SISRI Knowledge Notes

A series highlighting good practices in climate and disaster resilience in Small Island States

Managing Population Retreat from At-Risk Areas

NOTE: #3
FOCUS: RISK REDUCTION

OVERVIEW

Relocating populations away from at-risk areas is a challenging process, but increasingly necessary in Small Island States where communities face imminent hazards to life and property due to factors such as sea-level rise, coastal erosion and flood risks. A participatory process of population retreat can save lives and enhance the livelihoods of community members. São Tomé and Príncipe and Samoa offer valuable lessons on how to manage such a process. In both countries, empowering communities to identify the current hazards, and find options for safe relocation, helped to establish community support from the start. Planning for livelihoods and services in the relocated communities helped build willingness to relocate. In addition, retaining access to the coast was important, to ensure that communities could relocate to higher land without losing established livelihoods and cultural preferences that require access to the sea. Lastly, steps need to be taken to prevent people from settling back in the hazardous areas, for example by turning these areas into communal spaces where villagers may enjoy the ocean without permanent habitation. This note summarizes the above experiences, while recognizing that best practices are still emerging and will need to be adjusted for cases of long-distance population relocation resulting from sea level rise.

MANAGED POPULATION RETREAT: AN IMPORTANT STRATEGY FOR ADAPTATION AND RESILIENCE[1]

The majority of the population in many Small Island States lives in coastal areas, but risks to lives and property have often increased in these zones. Unplanned settlement patterns, over-exploitation of coastal resources and degradation of coastal and watershed ecosystems are among the factors adding to vulnerability. The effects are being compounded by climate change, sea-level rise, and damage from storm surge, waves and cyclones. Communities have found themselves needing to take difficult decisions on whether the existing settlements are still viable given changing risk profiles and—in many cases—tragic loss of life in disaster events.[2]

Where living conditions in a given area are deemed too hazardous to tolerate, managed population retreat can be undertaken. Managed population retreat is a strategic process, undertaken as part of national resilience planning, which engages communities in voluntarily relocating to safer ground.

Relocation can be a dramatic experience for those who need to leave their homes behind and move to a new area, even if that area is close-by. This is because relocation disrupts the normal way of life, can have an impact on the social fabric of a community, and can negatively affect livelihoods.

Population relocation should be accompanied by measures to help ensure that the area at risk is not re-occupied. Instead, it can be turned into a common or leisure area where the community can still enjoy access to the sea, but without permanent settlement. In many cases, the safer area targeted for new settlements is already used or occupied. In such situations adequate compensation will need to be negotiated with land users before the space can be designated for the new settlement.

Managed population retreat also requires that newly relocated households maintain or improve their livelihoods in the new location, and have equal or improved access to social services (such as electricity, water schools, roads).

Managed population retreat therefore tends to work best when the population itself sees the benefits, or requests this type of intervention when informed of the risks of not moving. Engaging with the population from the design stage is crucial for the success of any relocation process. Although population relocation is a complex undertaking, there are examples where it has not only eliminated the risk of a disaster but also improved the living standards of the population.

In Island States, communities live along the coast for various reasons. Some depend on marine-based livelihood such as fisheries, while others whose livelihoods are farm-based depend on the sea for transporting their products to market, or are attached to the sea through cultural and ancestral links. In all of these cases, accessibility from the settlement to the sea is crucial. It is therefore important for a managed population retreat program to ensure accessibility of the new location to the coastal areas.

CASE STUDIES: SÃO TOMÉ AND PRÍNCIPE AND SAMOA

The cases of São Tomé and Príncipe and Samoa illustrate two approaches to population relocation; for São Tomé and Príncipe, population relocation is an adaptation strategy for the future (preventive relocation) whereas for Samoa, it has been used as a coping strategy in the aftermath of a natural disaster (post-disaster relocation).

