



Development characteristics of Small Island Developing States

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Question

Are there specific characteristics of Small Island Developing States (SIDS), or a subgroup of SIDS, which mean that income alone is an inaccurate measure of development?

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1. Summary

This rapid literature review explores whether there are specific characteristics of Small Island Developing States (SIDS), or a subgroup of SIDS, which mean that income alone is an inaccurate measure of development.

The SIDS classification is a technical and political term used to identify those countries that are considered to face specific and increasing challenges due to their geographic characteristics, remoteness, small landmass, small populations, small size of economy, high exposure to external environmental and economic shocks, and due to the climate crisis¹ (World Bank, 2016; OECD, 2018). The SIDS classification began to gain currency in 1992, at the United Nations Rio Conference on Environment and Development, when it was used to identify and draw attention to the SIDS' environmental and developmental commonalities and challenges. There is no agreed definition of SIDS. Depending on the criteria and/or list used to define SIDS, the list of countries that qualify range from 29 countries to 52 countries (using the criteria of the UN Conference on Trade and Development (UNCTAD), or the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS), respectfully) (OECD, 2018).²

Key findings

Key characteristics of SIDS include:

Heterogeneity - The SIDS are a heterogeneous group of countries, spread across the world, with very distinct, and context specific, needs, opportunities and challenges. Development indicators (like income) can disguise the unique challenges faced by the different SIDS. As the development trajectories of developing countries widens, heterogeneity is increasing across all developing countries. The heterogeneity of the SIDS group may also be exacerbated by the lack of agreement on the SIDS criteria, and as membership of the SIDS group is largely by self-appointment.

This rapid literature review is not able to judge whether the SIDS' commonalities are more important than their differences, and this is not a focus of the literature, however the OECD (2018) does state that the differences among SIDS "point to the need for tailored development approaches across the group", yet the common challenges they face mean there is "scope for mutual learning". The SIDS are often discussed in their regional subgroups – e.g. the Pacific SIDS, the Caribbean SIDS. This rapid literature review did not find other SIDS subgroups that were the subject of extensive focus. However, Alonso, Cortez and Klasen (2014) suggest that it would be beneficial to create some smaller SIDS subgroups along issues-based categorisation.

Small country size and remotely located from markets - A defining characteristic of SIDS is that most have small population sizes, and territories that are remotely located from economic markets, and whose people are often diffusely located within.

Lower economies of scale and higher costs for provision of state services – Small, dispersed populations mean that domestic markets are small, and state capacity is limited, thus

¹ This query uses the term – the climate crisis - rather than climate change.

² Another criteria/list is by the Alliance of Small Island States, the World Bank, and the Commonwealth Secretariat (OECD, 2018; Briguglio, 2018b).

limiting economies of scale. Remoteness from markets leads to “high production and trading costs, limiting investment, competitiveness and the scope for integrating global value chains” (OECD, 2018).

Economic vulnerabilities or economic success? - Some of the most commonly identified characteristics of SIDS are their economic vulnerabilities. However, small island states also succeed economically – perhaps due to the resourcefulness of the islanders, or due to governance measures enacted by policymakers to mitigate against its vulnerabilities.

Economic vulnerability analysis tends to be based on inherent conditions affecting a country’s exposure to exogenous shocks, while economic resilience analysis draws on analysis of the actions taken by policymakers and economic actors to manage shocks (Briguglio, 2003, 2004).

Economic openness - In general, SIDS are more open to trade than other developing countries. This openness makes the SIDS particularly vulnerable to external economic conditions, of which they have no direct control. However, most SIDS are currently excluded from the global economy due to their smallness.

Lack of economic diversification - Most SIDS have narrowly based economies that depend on just a few products and sectors. Some SIDS are dependent on strategic imports – e.g. energy, fuel, food, and industrial supplies. Common growth sectors include: natural resources and tourism.

Slow and volatile economic growth - While most SIDS’ GDP compares relatively well to other developing countries, economic growth in most SIDS tends to be “fairly sluggish” (OECD, 2018).

Environmental vulnerability - SIDS are the most environmentally vulnerability of all developing countries. The climate crisis is making natural disasters more intense, and this looks set to continue. While SIDS are located in some of the world’s most disaster-prone regions (OECD, 2018), natural hazards do not always cause disasters. The concept of vulnerability combines the likely physical impacts of the hazard (vulnerability), with the ability to manage or adapt to that event/change (resilience).

