vulnerability or exposure to physical, environmental and economic events, including natural disasters, and their relatively poor ability to respond to those catastrophic events owing to their physical, demographic, social, economic and environmental characteristics.

As outlined earlier, the special case of SIDS was first formally recognized by the international community at UNCED or the *Rio Earth Summit* in 1992, where their environmental and ecological vulnerabilities were recognized. Agenda 21 or the Rio Declaration stated that 'Small island developing States, and islands supporting small communities are a special case both for environment and development. They are

² (1) Climate change and sea level rise; (2) natural and environmental disasters; (3) management of waste; (4) coastal and marine resources; (5) freshwater resources; (6) land resources; (7) energy resources; (8) tourism resources; (9) biodiversity resources; (10) national institutions and administrative capacity; (11) regional institutions and technical cooperation; (12) transport and communication; (13) science and technology; and (14) human resource development.

³ Targets 3.c, 4.b, 4.c, 7.b, 9.a, 10.b, 13.b, 14.7, 14.a, 17.18

ecologically fragile and vulnerable. Their small size, limited resources, geographic dispersion and isolation from markets, place them at a disadvantage economically and prevent economies of scale' (United Nations, 1992: Para 17.124).

Two years later, the Barbados Programme of Action (United Nations, 1994) broadened their recognition of the issues facing SIDS, identifying several disadvantages that derive from small size, including a narrow range of resources, which forces undue specialization; excessive dependence on international trade and hence vulnerability to global developments; high population density, which increases the pressure on already limited resources; overuse of resources and premature depletion thereof; relatively small watersheds and threatened supplies of fresh water; costly public administration and infrastructure, including transportation and communication; and limited institutional capacities and domestic markets, which are too small to provide significant scale economies, while their limited export volumes, sometimes from remote locations, lead to high freight costs and reduced competitiveness. Small islands also tend to have high degrees of biodiversity, but the relatively small numbers of the various species impose high risks of extinction and create a need for protection.

The characterizing disadvantages of SIDS articulated in the Barbados Programme of Action were generally representative of the reflections and analyses offered by the academic literature. A selection is presented here: Briguglio (1995) argues that most SIDS face special disadvantages owing to their small size, insularity, remoteness and their proneness to natural disasters. These factors make the economies of SIDS vulnerable to forces outside their control, threatening their economic viability – a reality often concealed by their GDP or GNP per capita. He identifies five key disadvantages of SIDS: (1) small size – which results in limitations in natural resource endowments and high import content, import-substitution possibilities, small domestic market and dependence on export markets, dependence on a narrow range of products, a limited ability to influence domestic prices, to exploit economies of scale, to create domestic competition and problems of public administration; (2) insularity and remoteness – which causes high per-unit transport costs, uncertainties of supply and a need to keep large stocks; (3) proneness to natural disasters – cyclones, earthquakes, landslides and volcanic eruptions tend to have a relatively larger impact on SIDS in terms of damage and costs, sometimes threatening the very survival of some small islands; (4) environmental factors – pressures arising from economic development and the environmental characteristics of SIDS which often comprise fragile ecosystems; and (5) other characteristics – dependence on foreign sources of finance and demographic factors.

Kakazu (2007), looking at the characteristics of small pacific islands, identified their small size as a defining feature. All other issues, such as what he termed the 'tyranny of distance', high transport and communication costs, barriers to market access, fragile environments, dis-economies of scale and scope, limited division of labor (monoculture), segmented market, remoteness or insularity, high-cost economy, over-blown public sector and a high dependency on tourism, stem from this.

House (2013) identified the following critical challenges confronting SIDS: small population and geographic size; isolation; climate change and rising sea-levels; natural and environmental disasters; outward migration or the 'brain drain' of scarce human resources; and dependence on public sector employment, agriculture, fishing and tourism. These challenges are accentuated by a high dependence on aid and donor funding; limited freshwater resources; often rapid population growth which, combined with limited natural resources, often results in environmental degradation and poor waste management; and vulnerable biodiversity resources. He further notes that these constraints limit SIDS' ability to capitalize on trade liberalisation and globalisation. The same year, Bruckner (2013) identified five main vulnerabilities: smallness; isolation and fragmentation; a narrow resource and export base; exposure to environmental and natural shocks, including climate change and natural disasters; and exposure to external economic shocks.

Herbert (2019) summarized the key characteristics of SIDS as: heterogeneity; small country size and remotely located from markets; lower economies of scale and higher costs for provision of state services;

economic vulnerabilities; economic openness; lack of economic diversification; slow and volatile economic growth; climate vulnerabilities; and perhaps lags in human development.