SÃO TOMÉ AND PRÍNCIPE

The island state of São Tomé and Príncipe is located in the Gulf of Guinea, approximately 250 kilometers from the West African coastline of Gabon (see Figure 1). Given its small size, most of the population lives in coastal areas and many derive their livelihoods from fishing. The two main islands have a population of about 192,900

FIGURE 1   Map of the Gulf of Guinea Showing Location of São Tomé and Príncipe
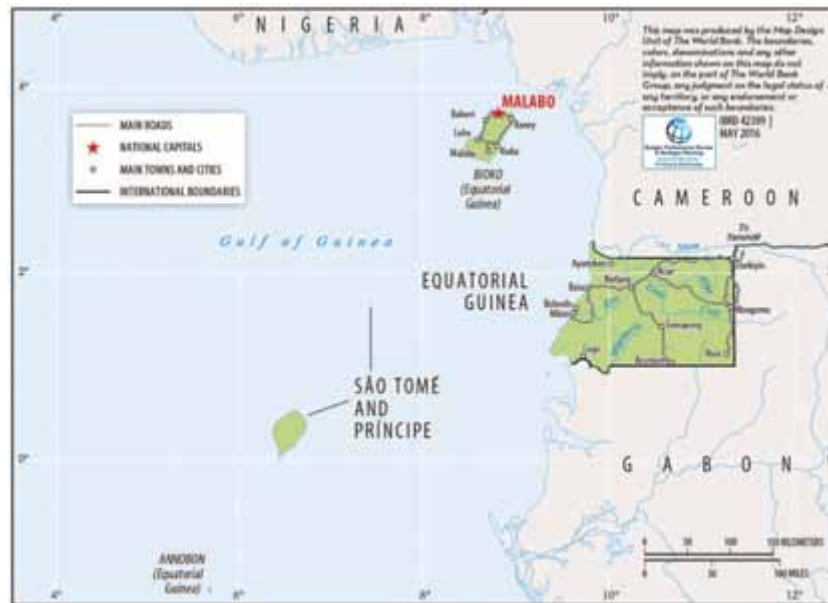
(census of 2013), which makes it the second smallest African state after Seychelles.

São Tomé and Príncipe is already bearing the consequences of climate change in its coastal areas: changes in wave action and river flood patterns, combined with sand extraction, are causing extensive coastal erosion and flooding. Another factor that increases vulnerability is the uncontrolled expansion of housing constructed close to, or right on the beach and in flood-prone areas.

São Tomé and Príncipe has recently designed a strategy to help the coastal communities better adapt to climate change and become more climate-resilient. The essence of this strategy, which the government is currently piloting, is to effectively manage voluntary population retreat from coastal areas at risk to safer, higher ground. This relocation to safer grounds was requested by coastal population themselves after they experienced unusually heavy and damaging flooding in the early 2010s.

The first step of the strategy was to determine the patterns of coastline change. This was done by comparing topographic maps from the 1950s with high-resolution satellite imagery of the current situation, highlighting changes in settlement expansion and the actual rate of coastline retreat. For the community of Malanza, it became clear

that the coast has receded by more than 100 meters in 60 years, and that a significant proportion of the houses were currently at risk. By incorporating future projections of flood patterns, the maps also helped identify which areas would be most at risk.

These projections were shared and discussed with the communities to ensure common understanding of the risks and to canvass the options for relocation as a way of preventing future damages and losses. At the same time as vulnerable households were mapped, the communities were involved in the identification of poorest households. The results of both of these exercises were validated jointly with the community so that there was general agreement on who is vulnerable and should therefore get priority in terms of assistance in relocation to safer areas.

