Will the inhabitants of Small Island Developing States become climate exiles?

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Introduction

Small Island Developing States (SIDS) are territorial entities recognised as forming a special case of developing countries at the United Nations Conference on Environment and Development in Rio de Janeiro in 1992. Currently numbering 58 (Table 1), the UN considers SIDS vulnerable due to the risk of exposure to the environmental upheavals associated with climate change: increasingly frequent extreme weather events; rising sea levels; soil salinisation; reduction in drinking water resources; the abandonment of traditional food crops; fragility and, in some places, depletion of both terrestrial and marine biodiversity.

The aim of this paper is to present the SIDS in their geographical configuration and to provide their main demographic characteristics and population projections. These elements will be placed in the context of climate change**,** which could lead to the submergence of land masses and forced migration.

Geography of SIDS

The SIDS – nearly a third of which are not full members of the United Nations but are dependent on another member state – are distributed across three major geographical regions: the Caribbean, with 29 states; the Pacific, with 20 states; and the Atlantic-Indian Ocean-South China Sea (AIS), with 9 states. In total, these 58 States cover 1.193 million km^2, an area almost equivalent to that of South Africa (1.221 million km^2), which ranks 24th in the world in terms of surface area. However within the SIDS, there are considerable differences between the smallest island, Nauru (20 km^2), and the largest, Papua New Guinea (453 thousand km^2), both located in the Pacific. The maritime area over which SIDS have sovereign and economic rights – the Exclusive Economic Zone (EEZ) – is also very extensive: 36 million km^2, almost four times that of Australia (9 million km^2). The Pacific Islands EEZ is the largest (27 million km^2), ahead of the AIS (5 million km^2) and Caribbean (4 million km^2) zones.

Demography of SIDS

In 2023, the 58 Small Island Developing States had a population of 74 million. The Caribbean region is the most populous, with 46 million inhabitants (62% of all SIDS), mainly due to the Dominican Republic, Haiti and Cuba, each of which have more than 11 million inhabitants. The Pacific and AIS zones are of almost equal importance, with 15 million inhabitants (including 10 million in Papua New Guinea) and 13 million inhabitants (including almost 6 million in Singapore) respectively. Since 1990, the SIDS as a whole have gained around 25 million inhabitants (an average annual growth rate of 12.7‰ and total growth between 1990 and 2023 of 51.5%), including + 10.8 million in the Caribbean zone, + 8.2 million in the AIS zone and + 6.2 million in the Pacific zone. However, the general trend is towards a slowdown in population growth: from 1990 to 2022, the population growth rate fell from 13.4‰ to 4.6‰ in the Caribbean zone, from 23.4‰ to 15.4‰ in the Pacific zone and from 26.3‰ to 26.6‰ in the AIS zone. This trend is mainly explained by a decline in natural growth (from 1990 to 2022, the rate of natural increase fell from 17.5‰ to 6.7‰ in the Caribbean, from 27.0‰ to 17.2‰ in the Pacific and from 18.1‰ to 9.0‰ in AIS) more or less offset by migratory movement (from 1990 to 2022, the migration rate declined from - 4.1‰ to - 2.1‰ in the Caribbean, from - 3.2‰ to - 1.4‰ in the Pacific but from 8.2‰ to 17.6‰ in AIS). The past demographic growth of the SIDS is reflected in their age and gender distributions. This shows that in 2023 the population of the SIDS is

structurally young: overall, more than one person in five is under the age of 15, around one person in two is in the 15-49 age group corresponding to the childbearing years, and one person in ten is aged 65 or over (Figure 1).

Projections of populations

On the basis of natural dynamics alone (in the absence of migration or with zero net migration at each age) and under the dual hypothesis of an average fertility rate reduced by 10% and an average lifespan increased by 4%, the population of the SIDS could rise to 87.8 million in 2050, an increase of 13.4 million compared with 2023 (+ 18.0%), broken down as follows: + 4.8 million for Caribbean SIDS (from 46.1 to 50.9 million; + 10.4%), + 6.3 million for Pacific SIDS (from 15.3 to 21.6 million; + 41.1%), + 2.3 million for AIS SIDS (from 13.0 to 15.3 million; + 17.7%). However, how should these projections be viewed, given the environmental risks that SIDS will increasingly have to face in the foreseeable context of climate change? One phenomenon in particular, linked to global warming and whose demographic consequences could be considerable, is attracting special attention: rising sea levels.