Climate vulnerabilities - SIDS are particularly vulnerable to the climate crisis, and will continue to be among the earliest and most impacted countries. Many SIDS are vulnerable to sea-level rises and storms due to being low-lying. Some SIDS’ economies are dependent on one of the following sectors: public sector employment, agriculture, fishing and tourism. These sectors are often particularly hard hit by climate change. To measure and track climate vulnerability, indices include: The ND-GAIN Country Index; The CGD “Vulnerability to Climate Change Index; The Climate Change Impact rankings; and The Climate Vulnerability Monitor.

Human development lags? - There is mixed evidence on the state of human development in the SIDS. Some shows that human development indicators in SIDS lag behind other developing countries while other find it to be higher yet also that long-term progress by the SIDs is relatively low compared to other groups.

Is income alone an inadequate measure for development in SIDS?

This rapid literature cannot categorically answer whether income alone an inadequate measure for development in SIDS. Income is not typically a focus in the literature in SIDS, perhaps as the SIDS group is highly heterogeneous in terms of income.

Income indicators are the most common indicators used to measure and categorise development needs across all developing countries, and often also to allocate aid and rights to loan concessions. One of the benefits of using income is that it is an easily available and standardised indicator. Yet using income as a proxy for development has many caveats and challenges – e.g. it does not factor in vulnerability, it does not reflect inequalities in income distribution, etc. More broadly, income indicators measure *income*, and it is widely agreed that *development* is broader than just income. For this reason, and given the limitations and challenges around using just income indicators, income indicators are usually combined with other indicators to make assessments on development, and to make subsequent policy decisions on whether the country should receive aid or concessions.

SIDS do have some specific characteristics and needs (as above), and many of these differ from other developing country groupings. Yet ultimately, the decision on whether the SIDS are more worthy of aid or concessions than a non-SID developing country, or country group (with their own specific development needs) is a qualitative judgement, and it is challenging to set a standard criteria to hold across all developing countries.

This review found some studies which explicitly state that income is an inadequate indicator for measuring development in SIDS (e.g. Bourne, et al., 2015, p.9). However, the literature on SIDS more commonly focuses on the SIDS' specific needs and characteristics, rather than focussing on their income status. Yet despite the lack of focus in the literature, the conclusion that income is an inadequate indicator for measuring development in SIDS could be inferred from: the widespread identification of the SIDS as having specific development needs; the development of specific indexes to measure vulnerability; the political focus on raising attention to the SIDS' needs; and the increased risks, and knowledge of the risks, from the climate crisis to SIDS.

Challenges of using indicators to measure development needs

A key limitation for understanding development levels in SIDS is the lack of data. Alonso, et al., (2014) suggest that instead of the broad “all-purpose” SIDS category, it would be beneficial to create some smaller subgroups along issues-based categorisation. Ultimately, while identifying specific characteristics and indicators for development has a technical side, politics plays a critical role in what is considered development and need

Literature base

Studies on SIDS have proliferated during the past three decades (Briguglio, 2018b). The literature base is largely made up of papers from international organisations and indices from think tanks. The indicators developed within these indices draw on academic papers, particularly using econometric methods.

2. Specific characteristics and challenges of SIDS

Heterogeneity

The SIDS are a heterogeneous group of countries, spread across the world, with large variations in population size and densities, natural resources and development progress (OECD, 2018). They thus experience very distinct, and context specific, needs, opportunities and challenges (UN OHRLLS, 2011). E.g. the OECD (2018) highlights how in the Pacific region the SIDS are diverse with:

- Gross national income (GNI) per capita ranging from USD \$1,830 (Solomon Islands) to USD \$13,330 (Nauru).
- Population size ranging from 1,600 inhabitants (Niue) to over seven million (Papua New Guinea).
- Remoteness from shipping lanes being high in Nauru, Palau and Tuvalu, but lower in Fiji
- Vulnerability to economic and natural shocks (according to the Economic Vulnerability Index (EVI)), being highest in Nauru (67.93) and Palau (69.65), and relatively lower in Papua New Guinea (31.67).

Notably, as the development trajectories of developing countries widens, heterogeneity is increasing across all developing countries, and within all developing country groupings (e.g. the least developed countries (LDC) category) (Alonso, et al., 2014). Thus Alonso et al. (2014, p.5) argue that the categories previously relied on to measure and categorise development – e.g. income – have had a “progressive loss of relevance”.

