

ISLAND CHALLENGES: PARTICIPATORY PROCESSES FOR DEALING WITH CLIMATE CHANGE



above: One of Fiji's outer atolls, highly vulnerable to sea level rise (photo by Ilan Kelman).

1. SMALL ISLAND DEVELOPING STATES AND CLIMATE CHANGE

Small Island Developing States, that is SIDS are considered to be particularly vulnerable to climate change effects. There are 52 small countries and territories, mainly but not only islands, belonging to this United Nations designated category with examples being Guyana, the Seychelles and Fiji. Despite vast differences within the category, these islands tend to share similar development and sustainability challenges, and attempts to find solutions, including to that of climate change..

These island peoples also share common characteristics. These include close-knit kinships, strong sense of identity and place, strong cultural resources and a long history of dealing with social as well as environmental changes and challenges. Further, island populations are usually relatively small, isolated from larger centres, and dependent on livelihoods from natural, especially

marine, resources. This leads to climate change impacts being felt sooner and more intensely across islands than in many other regions.

Fossil fuel use and deforestation elsewhere are largely the anthropogenic drivers of climate change. The majority of fossil fuels used throughout history was by affluent countries. Most island states remain near the bottom of national-level rankings for emissions (IEA). Deforestation has mainly occurred in less affluent countries, usually to serve markets in more industrialised countries. Indeed few SIDS have major forests. There are exceptions such as Papua New Guinea where forests have been destroyed on a large scale. Irrespective of such exceptions, SIDS have contributed little to climate change but are nevertheless one of the regions most at risk from its impacts.

2. CLIMATE CHANGE IMPACTS ON SIDS

Climate change will bring changes in average annual temperature, sea temperature and precipitation. The computer models tend to be for scales far greater than the size of most small island development states, and when they are downscaled to the size of SIDS or of specific SIDS islands, the results tend to yield large uncertainties.

An increase in air temperatures in all SIDS regions is anticipated and sea surface temperatures appear to be increasing too. Warmer oceans will bring ecological consequences, such as less plankton and coral bleaching, leading to major disruption of ecosystems which many island livelihoods depend on. There are uncertainties as to whether annual precipitation across SIDS will increase or decrease. Freshwater, often scarce in islands, is affected by precipitation and large decreases could preclude living in some areas. As sea water intrudes, through changing sea properties or as water use ramps up, salinisation can also affect freshwater.

Projections covering tropical cyclones being affected by climate change are subject to intense debate, with studies examining storm frequency, pathways, timing, duration, and intensity (Knutson et al. 157-163). If storm tracks change, tropical cyclones are likely to go over SIDS nearer the equator more frequently, affecting SIDS populations with limited experience of how to deal with cyclones.

Sea level rise is often cited as the most certain and potentially most devastating climate change impact on islands. (Much land has the potential to be inundated, including across Kiribati, the Maldives, the Marshall Islands, Tuvalu, Tokelau, and Tonga. Even in other SIDS, major settlements and infrastructure often lie in the coastal zone. Entire island inundation or

complete island destruction from sea-level rise cannot be assumed, even for low-lying atolls. Field observations examining physical changes to islands due to sea-level changes (Webb and Kench, 234-246) demonstrate the wide variety of island responses including island building processes. These studies, though, are clear that they are not commenting on the uninhabitability of the islands, which can be compromised by many climate change factors, such as freshwater and food resources, in addition to island building processes.

Further ecological changes across SIDS are expected from climate change, such as for example, chemical impacts as oceans absorb carbon dioxide from the atmosphere and “invasive species” that have already devastated ecosystems on islands.

3. SIDS RESPONSES TO CLIMATE CHANGE

Island states responses to climate change occur internationally, regionally, nationally, and locally. Some illustrative examples are given here.

One of the most prominent groupings of island states, at the international level, has been the Alliance of Small Island States (AOSIS). This alliance lobbies for and negotiates on behalf of many small islands for climate change. It focuses on two categories of action: first, a sharp decline in emissions to try to avoid as much climate change as possible and second, support for the adjustments that will be necessary in order to deal with climate change.

At the regional level, the Caribbean and the Pacific each have an inter-governmental organisation that is designated as the main institute for supporting small island states to deal with climate change, respectively the Caribbean Community Climate Change Centre and the Pacific Regional Environmental Programme. Many other regional institutes are also active.

The Indian Ocean SIDS and other SIDS, such as the three West African ones, do not have equivalent institutions. There, efforts tend to be country-based, with an Indian Ocean example being the Sea-Level Rise Foundation in the Seychelles. For SIDS designated as “Least Developed Countries”, the UN process of developing a National Adaptation Programme of Action (NAPA) is mandated to identify and communicate climate change related priorities for action, by summarising existing information. Country-level reporting of steps taken to deal with emissions that contribute to climate change is also undertaken by several SIDS.