The threats and consequences of global warming

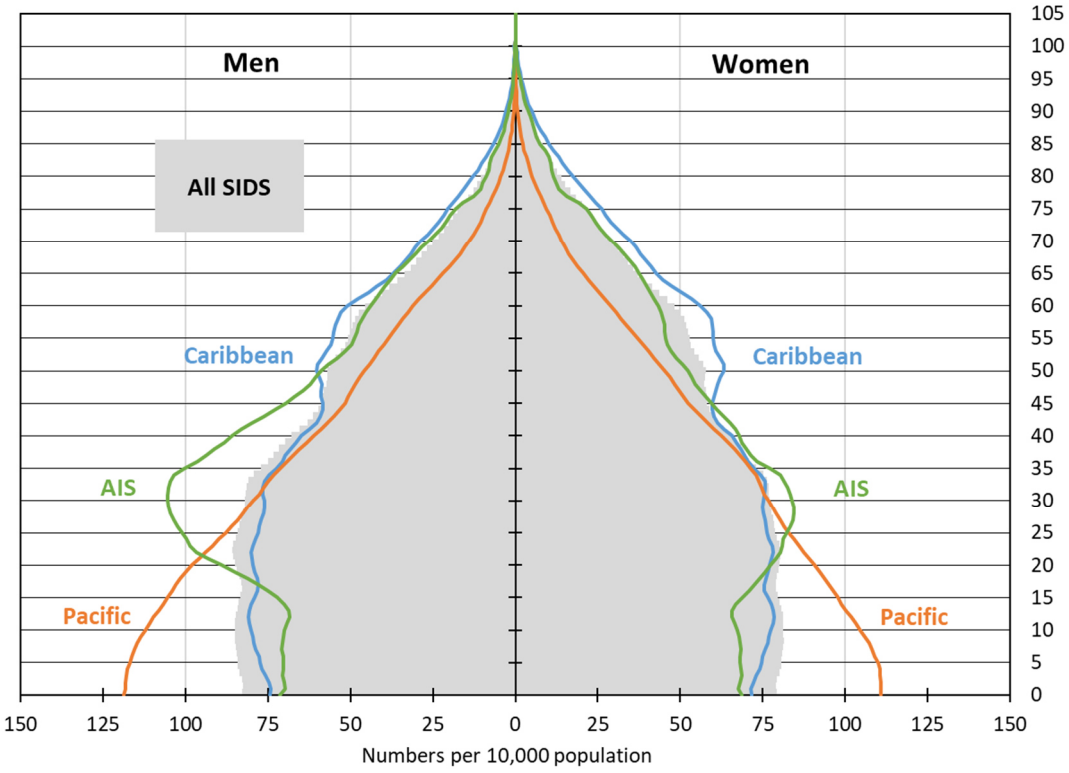
According to recent estimates by the Intergovernmental Panel on Climate Change (IPCC), global warming over the period 2031-2050 could average + 1.6°C (with an amplitude of between + 1.1 and + 2.0°C) in the case of low greenhouse gas emissions (scenario known as RCP2.6), and + 2.0°C (+ 1.5; + 2.4°C) in the case of high emissions (scenario RCP8.5). This warming would result from a combination of melting of the Greenland and Antarctic ice caps and thermal expansion of the ocean mass. By 2100, all of these factors would lead to a global average sea-level rise of + 0.43 metres (range + 0.29 to + 0.59 m) in the most favourable scenario (RCP2.6), and + 0.84 metres (+ 0.61 to + 1.10 m) in the least favourable scenario (RCP8.5). There are two keyconsequences of rising sea levels:

- Firstly, the modification of the surface areas occupied by coastal wetlands. As a result of rising sea levels, the natural state of coastlines made up of estuaries, maritime marshes, mangroves and seagrass beds – ecosystems that are common in tropical regions – could become unbalanced, leading to a reduction in habitat and the redistribution of marine species that were once endemic. The consequences would be changes to traditional fishing activities, and even a reduction in food resources linked to seafood products.
- Secondly, there is the risk of partial or total submersion of land areas. This risk, which is highly dependent on the RCP scenarios adopted by the IPCC, is nevertheless quite tangible for low-lying islands. In the Pacific zone, this is precisely the case for several SIDS (Kiribati, Tuvalu and the Marshall Islands); in the AIS zone, this risk could affect the Maldives, islands with an average altitude of less than 2 metres. The challenges posed by these risks of submersion would be considerable for the countries concerned and their populations. While mass inland migration may be possible, it depends on the maintenance of administrative functions, economic activities and services, and the availability of housing, some States have already envisaged a partial transfer, or even a total diaspora of their population to other host countries (for reference, the population of the four islands mentioned above is estimated to be around 810,000 people by 2050). In the latter case, and particularly in the case of SIDS that are not dependent on a UN member state, the question arises about the legal status to be accorded to climate exiles and to a state whose territory is set to disappear, given that the Geneva Convention of 28 July 1951 relating to the Status of Refugees makes no provision for such circumstances.