Development indicators (like income) can disguise the unique challenges faced by the different SIDS (OECD, 2018), as is the case with countries more broadly. E.g. while Nauru is an Upper-Middle Income Country (UMIC),³ and has the highest GNI of the SIDS in the Pacific, it faces significant economic challenges, e.g. with unemployment estimated at 90% (OECD, 2018), and its economy reliant on ‘narrow and uncertain sources of revenue’ (Asian Development Bank, 2019). Phosphate deposit extraction drove the Nauru economy until around 2011, but the environmental damage caused by over mining has almost exhausted the resource, and it has destroyed the majority of Nauru’s limited landmass. Nauru’s economy is now dependent on foreign aid and housing an Australian immigration detention facility.

The heterogeneity of the SIDS group may also be exacerbated by the lack of agreement on the SIDS criteria, and as membership of the SIDS group is largely by self-appointment (Alonso, et al., 2014). While some classification systems use comprehensive criteria to create the classifications (e.g. the World Bank’s income classification system, and the UNDP human development index), the SIDS classification is based on defining the relevant and common development challenges of the group – and is thus a selective, rather than comprehensive, classification system (Alonso, et al., 2014).

The OECD (2018) finds that the differences among SIDS “point to the need for tailored development approaches across the group”, yet the common challenges they face mean there is “scope for mutual learning and exchange of experiences” and an opportunity to leverage the political strength of the group. While overall the SIDS group has a communality in having higher vulnerability to economic and environmental shocks, “there is substantial variation within and across SIDS clusters with respect to various vulnerability dimensions” (UN OHRLLS, 2011, p.18).

Small country size and remotely located

A defining characteristic of SIDS is that most have small population sizes, and territories that are remotely located from economic markets, and whose people are often diffusely

³ OECD DAC List of ODA Recipients. Effective for reporting on 2018, 2019 and 2020 flows
http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/DAC_List_ODA_Recipients2018to2020_flows_En.pdf

located within (Alonso, et al., 2014). These are key indicators for economic vulnerability. Population size is the most common proxy used to measure country size, however other measures can include share of world trade (Briguglio, 2018), land area and volume of economic activity (Alonso, et al., 2014). Notably, other countries also face the development challenges of small country size and remoteness, while they are not SIDS (e.g Land-locked developing countries), and this makes this classification more complex (Alonso, et al., 2014).

Lower economies of scale and higher costs

Small, dispersed populations mean that domestic markets are small, and state capacity is limited, thus limiting economies of scale. This makes various costs higher in SIDS – e.g. production, transportation, service delivery, infrastructure (OECD, 2018). Due to this, SIDS economies tend to focus on a limited number of sectors (e.g. tourism, services, agriculture and fishing and natural resource extraction), thus fostering their narrow economic bases. The small and dispersed populations lead to high transaction, transportation and service delivery costs. This can be a burden on the public sector, with expenditures higher compared to other developing countries with a similar income level (OECD, 2018).

Compared to other developing countries, SIDS are more reliant on Overseas Development Aid (ODA) and remittances, while private financial flows (bank lending, direct investment and portfolio flows) make up a smaller share of total external finance than elsewhere (OECD, 2015). Delivering ODA is 4.7 times higher than in other developing countries (OECD, 2018, p.15).

Remoteness from markets leads to “high production and trading costs, limiting investment, competitiveness and the scope for integrating global value chains” (OECD, 2018). The Pacific SIDS are among the most remote states in the world (OECD, 2018)

Economic vulnerabilities or economic success?

Some of the most commonly identified characteristics of SIDS are their economic vulnerabilities. However, the findings in the literature are nuanced, potentially even contradictory, in that while SIDS are generally considered economically vulnerable, they also tend to have higher average gross domestic product (GDP) per capita than other developing countries, thus some consider SIDS to be economically successful (Briguglio, et al., 2009; Briguglio, 2018a). Briguglio (2003 in Briguglio, et al., 2009, p.229) calls this the ‘Singapore Paradox’.

