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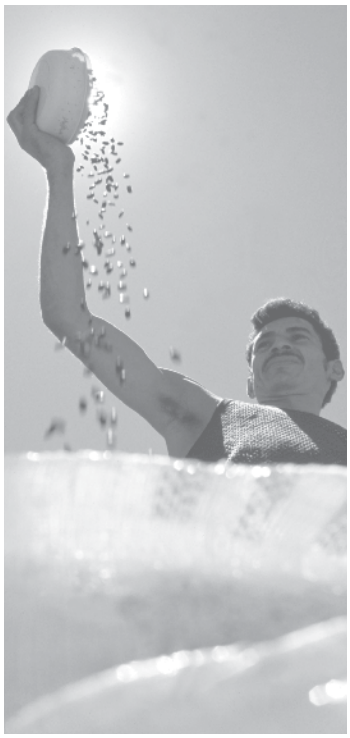

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**Abstract:** The Pacific island countries (PICs) are some of the most exposed to frequent natural disasters and climate shocks, and their vulnerability is increasing due to mounting effects of climate change as well as demographic and economic forces. Natural disasters hit the poorest hardest and have long-term consequences for human development. Social protection programs and systems have an important role in helping poor and vulnerable populations cope with the impacts of shocks as well as build long-term resilience. This paper discusses the potential role of social protection for disaster and climate risk reduction and management in PICs. It presents evidence and lessons from other regions, providing examples of tools and entry points for the development of climate- and disaster- responsive social protection interventions and context-specific recommendations for PICs.

**JEL Classification:** Q540, I380

**KEYWORDS:** Natural Disasters, Risk Management, Climate Change, Social Protection, Poverty, Hardship, Assistance, Poverty Alleviation, Safety Net, Social Welfare Programs, Transfers, Pacific Island Countries.

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**Table of contents**

# Executive Summary

**The Pacific island countries (PICs) are some of the most exposed to frequent natural disasters and climate shocks**, and their vulnerability is increasing due to mounting effects of climate change as well as demographic and economic forces (World Bank, 2012a). These shocks result in high economic and social costs for the region and represent a threat to development and poverty reduction. In the past 60 years, PICs have experienced losses due to natural disasters and climate shocks averaging US$ 284 million a year, and affecting, in total, over 9 million people and causing 9,811 reported deaths. In Samoa, 2011 cyclone Evan caused an estimated infrastructure and production loss of US$ 204 million, which represents 28 percent of the value of all goods and services produced in the country that year (Government of Samoa, 2013).

**Natural disasters and climate shocks often hit the poorest and vulnerable harder and sink them deeper into poverty**. Natural disasters cause economic damage, death and injuries, but also other, less evident, losses, such as illness, missed school and work days, loss of subsistence crops, etc. (World Bank, 2012a). These impacts can become permanent and have long-term consequences for human development, with families pulling children out of school, reducing health clinic visits, etc. (World Bank, 2010).

**The poor and those who experience chronic hardship are often more exposed to natural hazards because their livelihoods and, often, their locations are highly sensitive to shocks**, and they often have little access to information, lack savings and depend on informal safety nets that are unable to function after major covariate shocks. Thus, when disaster hits, those that already vulnerable are usually the most affected. In addition, people who are at risk of falling into poverty and hardship – people just above poverty line and vulnerable populations – can be pushed into transient poverty when a disaster hits as their livelihoods become destroyed.

**It is expected that natural disasters will become more frequent and unpredictable in the region as the effects of climate change intensify**. Their impacts may worsen as they combine

with other forces such as rapid, unplanned urbanization, poor natural resource management and the erosion of traditional social networks that drive up exposure of great numbers of population. Without appropriate policies and initiatives in place, the impacts of climate change are likely to be significant and pervasive and fall disproportionately on the poor (World Bank, 2012a).

**Social protection programs and systems have an important role in helping poor and vulnerable populations cope with the impacts of shocks and build long-term resilience**. From providing timely, opportune safety net interventions in time of crises to offering long-term tools for increasing assets, skills and livelihoods, social protection has a role in the management of risk for poor people. In the context of high climate and disaster risk, which the Pacific region is subject to, it becomes even more critical to think of ways social protection interventions can address these risks.