Table 1 Administrative details of the Small Island Developing States (SIDS), 2023.

Territorial entities	UN member (●) or country of dependance	2023 population at 1 July (thousands)	Surface area (thousands of km^2)	EEZ (thousands of km^2)
CARIBBEAN		**46,110**	**598.8**	**3,750.1**
1. Anguilla	United Kingdom	14	0.1	92.2
2. Antigua and Barbuda	●	93	0.4	110.1
3. Aruba	Netherlands	108	0.2	30.3
4. Bahamas	●	399	10	654.7
5. Barbados	●	282	0.4	186.9
6. Belize	●	411	22.8	35.4
7. Bermuda	United Kingdom	65	0.1	450.4
8. Cuba	●	11,020	103.8	350.8
9. Curacao	Netherlands	185	0.4	25.9
10. Dominica	●	67	0.8	29
11. Grenada	●	117	0.3	27.4
12. Guadeloupe	France	377	1.6	92.8
13. Guyana	●	826	196.9	137.8
14. Haiti	●	11,637	27.6	126.8
15. Cayman Islands	United Kingdom	73	0.2	119.1
16. Turks and Caicos Islands	United Kingdom	46	1	154.1
17. United States Virgin Islands	USA	86	0.4	33.7
18. Îles Vierges britanniques	United Kingdom	39	0.2	80.1
19. Jamaica	●	2,840	10.8	258.1
20. Martinique	France	346	1.1	48.9
21. Montserrat	United Kingdom	4	0.1	7.6
22. Puerto Rico	USA	3,242	8.9	177.7
23. Dominican Republic	●	11,331	48.3	255.9
24. Saint Kitts and Nevis	●	47	0.3	10
25. Sint Marteen	Netherlands	43	0.03	0.5
26. Saint Vincent and the Grenadines	●	101	0.4	36.3
27. Saint Lucia	●	179	0.6	15.6
28. Suriname	●	629	156	127.8
29. Trinidad andTobago	●	1,503	5.1	74.2
PACIFIC		**15,312**	**555.6**	**4,875.3**
30. Federate States of Micronesia	●	113	0.7	2,996.4
31. Fidji	●	924	18.3	1,283
32. Guam	USA	167	0.5	221.5
33. Cook Islands	New Zealand	14	0.2	1,960
34. Northern Marianas	USA	45	0.5	749.3
35. Marshall Islands	●	39	0.2	1,990.5
36. Solomon Islands	●	800	28	1,589.5
37. Kiribati	●	133	0.8	3,441.8
38. Nauru	●	12	0.02	308.5
39. Niue	New Zealand	2	0.3	316.6
40. New Caledonia	France	290	18.3	1,200
41. Palaos	●	18	0.5	604
42. Papoua New Guinea	●	10,390	452.9	2,402.3
43. French Polynesia	France	281	3.5	4,790
44. Samoa	●	217	2.8	128
45. American Samoa	USA	48	0.2	404.4
46. Timor-Leste	●	1,384	14.9	70.3
47. Tonga	●	105	0.7	659.6
48. Tuvalu	●	10	0.03	749.8
49. Vanuatu	●	320	12.2	663.3
AIMS		**13,043**	**39.3**	**2,154.1**
50. Bahrain	●	1,570	0.8	10.2
51. Cabo Verde	●	522	4	800.6
52. Comoros	●	850	1.9	163.8
53. Guinea-Bissau	●	2,153	28.1	123.7
54. Maldives	●	526	0.3	923.3
55. Mauritius	●	1,274	2	1,285
56. Sao Tome and Principe	●	231	1	131.4
57. Seychelles	●	128	0.5	1,336.6
58. Singapore	●	5,789	0.7	1.1
Total		**74,465**	**1,193.7**	**35,054.6**

Figure 1 Age and Gender Distribution of the Population in Small Island Developing States (SIDS), 2023



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