Briguglio (2018, p.1) explains two main explanations in the literature for why small island states succeed economically. The first emphasises that this is due to the advantageous characteristics of small-island states and the innate resourcefulness of the islanders, and not necessarily due to policy responses. The first explanation emphasises that advantageous characteristics of SIDS include smaller populations that foster: “a higher degree of social cohesion, more flexibility in decision making, governance facilitated due to the possibility that the government would have a “helicopter” view of what’s going on in the island, and an innate tendency for entrepreneurship”. These characteristics emerge from the “resourcefulness, flexibility and economies of scope among islanders” (e.g. finds Baldacchino & Bertram, 2009), and their small country size allows small states to grow faster, on average, than larger states (e.g. finds Armstrong & Read, 2002; and Easterly & Kraay, 2000 in Briguglio, 2018a, p.1).

The second explanation suggests that this economic success is instead due to the governance measures enacted by policymakers in SIDS, to mitigate against its vulnerabilities to external shocks. This second explanation focusses on the SIDS' economic vulnerabilities including: a limited ability to benefit from economies of scale, reliance on international trade due to very small domestic markets and limited natural resources, relatively high dependence on a narrow range of exports, and high dependence on strategic imports such as food, fuel and industrial supplies (e.g. finds Briguglio, Cordina, Farrugia & Vella, 2009; Crowards, 2000; and Atkins, Mazzi & Easter, 2000, in Briguglio, 2018a, p.1). It also focusses on SIDS' "economic resilience", defined as the "policy-induced ability of an economy to withstand or recover from the effects of such shocks" in four areas – "macroeconomic stability, microeconomic market efficiency, good governance and social development" (Briguglio, et al., 2009).

Economic vulnerability analysis tends to be based on inherent conditions affecting a country's exposure to exogenous shocks, while economic resilience analysis draws on analysis of the actions taken by policymakers and economic actors to manage shocks, explains Briguglio (2003, 2004). Briguglio (2004) identifies the following scenarios for his analysis:

- Best-case scenario - refers to countries that are not inherently vulnerable and which, at the same time, adopt resilience-building policies.
- Worst-case scenario - refers to countries that compound the adverse effects of inherent high vulnerability by adopting policies that run counter to economic resilience.
- Self-made scenario - are those with a high degree of inherent economic vulnerability, but which are economically resilient through the adoption of appropriate policies that enable them to cope with or withstand the effects of their inherent vulnerability.
- Prodigal son scenario – this category includes those countries with a relatively low degree of inherent economic vulnerability but where policies are negative for economic resilience, thus exposing the country to shocks.

Economic openness

In general, SIDS are more open to trade than other developing countries, as measured by their relatively higher share of trade in GDP (OECD, 2018). Small changes in the external market can have significant consequences on SIDS. They are particularly vulnerable to economic shocks – e.g. SIDS were affected the most by the 2008-09 global financial crisis, compared to other developing countries (OECD, 2018). And within SIDS, the crisis was most acute for UMIC SIDS and Caribbean SIDS (OECD, 2018).

This openness makes the SIDS particularly vulnerable to external economic conditions, of which they have no direct control (Briguglio, et al., 2009). And they have little to no influence over shaping multilateral institutions – e.g. they are weakly represented at international fora, such as the World Trade Organisation (UN OHRLLS, 2011). Briguglio (2018b) highlights that current economic trends of increased protectionism, economic nationalism and increased uncertainty are exacerbating the SIDS' lack of power.

However, most SIDS are currently excluded from the global economy due to their **smallness** (which limits economies of scale), and fosters structural disadvantages and vulnerabilities (UN OHRLLS, 2011).

Lack of economic diversification

Most SIDS have narrowly based economies that depend on just a few products and sectors due to their small domestic markets, distance from markets, high production costs, limited competitiveness, and their difficulties in integrating in global value chains (OECD, 2018). This is especially evident in some of the LDCs that are SIDS (e.g. Guinea-Bissau, Timor-Leste, Kiribati, Vanuatu and Tuvalu) (OECD, 2018). Dependence on few exports exacerbates the vulnerabilities that come with economic openness (Briguglio, et al., 2009). Economic dependency takes various forms - some SIDS are heavily dependent on one big (non-SID) trade partner, which can mean they lack capacity and autonomy (OECD, 2018). Or they can be dependent on one sector (e.g. Nauru) (OECD, 2018).

Dependence on strategic imports

Some SIDS are dependent on strategic imports – e.g. energy, fuel, food, and industrial supplies. This varies according to country size, natural resource endowments, and import substitution possibilities (Briguglio, et al., 2009). This can leave them exposed to terms-of-trade shocks (OECD, 2018).