Identifying an Expansion Area

In several coastal communities, the Government had to secure an area for the new construction of housing in a safe location adjacent to the communities, in order to house families from vulnerable areas. This area, called an expansion area, will also aim in the future to attract new people with provision of social infrastructure and services. The proposed expansion area was delineated and

FIGURE 2: Combined Risk Map Showing Roofprints of Buildings, the Estimated Effects of Storm Surge and River Flooding by 2050 for Malanza, São Tomé and Príncipe

Combined risk map, showing roofprints of buildings, the estimated effects of storm surge and river flooding by 2050 for Malanza, São Tomé
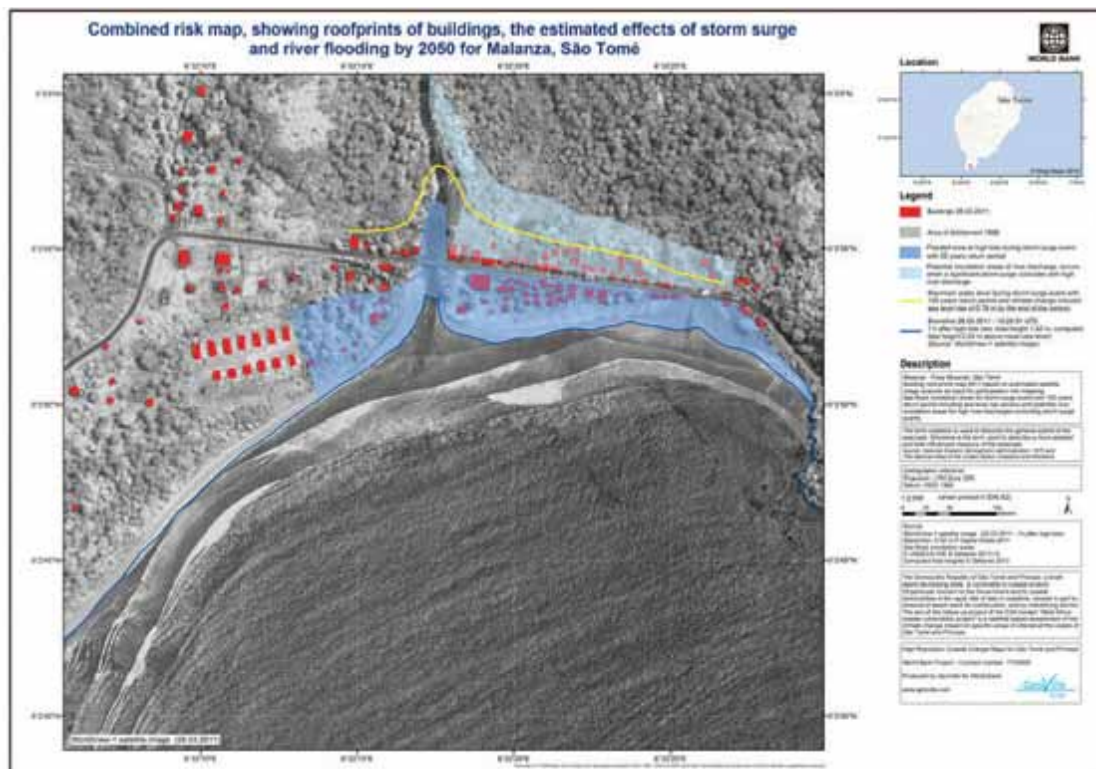
converted from rural to urbanized land. Lots in the area were earmarked for the most vulnerable households on the beach, who are given formal rights to the new lots, a right they have not had previously. This also gives them a security of tenure in the new location.

The spatial plans for the expansion areas provide for a new urbanized land adjacent to the old coastal community, but in an area safe from sea storms, and coastal and river flooding. The new expansion areas would not only house those who are currently living in at-risk conditions, but are also intended to serve as new growth centers for housing and development of the community. To achieve this goal, plans for the expansion zones include from the onset a designated area for school and health centers, space for small commerce, sports fields, and green areas. In addition, the expansion areas allow for consideration of social housing for the poor or vulnerable citizens (including the elderly and disabled). To function as a stable community expansion area, the plans needed to include provision of basic socioeconomic

services and to ensure that houses had sufficient space around them for future expansion.