Many of the climate change responses must be implemented at the local level. However, scientific data and climate change projections are not always applicable

to local scales, as noted earlier, and may be too abstract to directly relate to local contexts (Paton and Fairbairn-Dunlop 688). Islanders past experiences with environmental change (Nunn et al.) continue to be an important basis for responses to climate change today. The changing environmental conditions often mean that local knowledge does not fully apply to the new situations and that traditional practices need to be altered (Kelman, 608). Combining local and external understandings, experiences and knowledge tend to yield the best results for dealing with effects of climate change (Lewis 40-41).

Local institutions in particular need to combine strengths from different knowledge bases (Sillitoe, 235-249), as they are often responsible for implementing measures and can access both external and local knowledge on climate change (Le Masson and Kelman, 2011). Essential for potential action, is an understanding of how climate change impacts and responses, unfold locally.



above: Fishing as a livelihood off the shore of Tongatapu, Tonga (photo by Ilan Kelman).

4. PARTICIPATORY APPROACHES TO CLIMATE CHANGE

To ensure that local knowledge and priorities are taken into account to deal with climate change, approaches involving the community are increasingly being used. These approaches are based on “participatory (action) research” largely developed for reducing risk to natural hazards (Mercer et al., 2007: 173-174).

Such “participatory approaches” to development emerged after growing discontent with top-down technocratic interventions that were perceived

to deviate from local priorities and realities. In contrast to external experts assessing problems and making decisions for local people, the problems are analysed and solutions sought by the people themselves. Participatory processes are intended to give communities the power and choices to catalyse their own action. Many methods and approaches are embedded in participatory processes, which have been widely used in various development settings including sectors such as agriculture, health and education. Social scientists such as Cornwall and Jewkes, as well as Chambers, provide more detailed accounts of the origins and the practices of participatory processes.

Techniques within participatory approaches are broadly based upon group or individual exercises undertaken by members of the community to assess and analyse their own needs and priorities. The researcher's role is to facilitate the exercises rather than to lead or to direct responses. Exercises are often geared towards specific purposes or problems. For example, within risk reduction to natural hazards, the participants may try to collectively remember historical hazards and events, what impact these had, and how the community managed them.

Participatory vulnerability assessment to climate change and natural hazards is used by major NGOs such as ActionAid, the International Federation of Red Cross and Red Crescent Societies, (IFRC) Oxfam, World Wide Fund for Nature (WWF) as well as other organisations and governments. There are numerous guidebooks, toolkits and step-by-step procedures developed that outline the foundations, objectives (which may differ significantly) and practicalities of carrying out such assessments. A common denominator for guidebooks issued by NGOs is the emphasis on action from the outcomes of the exercises (IFRC I6), which are to be supported through the organisation's own resources or by linking the community to others with relevant capacity. Hence, participatory processes are used as a means to direct funding and implement interventions within development projects.

In addition to development projects, participation to address local understandings of climate change and vulnerability in SIDS are being used in research. The participatory process itself is considered to give communities the power to catalyse their own action. Research projects often have less tangible outputs in terms of resources made available to the community after the processes have been undertaken (Cornwall and Jewkes). Participatory research is, moreover, subject to different disciplinary approaches which naturally influences the aims, methods and techniques. An advantage of academic application of participatory approaches is that results do not have to conform to donor or project goals and objectives (Mosse, 19-21).

5. APPLICATIONS OF PARTICIPATORY PROCESSES TO CLIMATE CHANGE IN SIDS

Specific participatory and community based assessments and techniques have been designed to address climate change in SIDS. One such example is WWF's "Climate Witness Programme" that has developed a method aimed at documenting local climate change impacts and identifying solutions to tackle these impacts that communities are capable of carrying out themselves (McFaziden et al). Similarly, Nakalevu has developed a procedure to deal with climate change in local SIDS communities. The purpose of the procedure is twofold: to incite communities to analyse their own situation and to tie in results with government policies. This procedure has been developed and applied in conjunction with development projects in Cook Islands, Fiji, Samoa and Vanuatu.

When the procedure was carried out in Tegua, Vanuatu, flooding was identified as a major concern leading to poor living conditions. Community members suggested relocation to higher and drier grounds. Relocation was also deemed to be an appropriate measure by the project and was implemented with external assistance in terms of funding and technical expertise. Overall, the results of an evaluation indicate that no new hazards had been found at the new site and that the relocation had strengthened community confidence (SREP). The Tegua case thus provides a successful example of how local suggestions for tackling effects of climate change can be used to direct resources and implement measures.