Growth sectors

Some SIDS have natural resources (e.g. Timor-Leste, Papua New Guinea, Guyana, Suriname, Solomon Islands and Guinea-Bissau), with some benefitting from the previous period of high commodity prices. Yet “China’s economic slowdown and the rising cost of external debt may challenge the pace of their future economic growth” (OECD, 2018). Some SIDS have well-established sovereign funds (e.g. Kiribati and Timor-Leste), which provide important economic resilience (OECD, 2018).

Some SIDS rely on tourism, and it has been a main driver for graduation from LDC status for Cabo Verde and Samoa. However, challenges include the limited spill-over effects onto the domestic economy as profits and staff may be externally based, with low domestic capacity in this sector (OECD, 2018).

Slow and volatile economic growth

While most SIDS’ GDP compares relatively well to other developing countries, economic growth in most SIDS tends to be “fairly sluggish” (OECD, 2018). This is due to their high vulnerability to environmental and economic shocks, the above factors and their reliance on the global economy e.g. for financial services (OECD, 2018). Increasing population rates in some SIDS (e.g. Papua New Guinea) mean that economic growth trends should be assessed in per capita terms (OECD, 2018).

Environmental vulnerability

SIDS are the most environmentally vulnerable of all developing countries, according to the Environmental Vulnerability Index (EVI) (OECD, 2018). The EVI is an index that measures the structural vulnerability of developing countries to economic and environmental shocks, and the determinants of exposure to shocks (e.g. population size and remoteness) (OECD, 2018).

The climate crisis is making natural disasters (like hurricanes) more intense, and this looks set to continue, according to projections. The SIDS have higher levels of vulnerability for than other larger countries with similar income levels. E.g. UMIC SIDS were found to be 73% more vulnerably than other UMICs. When damage occurs, SIDS tend to suffer more than other developing countries as a percentage of national input, due to their small size. But they suffer less monetary damage in absolute terms.

While SIDS are located in some of the world's most disaster-prone regions (OECD, 2018), natural hazards do not always cause disasters, and in fact “natural hazards produce widely different outcomes in different island states, indicating great variation in resilience. While some SIDS seem to cope and adapt fairly well, others suffer tremendously” (Sjöstedt & Povitkina, 2015). E.g. Sjöstedt and Povitkina (2015) find that higher government effectiveness tends to result in fewer people affected by natural disasters (including homelessness and deaths), and fewer events classified as natural disasters.

The concept of vulnerability combines the likely physical impacts of the hazard (vulnerability), with the ability to manage or adapt to that event/change (resilience) (Figure 1 depicts this). As an example, tropical storms and cyclones particularly affect SIDS due to their dispersed/remote geographies. While their small economies and limited state capacity complicate policy responses to extreme events. Vulnerability is increasing due to trends of urbanisation, population growth and climate change.

Climate vulnerabilities

SIDS are particularly vulnerable to the climate crisis, and will continue to be among the earliest and most impacted countries (UN-OHRLLS, 2015). This was officially identified in the Barbados Programme of Action for the Sustainable Development of SIDS in 1994 (UN-OHRLLS, 2015). “Their climate is influenced by large ocean-atmosphere interactions such as trade winds, El Niño, monsoons and tropical cyclones. With populations, agricultural lands and infrastructures tending to be concentrated in the coastal zone, any rise in sea level will have significant and profound effects on settlements, living conditions and island economies” (UN-OHRLLS, 2015, p.6).

Many SIDS are vulnerable to sea-level rises and storms due to being low-lying (Mahul et al., 2014 in OECD, 2018). They can experience “both rapid-onset and temporary events, such as storms and flooding, and slow-onset processes including land erosion and changes in the global water cycle. The regions SIDS are located are expected to face significant changes in average temperature, rainfall and sea level rise (UN-OHRLLS, 2015). The climate crisis will further accentuate that risk with the severity and frequency of extreme weather events estimated to increase by 40-80% (OECD, 2018).

Some SIDS' economies are dependent on one of the following sectors: public sector employment, agriculture, fishing and tourism. This dependence has been shaped by the

SIDS' limited natural resources, small size, remoteness, and distance from global markets. These sectors are often particularly hard hit by climate change, threatening sustainable and human development.