**This paper discusses the potential role of social protection for disaster and climate risk reduction and management in the PICs and intends to serve as a primer for World Bank engagement in social protection in the region**. The study presents evidence and lessons from other countries and regions with the goal of providing examples of tools and entry points for the development of climate- and disaster- responsive social protection interventions. However, given the Pacific region specific context and the characteristics of each country's social protection (SP), climate change adaptation (CCA) and disaster risk management (DRM) sector, it is important to keep in mind that some of these lessons will need to be extrapolated to other settings with due caution.

**The reference to PICs in this paper embraces the ten World Bank member countries in the Pacific**: Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Although not considered part of Pacific Islands, Papua New Guinea and Timor-Leste are also included here as important players in the region. In total, these countries have a population of over 10 million people (with PNG accounting for 7 million) spread across hundreds of islands in the area equivalent to 15 percent of the globe's surface.

**Pacific island countries (PICs) experience a dangerous combination of high exposure to natural hazards and high vulnerability that makes them particularly prone to disaster risk**. According to the 2012 World Risk Report (Bündnis, Entwicklung, Hilft, 2012) which measures disaster risk based on hazard exposure, susceptibility, lack of coping capacities and lack of adaptive capacities, six out of the 15 countries most at risk to disasters in the world are Pacific island countries[2], with Vanuatu and Tonga in first and second place, respectively. In terms of exposure, some of the most common hazards are tropical cyclones, earthquakes and tsunamis. Moreover, there is strong evidence in the region of an increase in the observed frequency and intensity of weather and climate-related events, and the climate also appears to be changing (World Bank, 2006).

**PICs also have a set of economic and social characteristics that make them vulnerable to disasters**, including: (i) small economies, with very limited natural resources and reliance on coastal areas, which are extremely fragile and vulnerable to change; (ii) high dependence on the rural economy and agriculture, which are very sensitive to climate shocks; (iii) dependence on global markets (open economies importing foodstuff and essential items, and exporting agricultural products and tourism), which makes them highly exposed to global economic shocks; (iv) rapid unplanned urbanization (often driven by outer-to-main island migration), which gives rise to poor housing or slums lacking the services provided by local and central government and being at high exposure to shocks.

**The economic and social losses caused by natural disasters and climate shocks, their relationship with poverty and the increasing nature of these threats all point out to the need of protecting the poor**, but also helping them reduce their exposure and increase their capacity to deal with and recover from those impacts. Social protection interventions have been recognized as an important instrument in this task. In several countries, experience has shown that when a disaster hits, the provision or temporary expansion of social protection mechanisms such as cash and asset transfers, subsidies, emergency public works, etc., can

[2] This list includes Timor-Leste.

help the affected and vulnerable populations cope with the effect of disasters. Social protection programs can also help increase opportunities, by promoting human capital development, access to sustainable livelihoods, and employment. In this way, they can contribute to long-term resilience and climate change adaptation.

**For the positive links between social protection systems, disaster risk management and climate change to materialize, social protection programs ideally need to be in place before disasters hit**, and need to be endowed with sound design and effective implementation and coordination mechanisms. By being prepared in advance, social protection systems might be able to respond to natural disasters and climate-related shocks more effectively and help decrease the impacts of the shock on the most vulnerable. As traditional practices lose effectiveness, the need for formal and contextualized risk management and adaptation measures becomes more pressing.

**Although formal social protection systems are in their infancy in the Pacific, there is a growing recognition that traditional and informal safety net mechanisms in PICs are not sufficient to respond to the challenges of covariate shocks** (World Bank, 2014). For this reason, it becomes important to not only incorporate disaster risk reduction and climate change adaptation objectives into existing social protection programs, but also develop new programs aimed at addressing these risks. This paper examines the core set of SP/DRM/CCA issues across PICs, and offers recommendations and entry points to move this agenda forward.