Implementing the New Spatial Plans

For households living in the areas at risk, the decision to relocate into an expansion area is voluntary and no compensation is given in the form of an incentive. However, for the poorest and most vulnerable, some assistance is envisaged in a way that focuses on their self-identified needs and priorities regarding livelihoods or social infrastructure (for example, in the form of materials and assistance in the construction of a new house).

Even though those moving to the expansion areas are not compensated in monetary terms, the farmers and private landowners who were using the expansion area lots must be compensated for their lost assets (such as crops and fruit trees).

A Resettlement Action Plan was therefore prepared to establish a formal framework for these affected people to secure fair and timely compensation for the losses. It is important to clarify the acquisition

process of the expansion sites with the private owners/land users and negotiate fair compensation; preferably land-for-land compensation for the farmers. This was done by giving them a preferential and secured lot in the expansion area. In the case of agricultural crops, it was necessary to record the number and type of trees to calculate fair market-price cash compensation based on official rates.

Once the expansion area is ready, and people can move there, they should be allowed to salvage all possible materials from their houses for eventual construction or expansion needs before the remaining structures are demolished. Plans are underway to also promote the use of sustainable construction materials (such as clay tiles) to gradually replace the unsustainable use of beach sand and wood.

Consolidating Safer Settlements

The main challenge in ensuring sustainability of the new spatial plans is how to prevent people from returning to or reconstructing in these at-risk locations. Some of the suggestions for preventing return and new construction include:

- Awareness raising and community involvement in discussions on what to do with the beach-side structures and area in general;

- Establishing a decree prohibiting construction on the beach-side;

- Posting clear signage by the beach;

- Having the community itself monitor the area; and

- Agreement that all abandoned structures to be demolished to prevent anyone from moving into them.

In one community, a waterfront promenade was built with Internet hotspots, to encourage the community to consider the area as a public space; in others, replanting the areas at risk can turn them into a community park, emphasizing its public nature. For this to work it is crucial to have community engagement and agreement on prohibition of new construction and the need to remove the housing from the beach to a safer area.

Even though the experience of São Tomé and Príncipe is relatively recent, it has shown a promising start. Continuing support to the expansion areas is expected to bring further valuable lessons

Main Items to Include in a Resettlement Action Plan

- Description of impacts
- Legal framework
- Public consultations process with minutes of meetings regarding relocation plans and alternatives
- Census survey of people affected and their affected assets
- Identification of vulnerable groups and necessary measures to assist them
- Socio-economic survey
- Compensation valuation and other resettlement assistance, including community-driven development type of assistance programs
- Grievance redress mechanism
- Institutional responsibilities for implementation of the Resettlement Action Plan
- Arrangements for monitoring and evaluation
- Public disclosure process
- Timeline and budget

FIGURE 3: Earthquakes Experienced from 1900-2009 in the Area to the South of Samoa (USGS 2009). The Yellow Star Marks the Location of the September 2009 Earthquake.
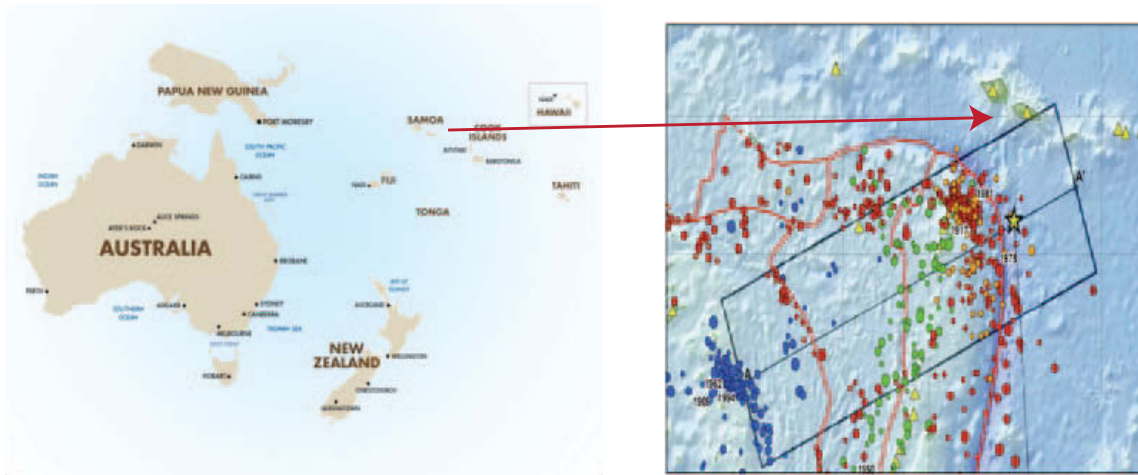
in participatory population retreat for Small Island States experiencing similar challenges—however, it should be noted this experience cannot be easily replicated to the long-distance relocation that may be needed in atoll islands.