Climate vulnerability indices

To measure and track climate vulnerability, indices include:⁴

- **The ND-GAIN Country Index:**⁵ summarises a country's vulnerability to climate change in combination with its readiness to improve resilience. It has data for 192 countries starting in 1995. Six focus sectors include: food, water, health, ecosystem service, human habitat, and infrastructure – in terms of their exposure, sensitivity and adaptive capacity to climate change, focusing on the exposure and sensitivity components.
- **The CGD “Vulnerability to Climate Change Index”**⁶ assesses climate change vulnerability for 233 states, based on a “Climate Drivers Index” (CDI) that quantifies the increased vulnerability to climate change resulting from weather related disasters, sea level rises, and reduced agricultural productivity. This is combined with information on governance, per capita income and population to develop an overall model for allocating climate finance that seeks to take account of resilience and the likely effectiveness of climate spend on adaptation.
- **The Climate Change Impact rankings** look at indicators of physical impact relating to agriculture, disasters, health and coastal zones in 131 developing countries. Scores for adaptive capacity and implementation ability are also calculated.
- **The Climate Vulnerability Monitor**⁷ classifies the impacts of climate change in 184 countries as acute, severe, high, moderate or low. This is based on indicators related to environmental disasters, habitat change, health impact and industry stress, in terms of their estimated impacts on GDP and/or mortality in 2010 and 2030.

Human development lags

There is mixed evidence on the state of human development in the SIDS. The OECD (2018) finds that human development indicators lag behind those of other developing countries (OECD, 2018). E.g. when using the UN Human Development Index (HDI), two fifths of SIDS have a low or medium levels of development (in OECD, 2018). However, Palanivel (2018) finds that human development in the SIDS is better than in other developing countries, but that long-term progress by the SIDs is relatively low compared to other groups.

The human development concepts and literature evolved in part as a response against the reliance of economic indicators to determine development status and needs across all developing countries (particularly GNI and GDP).

⁴ This text on indices is edited from an internal note shared with the author

⁵ <http://index.gain.org/>

⁶ <http://www.cgdev.org/content/publications/detail/1424986>

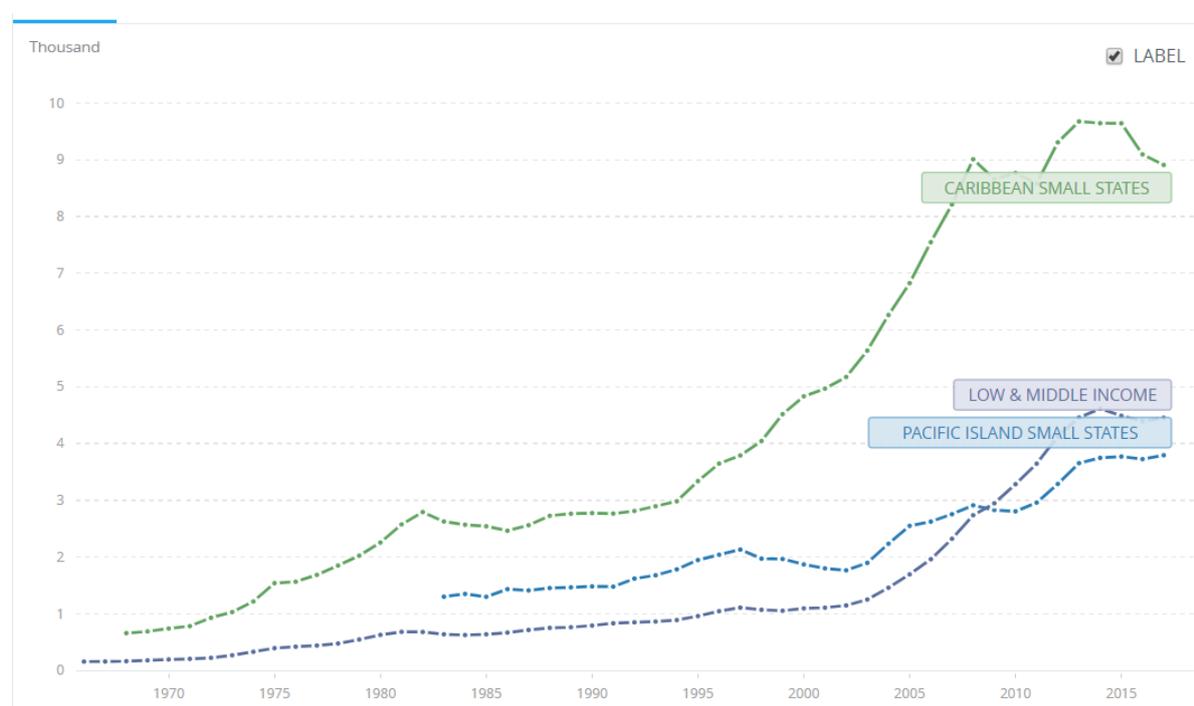
⁷ <http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2012/data/>

3. Income as a development indicator for SIDS

Income is not typically a focus in the literature in SIDS. More typically, the literature focuses on the more common characteristics and needs of SIDS (discussed in section 2).