**The institutional frameworks of SP, DRM and CCA systems have some common characteristics across all PICs, and are faced with several challenges**. Traditionally, most of the focus in the region seems to have been placed on more reactive disaster response, providing short-term relief based on in-kind commodities such as food, relief kits, shelter, etc. Some of these activities have sometimes been followed by recovery efforts, such as housing reconstruction, small shelter solutions, etc. In general, PICs have limited financial and institutional capacity for large-scale disaster response, and thus rely on international donors for relief after major disasters.

**There are also some other key constraints which impede increasing the effectiveness in these sectors**, including: (i) DRM and CCA frameworks are not fully incorporated into national budgets, sectors and programs; (ii) often, the DRM and CCA teams/departments/ministries are separate entities with their own agendas; (iii) limited human resources and institutional capacity at the national level for disaster response, which relies on very few people with limited resources; (iv) limited data availability and weak hazard and climate monitoring and information management systems; (v) a top-down approach and limited community involvement in formal risk reduction activities.

**Although a few countries in the region already have some formal social protection programs in place, these programs tend to be small in comparison with those in many other countries**. The predominant form of social protection seems to be social insurance programs for formal workers and the elderly, which, given the existing levels of informality, means that most social insurance programs reach only a small proportion of the population. The most common types of non-contributory social protection are universal pensions and relatively small cash transfers schemes. Many PICs provide free basic education and health services to the general population. A few governments, with the support from donors, have established one-off public works programs, although often their goal has been to build infrastructure, with the employment objective as a secondary consideration (AusAID, 2010).

**There are very few experiences using formal social protection mechanisms for disaster response or risk reduction in PICs, and they seem to have been reactive and small-scale**. As the PICs expand and reform their social protection systems, it is crucial that disaster and climate risks are taken into account given the region's exposure and vulnerability to these shocks. A climate and disaster responsive social protection system would need to take into account the following principles:

***Climate- and Disaster-aware Planning,*** which implies building the necessary contingency and information mechanisms (e.g. early warning systems, risk mapping) and climate- and disaster-sensitive targeting into the intervention. Traditionally, targeting of formal social protection

interventions in the Pacific Island countries has been limited given low capacity and scarce data, with a few exceptions (e.g., the targeted Poverty Benefit Scheme in Fiji).

***Interventions Centered on Livelihoods and Assets,*** with the goal of strengthening social, physical and natural community assets in a way that increases resilience to shocks and supports viable livelihoods for households. There is also a need to develop a knowledge base about what can work in urban areas to support and enhance social protection as a platform for CCA and DRM agendas.

***Building Adaptive and Response Capacity at System Level*** to deal with large systemic shocks, which will require developing: (i) appropriate institutional capacity and coordination with DRM and climate change agencies to tap into combined expertise and institutional capacity; and, (ii) scalable and flexible mechanisms that can quickly react to protect populations during or after a disaster (e.g. targeting, registry, and payment systems). Moving forward on this agenda in PICs might first require the development of country-specific diagnostics and assessments to identify entry points.

**In spite of these general principles, the choice of an appropriate social protection instrument is always highly contextual**, and must be based on a careful assessment of the objectives that are to be achieved by the intervention, as well as the capacity and resources for implementation. Some of the key SP instruments and related factors for consideration include:

***In-kind vs. cash benefits:*** Although many agencies that have traditionally used in-kind assistance are now more widely promoting the use of cash-based interventions, food aid continues to be the key in many contexts, for instance, when markets are disrupted, are not developed or when there is no cash-based local economy, such as is the case in many remote island locations in the Pacific. Cash transfers, on the other hand, are versatile instruments that can be used to meet a range of needs. In PICs, it appears that immediate disaster response tends to be mostly in-kind as formal cash transfer mechanisms are very limited, and have seldom been used for responding to natural disasters, largely due to the cultural

aversion to cash transfers in many PICs (e.g., Vanuatu, Samoa). However, as these countries' economies quickly monetize, options for accessing cash become important in the wake of disasters.