SAMOA

The Independent State of Samoa (Samoa) is a small and remote nation comprising four inhabited islands with a population of about 187,000 (2011 Census). An estimated 70 percent of Samoa's population lives within 1 kilometer of the coast, and critical infrastructure (such as hospitals, schools, port facilities and airports) is located in this zone. About 80 percent of the 403 kilometer coastline is sensitive or highly sensitive to erosion, flooding or landslides. In addition weather and climate-related extreme events (tropical cyclones, flooding and droughts), as well as other natural hazards such as earthquakes and tsunamis threaten Samoa's development.

On September 29, 2009 a magnitude 8.0 earthquake struck south of Samoa and was followed by a tsunami which caused damage and economic losses estimated at US$124 million. The greatest costs were in the transport sector where the coastal road and accompanying sea walls were severely damaged. The number one priority and main focus of the Government of Samoa was the

safety of its people, particularly those who had been directly affected. Some 859 households (about 5,000 people) spread over 51 villages were affected. The 143 deaths is the highest number of lives lost in a natural disaster and in the contemporary history of Samoa.

The government's emergency response to the 2009 tsunami was guided by its National Disaster Management Plan. The plan includes processes to aid planning and coordination of ministries, local communities, non-governmental organizations and the international community. It outlines an organizational structure for emergency response, coordinated by the Disaster Management Office, which includes a National Disaster Council, responsible for strategic management, and the Disaster Advisory Committee (DAC), responsible for operational management of disaster response. The Ministry of Women, Community and Social Development works with village councils to coordinate village response activities in a way that will ensure outreach to the entire village population as well as identifying any vulnerable groups.

Following the tsunami, the DAC was responsible for overseeing a rapid impact assessment and for the subsequent distribution of aid resources to ministries for response in the communities (including shelter, food and water). When the early response efforts receded, the Ministry of Finance coordinated the development of a national post-tsunami recovery plan for consideration by the Cabinet. The

restoration and provision of adequate shelter and basic services were accorded the highest priority.

Communities affected by the tsunami had the option to relocate inland on land areas owned by them (as part of the same village). They voluntarily moved to higher grounds, living first in makeshift shelters. The Government (in close consultation with village representatives) worked to provide much needed services, including water, electricity, housing and road networks to the new relocation areas. Numerous development partners also contributed to the effort.

By the end of 2010, the housing program had provided 502 new homes and rehabilitated 360. The government provided support based on a cyclone-resistant, Samoan-styled home, including sanitation facilities and water tanks. Most new schools and facilities were also completed by then. Power connection to the relocated communities was completed by mid-2010, and the agriculture and fisheries extension services provided materials to help the relocated households re-establish their livelihoods—including tools, planting materials, livestock, fingerlings and replacement fishing vessels. Ecosystem rehabilitation and coastal protection programs were also supported. Importantly, an East Coast inland road was constructed, providing a new road link above the risk zone to accommodate the communities relocating further inland. The road also provided a more resilient transport link between two key settlements, Samusu and Lalomanu. The road network was complemented by new pedestrian access routes to link the relocation areas to the coast, and serve as evacuation routes in the event of another tsunami or cyclone.