While procedures designed to address climate change locally can be useful and successful, they may fail to capture wider processes of vulnerability, not related to natural or weather related hazards that nevertheless affecting people's ability to deal with climate change impacts (Warrick 86). For example, in the Ni-Vanuatu communities where Warrick worked, climate change was not a priority and participatory procedures were not readily applicable. Techniques must therefore be targeted towards the context in which they are applied. Caution may be warranted with replicating the exact procedure without questioning its aims. Mercer et al. provide useful examples of how climate change effects can be analysed and tackled locally in Papua New Guinea by focusing on wider community concerns and priorities rather than, for example, precipitation or flood risk (2009: passim). Other examples of local ways of dealing with climate change are constructing three dimensional maps or taking photographs of concerns relating to a changing climate. These visual aids foster discussions and dialogue around climate change, that could in turn stimulate local action.

Local participatory processes have been widely used for environmental planning in the Caribbean; for example, marine reserve management in St Lucia (Pugh) with various results. Pugh (17-18) argues that local elites have increased their power by adapting discourses of participation and local empowerment through decentralisation in the Caribbean. In contrast, Daly et al (275-276) demonstrate a successful example of how a large-scale government-led project in Samoa, managed to incorporate local considerations and priorities when implementing coastal management plans that in effect reduce vulnerability to climate change.



above: Building a sea wall on western Tongatapu, Tonga: An appropriate or inappropriate adaptation strategy? (photo by Ilan Kelman).

6. CRITICAL ANALYSIS

Diverse aims, applications and outcomes of participatory processes exist for tackling climate change in SIDS. For instance, Daly et al and Warrick used community discussions which can both be labeled as community-based and/or participatory(269) (80). However, the Samoan government-led consultation employed and trained staff explicitly to consult 7000 citizens while Warrick as a single researcher used discussion to try to understand local views on climate change. Whereas Daly et al. explain that the discussions were successful (275), Warrick reports mostly limitations with the technique, due to her own self-admitted inexperience and the cultural context which she perceived to be unfamiliar and uncomfortable with group exercises(82).

Emphasised as crucial to the outcomes of participatory processes is the ability to establish rapport with the participants (Cornwall and Jewkes 1673) which is achieved in various ways. Large-scale projects often have the capacity to recruit and train local teams of facilitators, thereby avoiding language and cultural barriers. Conversely, single researchers may be more limited by their status of being an outsider. According to Mercer et al. immediate participation in everyday activities rapidly built rapport between the researcher and the community (2007: 175). Local research assistants and interpreters are often necessary and useful assets to overcome some of these cultural barriers, but what is lost through translation must be considered.

With the diversity amongst and within island nations, participatory approaches must be locally and culturally situated in order to be successful. Lazrus, when conducting research in Tuvalu, learnt that specific types of knowledge were considered sacred and only exchanged in certain social settings, such as funerals (145). Approaches aimed to share and build upon this kind of knowledge in group settings were hence inappropriate. Examples from Samoa (e.g. Sutherland, 14) also emphasise sensitivity to social and cultural contexts by respecting social stratifications in group exercises. Flexibility in research approaches to suit local contexts tends to be highly important for successful outcomes.

An important consideration when dealing with climate change at the community level is how to provide an incentive for participation but not to raise unrealistic expectations. This is cited as a problem for major NGO's as well as for single researchers. Mercer et al. describe that she was perceived to be closely associated with the provincial disaster centre by the community. This raised hopes of external assistance which in turn may have influenced the participants' responses (2007: 179). High expectations on what the project could potentially achieve can also originate from the researcher. Warrick felt that objectives related to participatory research such as "community empowerment" and "transformation" could not be fulfilled (80). Mosse attributes the issue to a too simplistic conceptualization of knowledge in the application of participatory processes. He argues that manipulation of knowledge is a two-way process: a project will steer information towards its objectives. Likewise, participants will also respond in ways they think will benefit them (29-34). By engaging in discussions with the community of expected results along with a more modest framing and a wider definition of "empowerment" on the behalf of the researcher, the problem may be limited.

Related to this consideration are questions linked to how the research outcomes and community priorities should be dealt with. Participatory approaches, even if carried out by local people, seldom consider concerns outside "western"

mind sets (Henkel and Stirrat, 180-181). For instance, preserving a sacred ground may be highly important to a community in order to preserve cultural resources and integrity but donors may be reluctant to fund measures with seemingly limited benefits for reducing climate change vulnerability. Similarly, several projects concluded that communities arrive at identifying priorities and suggestions but nevertheless lack the resources to implement measures themselves. Kelman (614) emphasises the importance of combining different sources of knowledge in order to tackle climate change constructively. This is strikingly illustrated by Paton and Fairbairn-Dunlop in an example of how communities in Tuvalu, commonly described as “the poster child of climate change”, hold very sceptical perceptions of climate change and have minimal involvement in discussions concerning actions to deal with climate change effects (691-695).