***Conditional or Unconditional Cash Transfers:*** In general, the use of cash transfers after emergencies has been limited to unconditional transfers, since conditions might be too onerous for affected families immediately after a disaster, due to disruptions in services, etc. Although the experience with either conditional or unconditional cash transfers in the Pacific Island countries is limited, demand for these types of interventions might increase together with a higher degree of monetization.

***Public Works Programs:*** In addition to reaching individual households in need, public works programs (PWPs) also bring additional tangible and immediate benefits to the community by helping build or rehabilitate infrastructure, assets, or natural resources that are much needed in the aftermath of disasters. Before a disaster occurs, ex-ante public works can focus on activities with risk reduction and adaptation benefits (e.g. environmental conservation and rehabilitation works, soil and water management, etc.). In PICs, there is tremendous potential to use PWPs as a mechanism to provide cash transfers and employment to poor and vulnerable populations, while at the same time helping build or rehabilitate infrastructure, assets and resources that help communities increase their resilience. Public works could also be used as an instrument to support urban development agenda. Focusing public works on young adults in the Pacific would be particularly valuable given the large numbers of unemployed youth. Disaster resilience elements could be potentially integrated into existing PWPs, such as Rapid Employment Project (REP) in Solomon Islands and the Urban Youth Employment Project (UYEP) in PNG.

***Index-based insurance:*** In general, index-based micro insurance focuses on insuring livestock or crop losses by small farmers. SP programs can provide an effective and, likely, cost-efficient means of making disaster insurance accessible to the chronically poor. The security provided by the insurance, combined with regular cash transfers and/or other forms of asset protection against climate-related impacts, may further create an enabling environment for

prudent risk-taking by poor households to increase and diversify their asset/income base. At the sovereign level, several PICs already share climate/disaster risk through the Pacific Disaster Risk Financing and Insurance Program under the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), with Tonga being the first country to receive a payout in January 2014 following Cyclone Ian.

**In conclusion, although each PIC's social, economic and cultural context is unique and varies substantially from country to country, they all face some similar challenges as they become more integrated in the global economy, but also more exposed to forces that modify their traditional societies**. PICs' high exposure and vulnerability to natural hazards and climate change compounds these problems. These vulnerabilities not only point to the need for more comprehensive formal social protection systems, but also make it essential that, as SP systems start to emerge and evolve, they include disaster and climate risk considerations, in order to provide prevention, protection and promotion functions around these risks.

## I. Motivation and Context

### a. Introduction

As natural disasters and climate shocks become increasingly important threats to economic growth and development, it is essential to find ways to systematically protect and build resilience of vulnerable and poor populations. Social protection can play a key role, as it aims to help those in need cope with the impacts of shocks and build their long-term resilience. In general, social protection programs have been used as a vehicle to respond to economic and financial crises, and, recently, have expanded quickly across the developing world. For instance, in 2008, safety nets interventions were increased exponentially to address the effects of the triple food, fuel, and financial crises (Marzo and Mori, 2012). Although the use of social protection interventions for disaster and climate risk management has not been systematic, they are increasingly seen as a potential mechanism to help individuals cope with shocks arising from natural hazards, helping them reduce risk ex-ante and offering protection when disasters hit. In the context of high climate and disaster risk, as well as high poverty and vulnerability, such as that experienced in Pacific island countries (PICs), social protection interventions can become an important mechanism to address these risks.

This paper explores the potential of SP interventions as a mechanism for disaster response and long-term resilience in the Pacific island countries.

It offers a preliminary review of the potential role social protection interventions can play in disaster and climate risk management in the Pacific Islands and intends to serve as a primer for World Bank engagement in the region. This study recognizes that social protection is a nascent sector in the region and that programs, systems, and institutions are, in many cases, being just established or developed. The paper presents evidence and lessons from other regions with the goal of providing options and entry points for the development of climate and disaster responsive social protection interventions and systems in PICs. However, given the region's peculiarities , it is important to keep in mind that some of these lessons need to be extrapolated carefully and interventions that aim to address the social impacts of climate change and disasters must be developed with particular regard to each country's context and through an iterative and collaborative process with relevant national and local stakeholders.