A year following the tsunami, the relocated families slowly returned to rebuild their livelihoods around the tourism industry along the coast, to attend services at the local (undamaged) church, or to enjoy the beach—but they kept their permanent homes inland.

Five years after the tsunami, tourism has resumed, and the coastline areas have seen their pre-tsunami utilities and services largely restored. While some of the people have rebuilt their homes on the coast, their permanent homes remain mostly inland where their plantations are located,

and where new churches and schools have been constructed.

In Samoa, Community Infrastructure Management (CIM) plans provided a key instrument to identify and address climate and disaster risks. The CIM plans employed aerial photography and other inputs that allowed villages to identify and evaluate the risks they faced, and to identify strategies to reduce the corresponding risks. Relocation out of the hazard zones was a common feature of these plans. However, it took a tsunami and the devastation it caused for this priority recommendation to be implemented. The tsunami recovery program also enabled immediate attention to many actions that had been earlier identified in the CIM Plans such as evacuation routes.

LESSONS LEARNED

The contrasting examples of São Tomé and Príncipe and Samoa have provided a number of emerging lessons:

Engage with the population. Ensuring community engagement and leadership at each stage of the managed relocation process emerged as a crucial success factor. It is important to avoid a top-down process that only involves community participation at the last minute, which would risk opposition to the plans or speculation on the value of land. In this regard, it is necessary to anticipate the questions or concerns that communities may raise at each stage, including who should have priority in moving into the safer areas. In São Tomé and Príncipe, this was addressed through a participatory approach to identifying at-risk areas and vulnerable groups. Validating the findings with the most vulnerable people proved essential to ensure engagement of the population, as well as ensure transparency and acceptance of the process. Using satellite imagery to raise awareness of the hazards and the potential damages was an important tool in raising awareness amongst the community. Sensitization of the communities living in at-risk areas also builds a 'willingness to relocate', but may not be sufficient as shown by the case of Samoa (where households at risk relocated only after a major tsunami).

Provide compensation where necessary. When there is a need to acquire privately owned or occupied land for the relocation site, the necessary compensation should be finalized prior to any land clearing or construction. Furthermore, if the land selected to relocate people is already occupied (regardless of the land tenure status), measures should be taken to ensure that people living in those areas will be able to restore or improve their livelihoods. Compensation alone may not be enough, requiring additional training or livelihood assistance. Furthermore, it is essential to monitor the timeliness and correctness of the payments to private landowners or users. A Resettlement Action Plan should be developed to identify the relevant needs and establish a transparent and effective mechanism to deal with them.

Ensure access to livelihoods and services in relocation areas. Considering peoples' livelihoods in the new area is paramount to ensuring that the relocation does not leave them worse off than in the original area. Proper livelihood planning also guards against return to at-risk areas by ensuring people have what they need in the new areas. In cases where people move into areas inhabited by others already, it is important to make sure the host population is included in the conversation about the relocation plans. The host population will also require benefits from the relocation program, such as improved services. This is essential to defuse any potential conflict between groups. Ensuring families stay together is important for the social fabric of a community, especially under stressful conditions such as relocating permanently away from a familiar area. Keeping valuable socio-cultural links can be challenging, and requires effort from the planning authorities and communities. In Samoa, traditional ties to the at-risk coastal areas was a key challenge, but the fact that communities were relocating to higher lands under their own traditional ownership facilitated the relocation. In São Tomé and Príncipe, similarly,

the expansion of communities to adjacent areas facilitates the maintenance of social and economic links. Equally important is the rapid provision of social infrastructure (power supply, schools, health centers, access roads) to act as a future pole of attraction for the population to move to, and remain, in safer areas.