This may be because the SIDS group is highly heterogeneous in terms of income, as Figure 2 demonstrates. The two subgroups of SIDS for which the World Bank disaggregates data to the group show that the Caribbean small states have very high income levels, compared to other developing countries. While the Pacific Island small states have low/overlapping income levels, compared to other developing countries.

Figure 2: GNI per capita, Atlas method (current US\$) in Caribbean small states and Pacific small states, compared to other low and middle income countries (1966-2017)



Source: World Bank national accounts data, and OECD National Accounts data files. License: CC BY-4.0

Is income alone an inadequate measure for development in SIDS?

Income indicators are the most common indicators used to measure and categorise development needs across all developing countries, and often also to allocate aid and rights to loan concessions (specifically: GNI per capita or GDP per capita in PPP). They tend to be used as one indicator in a basket of indicators, and they are usually used in a discretionary and flexible way, shaped by additional criteria related to donors' interests and strategies (Alonso, et al., 2014). That said, donors generally "assign great importance to those income thresholds" (Alonso, et al., 2014, p.27).

One of the benefits of using income is that it is an easily available and standardised indicator that can be used to chart progress over time and across countries. It is also "closely

correlated with other, nonmonetary measures of the quality of life, such as life expectancy at birth, mortality rates of children, and enrolment rates in school”.⁸

Yet using income as a proxy for development has many caveats and challenges. These challenges are widely discussed in the literature - mostly related to all developing countries, rather than just SIDS - key points includes (Alonso, et al., 2014; Guillaumont, Jeanneney & Wagner, 2017):⁹

- GNI may be underestimated in lower-income economies that have more informal, subsistence activities.
- GNI does not reflect inequalities in income distribution.
- “The Atlas method used to convert local currencies into a common US dollar is based on official exchange rates, which do not account for differences in domestic price levels. The Atlas method, with three-year average exchange rates adjusted for inflation, lessens the effect of exchange rate fluctuations and abrupt changes, but an alternative method would be to use the purchasing power parity (PPP) conversion factors of the International Comparison Program. To date, however, issues concerning methodology, geographic coverage, timeliness, quality and extrapolation techniques have precluded the use of PPP conversion factors for this purpose”.
- The use of GNI derived categories of LIC, MIC, UMIC in aid allocation models create arbitrary thresholds which mean a country is either eligible or not to funding. This can mean significant losses to countries that graduate from one income band, but that are still in need of aid. Also, as most donors use the same categories but do not coordinate their actions, it can mean a simultaneous and very sharp decrease of funds.
- The arbitrary income bands can create incentive problems where it is better for countries to remain in lower income bands, or to declare statistics that demonstrate that.
- GNI per capita is a means to human development, but not its end. Thus it works well as one indicator, within a basket of indicators, to measure human development.
- “GNI per capita only reflects average national income. It does not reveal how that income is spent, nor whether it translates to better health, education and other human development outcomes. In fact, comparing the GNI per capita rankings and the HDI rankings of countries can reveal much about the results of national policy choices. Gabon with the GNI per capita of \$16,431 (PPP\$) has a GNI rank of 70, but an HDI rank 110 – the same as that of Paraguay whose GNI per capita is only \$8,380 (PPP\$).”¹⁰
- GNI per capita is not able to give a sense of the structural vulnerabilities that are so specific to SIDS nor of SIDS’ specific characteristics (small population size, remoteness, and economic and environment vulnerabilities).

Income indicators measure *income*, and it is widely recognised that *development* is understood as broader than just income. For this reason, and given the limitations and challenges around using just income indicators, **income indicators are usually combined with**

⁸ See <https://datahelpdesk.worldbank.org/knowledgebase/articles/378831-why-use-gni-per-capita-to-classify-economies-into>

⁹ See <https://datahelpdesk.worldbank.org/knowledgebase/articles/378831-why-use-gni-per-capita-to-classify-economies-into> and <http://hdr.undp.org/en/content/can-gni-capita-be-used-measure-human-development-instead-hdi>

¹⁰ See - <http://hdr.undp.org/en/content/can-gni-capita-be-used-measure-human-development-instead-hdi>

other indicators to make assessments on development, and to make subsequent policy decisions on whether the country should receive aid or concessions.