Thus, in large measure there is a high degree on unanimity across the white and grey literature regarding the main characteristics of SIDS. A notable feature is that their characteristics are largely synonymous with the disadvantages or challenges confronting those island states. This is reflected in the most recent intergovernmental plan, *The Samoa Pathway*, which notes 'the ability of the small island developing States to sustain high levels of economic growth and job creation has been affected by the ongoing adverse impacts of the global economic crisis, declining foreign direct investment, trade imbalances, increased indebtedness, the lack of adequate transportation, energy and information and communications technology infrastructure networks, limited human and institutional capacity and the inability to integrate effectively into the global economy. The growth prospects of the small island developing States have also been hindered by other factors, including climate change, the impact of natural disasters, the high cost of imported energy and the degradation of coastal and marine ecosystems and sea-level rise' (United Nations, 2014b: Para. 23). The pathway identifies the key issues to be addressed: mitigating climate change; shifting to more sustainable energy; build resilience to reduce vulnerability to disaster risk; improve the conservation and sustainable use of the oceans and seas; improve food security and nutrition; reduce the overexploitation of surface, ground and coastal waters, reduce saline intrusion; improve infrastructure for safe drinking water, sanitation, hygiene and waste management systems; develop viable sustainable transportation, consumption and production; better the management of chemicals and waste, including hazardous waste; improve health, and reduce the high prevalence of debilitating communicable and non-communicable diseases; promote gender equality and women's empowerment; foster social development, including culture, sport, education, peaceful societies and safe communities; protect biodiversity against desertification, land degradation, drought and reverse deforestation and forest degradation; and control against invasive alien species. The plan also highlights the importance of sustainable tourism. It is also reflected in the 2015 *Sendai Disaster Risk Reduction Framework* which highlights the disproportionate effects of disasters to SIDS (United Nations, 2015b).

3. The Importance of Coherent Classification

There is no universally agreed upon definition of SIDS. This has arguably exacerbated the heterogeneity of the larger SIDS groups (Turvey, 2007; Alonso et al., 2014; Herbert, 2019) and has been the source of considerable confusion (Fialho and van Bergeijk, 2017). This problem can be traced to the beginning of the concept of IDCs when a list of disadvantaged island nations was never clearly defined (Hein, 2004; Stoutenburg, 2015; Turvey, 2007). As a result, today SIDS is both a technical and political term where membership is largely by self appointment (Herbert, 2019). This has created ‘an inconsistency between the definition of the SIDS and its acronym’ where ‘non-islands economies as Belize, Suriname and Guyana, are awkwardly classified under the SIDS’ (Fialho and van Bergeijk, 2017).

The heterogeneity in the definition of SIDS can to a large extent be explained by the different contexts and the different purposes for which they were set up. The classification into SIDS and non-SIDS may be the basis for differential treatment, e.g. which islands get MFN and which do not (Fialho and Van Bergeijk, 2017) or for the targeting of development aid.

For statistical analysis, however, it is important that classification schemes are unambiguous and allow a clear assignment of objects into distinguishable categories. Exhaustively defined and mutually exclusive and well described categories that reflect the realities of the field are key properties of good classification systems in statistics (OECD, 2013). Shorrock (2019) argues that a classification should pass the plausibility test of ‘face validity’, meaning it should seem valid or sensible to people who use it. The higher the congruence between the categories defined in the classification system with people’s ideas of those categories, the more will the classification make sense to users and the more easily it will be understood by them (Hoffmeister, 2020).

But classification schemes also shape people’s understanding of categories. This is the reason why high incongruence between SIDS hampers productive discourse and scientific progress (Neilsen, 2011). The ‘match between classifications applied in statistics and concepts formed in people’s minds constitutes an important determinant of the clarity, interpretability and relevance of aggregated or grouped data’ (Hoffmeister, 2020: 1098).

Many of the SIDS classifications listed earlier fail to adhere to the guidelines for what constitutes a good classification. Furthermore, their proliferation also represents a failure of international coordination and governance. ‘Instead of creating predictability, order, rationality and transparency in terms of rules, principles and approaches, this multiple classification results in the uneven treatment of individual countries’ (Alonzo et al, 2014: 26). Not surprisingly, this has led to some skepticism and a lack of concrete action regarding SIDS – ‘no programme can be meaningful, operational and monitorable if it is not clear what specific countries are being considered’ (Hein, 2004: 16).

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_8603