Plan for manpower requirements. Limited staff capacity in Samoa's Disaster Management Office initially resulted in delays to implementation of work plans. Accordingly, the post-tsunami Recovery Plan made provisions for recruiting additional staff. At village-level, many communities were reluctant to provide support for removal and clearance of debris following the tsunami. International NGOs put in place cash-for-work programs which stifled volunteerism on the part of the villages. Advance planning for the government manpower required to implement a population relocation program is essential, and expected participation should be communicated ahead of time with all partners. Ex-post evaluation should be used to learn about the current status of the resettled people and ensure lessons learned are integrated into future practices.

Prevent return while ensuring coastal access. After the decision to relocate people has been made, it is critical for the community to help prevent other people from re-occupying the coastal area. The best examples occur when the area is maintained as a communal or leisure space; social infrastructure and small commerce without permanent habitation could also be encouraged to enable the community to continue to enjoy the seaside but without the risk. If the new relocation area is sufficiently distant, transport links (such as footpaths or roads) may need to be provided to ensure continued access to marine resources for fishing, tourism, and other coastal-based livelihoods.

Guidance on Planned Relocation

Demographic trends of overall population growth and concentrations of people in hazard-exposed areas mean that natural hazards will likely affect more people in the future. In this context, moving and settling people in new locations might become an increasingly viable protection option. Indeed, Planned Relocations can be an effective measure to reduce disaster risk, as affirmed by the Sendai Framework for Disaster Risk Reduction 2015–2030. At the same time, in the context of environmental change (including the effects of climate change), Planned Relocation may serve as an effective adaptation strategy. The Conference of Parties to the United Nations Framework Convention Climate Change (UNFCCC), meeting in Cancun in 2010, encouraged enhanced action and international cooperation on planned relocation as one of three types of mobility that would be needed to adapt to climate change.

As a response to this, a working group jointly convened by the Brookings Institute, the UN High Commissioner for Refugees and Georgetown University School for Study on International Migration has produced a *Guidance on Planned Relocation within National Borders: To Protect People from Impacts of Disaster and Environmental Change, Including Climate Change*. This guidance sets out general principles to assist states and other actors faced with the need to undertake Planned Relocation. The aspiration is that these general principles will be helpful to states in formulating Planned Relocation laws, policies, plans, and programs. This guidance will be accompanied by a set of Operational Guidelines, outlining specific measures and examples of good practices to assist states to translate the general principles in the guidance into concrete laws, policies, plans, and programs.

For the purposes of this guidance, planned relocation is defined as follows: "A planned process in which persons or groups of persons move or are assisted to move away from their homes or places of temporary residence, are settled in a new location, and provided with the conditions for rebuilding their lives. Planned Relocation is carried out under the authority of the state, takes place within national borders, and is undertaken to protect people from risks and impacts related to disasters and environmental change, including the effects of climate change. Such Planned Relocation may be carried out at the individual, household and/or community levels." The Operational Guidelines will be prepared based on feedback received from governments and other stakeholders during 2016.

CONTRIBUTORS

This note was prepared by Paivi Koskinen Lewis (World Bank); Arlindo de Carvalho, Carlos Mendes Dias, Cesaltino Fernandes, Olívio Diogo (Government of São Tomé & Príncipe); and Litara Taulealo, Foketi Imo Evalu and Noumea Simi (Government of Samoa).

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[1]The International Panel on Climate Change (IPCC) defines resilience as: "the ability of a system and its component parts to anticipate, absorb, accommodate or recover from the effects of a hazardous (climate-related) event in a timely and efficient manner."

[2]Small Island States have experienced many instances of disaster events that prompted relocation on the part of specific communities. This Knowledge Note addresses the more recent approach of managed population retreat from at-risk areas, through which a strategic and proactive approach to these challenges is adopted. Emerging lessons on managed population retreat are evident from a number of countries, such as Tonga, as well as the case studies examined here. For the purposes of SISRI, Small Island States are the 39 members of the Alliance of Small Island States (see http://aosis.org/members/).