Given their relative autonomy, universities and research centres have the ability to innovate and critique participatory processes and therefore have an important role to play in informing local authorities and other stakeholders (Leal Filho 10-16). Universities can be highly innovative and do many things regarding climate change. There is great potential for closer collaboration between research and development projects that may not have been realised yet.

One reason is that research has a tendency to be too narrowly focused on attaining interesting results rather than sharing them. Learning experiences are being missed due to the lack of dissemination of local projects that could serve as good (or bad) practices for students, communities and other stakeholders to build on. Additionally, community engagement in research projects is often limited, as grants sometimes fund single fieldtrips. This clearly restricts the scope for evaluation and subsequent opportunities to tie in research results with other local projects and processes.

Due to the lack of evaluation and continuity, it is difficult to draw conclusions on how successful participatory approaches to climate change in SIDS have been over longer timescales. For example, IFRC demonstrates that a community in the Solomon Islands identified a solution to a flood problem, namely to clear debris under a bridge that could be done by the community itself. However, the clearing procedure was only carried out twice within the initial intervention and the community has since required the local authorities to clean the stream. There is little information of what caused the community to halt this action or if other communities have implemented measures identified through participatory processes. These are questions that must be answered to improve the application of local participatory processes to deal with climate change on small islands.

Across SIDS, the sense of urgency for action coupled with different spatial, social and political dimensions can generate important lessons on how participatory processes may be used when tackling climate change. The rich diversity across SIDS also implies that modes of participation vary significantly. A hill-side community in Papua New Guinea and a fisher community in Belize are likely to be experience climate change in different ways so participatory processes must be adjusted to suit the communities. By drawing from that diversity, local experiences can be shared amongst SIDS as well as being transferred to other regions.

One initiative that brings together local, national and regional stakeholders in SIDS and the Arctic is the Many Strong Voices programme (MSV; see CICERO and UNEP/GRID-Arendal). Despite significant geographical and cultural differences, the two regions tend to share similar experiences when tackling climate change. This programme facilitates knowledge exchange across regions and pooling resources to provide a collective front in promoting local SIDS and Arctic voices in international forums. Such initiatives will facilitate local experiences from SIDS being scaled up and transferred to other regions.



above: Selling the day's catch on Tongatapu, Tonga (photo by Ilan Kelman).

7. CONCLUSIONS

Participatory processes addressing climate change display strengths and limitations. Different approaches to such processes generate opportunities, considerations and ethical dimensions that render them more suitable or less

suitable to specific contexts and problems. Similarly, it should be acknowledged and accepted that various people involved, whether local officials, researchers or a community members, will enter the process on different premises with diverging purposes and hopes for what the process may generate. The acquisition of different types of knowledge, as emphasised in participatory processes, is also inherently linked to the distribution of power (Wisner 345-346).

Power relations are especially pertinent to consider from a SIDS perspective on climate change. SIDS people bear disproportionate costs of climate change challenges that are generally not of their own making. Local islanders pioneered scientific statements on sea level rise through Nunn, 1988, and the Male declaration on Global Warming and Sea Level Rise in 1989. Despite these attempts, little has been done to halt global fossil fuel use and deforestation. The potential for local action must therefore be considered within wider structures of power relations (Hickey and Mohan 14-17). There are apparent injustices embedded in the global distribution of vulnerability to climate change.

It is nonetheless too simplistic to assume that all SIDS invariably act to halt climate change. Deforestation is, as mentioned, a major issue in Papua New Guinea; Bahrain is an oil producer and other SIDS such as East Timor are seeking development opportunities through selling their fossil fuels. Ethical dimensions relating to the contributions of climate change thus exist within SIDS as well as other parts of the world.

Power asymmetries are also manifested in the discourses dominating climate change. Similar to development, climate change has been defined and understood by western concepts. For instance, notions of vulnerability and resilience to climate change derive from western understandings of how the world is construed and may bear little relevance to local realities. To ascribe vulnerability to certain locations and populations can result in people coming to define themselves in that way or in synonymous ways, i.e. helpless.

Much is therefore to be gained if the abstract and complex concept of climate change can be dealt with from several perspectives simultaneously. Local participatory projects in SIDS may not reverse or transform wider power relations, but that should not discourage using such approaches. Rather, if the place and use of participation within climate change adaptation is critically discussed, participatory processes offer compelling prospects for island peoples to analyse climate change challenges and to direct modes of intervention on their own terms.

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