As section 2 demonstrates, SIDS do have specific characteristics and needs, and many of these differ from other developing countries. E.g. the OECD (2018, p.15) highlights that compared to other larger UMICs, the UMIC SIDS are 73% more vulnerable. Also, state capacity is limited by its limited economies of scale, making production, transportation, service delivery, infrastructure costs higher (OECD, 2018). And e.g. delivering development assistance is 4.7 times higher than in other developing countries (OECD, 2018, p.15). But whether, and to what extent, these specific needs are factored into an evaluation of country need is a qualitative decision. E.g. it is a qualitative judgement whether vulnerability is more, or as, important as income or poverty levels.

And ultimately, the decision on whether a specific SID is more worthy of aid or concessions than a non-SID developing country (with their own specific development needs) is also a qualitative judgement, and it is challenging to set a standard criteria to hold across all developing countries, especially with the widening heterogeneity of developing countries more generally. The qualitative judgement of whether SIDS, or any developing countries, should receive aid or concessions tends to draw on the donor's political priorities, their beliefs around what development and need is, trends within development studies, and the specific needs of the developing countries in question.

This review found some studies which explicitly state that income is an inadequate indicator for measuring development in SIDS (e.g. Bourne, Alexander, Conrad & Jhinkoo, 2015, p.9). And there is increasingly emphasis from the SIDS themselves for their case that "vulnerability should influence financing access and terms" (World Bank, 2017, p.2). Bourne, et al. (2015, p.9) explain that:

"Per capita national income is not an adequate indicator of development needs. Its use by bilateral donors and MFIs excludes middle income countries with significant poverty, economic vulnerability and other serious development challenges... 'Per capita income and economic vulnerability criteria should be treated as only two elements in basket of development needs indicators. Other pertinent indicators, some of which are identified in the UNDP multi-dimensional poverty indicators and the UNECLAC "Structural gaps" approach include poverty and indigence, access to secondary and tertiary education, health status and access to medical and sanitary services, and gender inequality".

It is logical that the SIDS focussed literature advocates for SIDS to have special status for their specific needs. Further research could look beyond the SIDS focussed literature and take a broader view.

However, the literature on SIDS more commonly focuses on the SIDS' specific needs and characteristics, rather than focussing on their income status, or income as a proxy for their development. While income is not extensively discussed in regards to whether it is effective at measuring development in SIDS, it is more widely critiqued in the way it is used to determine rights to concessional finance and aid (graduation) (as summarised by Quak (2019).

Yet despite the lack of focus in the literature, the conclusion that income is an inadequate indicator for measuring development in SIDS could be inferred from: the widespread identification of the SIDS as having specific development needs; the development of specific

indexes to measure vulnerability; the political focus on raising attention to the SIDS' needs; and the increased risks, and knowledge of the risks, from the climate crisis to SIDS.

4. Challenges of using indicators to measure development needs

Data gaps and assumptions

A key limitation for understanding development levels in SIDS is the lack of data (Eckstein, Künzel & Schäfer, 2018). This can mean that databases are completed with “approximations based on assumptions, and alternative assumption could have produced a different approximations” (Briguglio, 2016). The lack of data on SIDS means that they are often not included in data sets (Briguglio, 2018b).

Heterogeneity suggests smaller SIDS subgroups

Alonso, et al. (2014) suggests that instead of the broad “all-purpose” SIDS category, it would be beneficial to create some smaller subgroups along issues-based categorisation. E.g. Countries that are threatened by rising sea levels (including not only SIDS, but also continental countries with low-lying areas).

The politically driven international development agenda

Ultimately, while identifying specific characteristics and indicators for development has a technical side, the politics of foreign policy, the international development agenda, and geopolitical ideological competition play critical roles in what is considered development and need (Fialho & Van Bergeijk, 2017). The agenda to recognise the specific needs of the SIDS has become more pronounced over the past decades, as summarised in OECD (2018), “with a view to maximising the full potential of development finance, particularly of scarce official development assistance”. This has occurred alongside a proliferation of developing country classifications over the past 40 years (Fialho & Van Bergeijk, 2017; Alonso, et al., 2014).

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