In spite of these important caveats, experiences from other regions can offer lessons, tools and options that kick-start the dialogue around climate and disaster responsive social protection in the PICs. As people's food security, livelihoods, and well-being continue to be threatened by natural hazards, it is necessary to think of comprehensive interventions that focus not only on the physical impacts of disasters but also on their social implications. Social protection interventions offer a way to tackle the risk and effects these shocks have on the poor and destitute.

### b. Motivation: Why integrate DRM and CCA with SP?

Natural disasters and climate-related shocks have important consequences for economic growth, prosperity and development.

#### *i. Natural disasters have high economic and social costs*

Natural disasters and climate shocks have high economic and social costs and represent a threat to development and poverty reduction. Globally, over the past 30 years, disasters have caused an estimated US$ 3.5 trillion in losses, with 2011 - the costliest year on record - estimated at US$ 380 billion (World Bank, 2012b). In the past 60 years, PICs have experienced losses due to natural disasters and climate shocks averaging US$ 284 million a year. Since 1950, natural disasters have affected approximately 9.2 million people in the Pacific region, causing 9,811 reported deaths (World Bank, 2009b).

For smaller countries, disasters are often more costly - they can represent a significant portion of GDP - while often affecting the poor and vulnerable disproportionately. In Samoa, 2011 cyclone Evan caused an estimated infrastructure and production loss of US$204 million, which represents 28 percent of the value of all goods and services produced in the country that year (Government of Samoa, 2013). The 2004 floods in Navua, Fiji resulted in an average loss to farming households of FJ$ 4,815 per household compared to an average household income of FJ$ 3,500 a year. In this region, 60 percent of the population is dependent on primary industries (agriculture, forestry, and fishing) that are highly vulnerable to disasters (SOPAC, 2009).

Natural disasters cause deaths and injuries, but also other, less evident, losses, such as illness, missed school and work days, loss of subsistence crops, and opportunity costs (World Bank,

2012a). These impacts, which are seldom documented, can sometimes become permanent and have long-term consequences for human development, with families pulling children out of school, decreased health clinic visits, stunting and even decreased cognitive abilities (World Bank, 2010). In a cross-country study, Cuaresma (2009) measures secondary school enrolment as a proxy for human capital accumulation and finds that those more exposed to earthquakes between 1980 and 2000 have lower secondary school enrollment rates that those with lower exposure.

PICs are some of the most exposed to frequent natural hazards, and their vulnerability is increasing due to the mounting effects of climate change as well as demographic and economic forces (World Bank, 2012a). Of the 20 countries with the highest average annual disaster losses relative to GDP, eight are PICs (World Bank, 2012a). Each of these countries face threats that might cause them severe human, economic, physical and environmental losses, and some are facing risks of economic loss that would represent over half of their GDP. For instance, cyclone modeling in the region shows that in the capital cities of Fiji, Solomon Islands, Vanuatu, Samoa and Tonga, a cyclone with a 100-year recurrence interval — which has a 50 percent chance of occurring within the current generation — could inflict damage equivalent to 60 percent of GDP (World Bank, 2006b).

*ii. The costs of disasters fall disproportionately on the poor and create more poverty*

Disasters and climate change threaten economic growth and poverty reduction, causing loss of life, as well as destroying livelihoods and infrastructure. These impacts often disproportionately affect the poor and most vulnerable. However, natural disasters and climate shocks not only hit the poorest and vulnerable harder, but they also induce and exacerbate poverty.

The 2014 World Development Report on Risk and Opportunity (World Bank, 2013b) suggests that a strong risk management strategy would include four components, interacting and reinforcing each other: accessing *knowledge*, building *protection*, obtaining *insurance* (in the broader sense) and, once the event has occurred, using all three tools for actually *coping* with the shock. The poor and vulnerable are at a disadvantage on all these fronts. The poor are

often more exposed to, or less protected from, natural hazards because their livelihoods and assets are highly sensitive to shocks. They are also more vulnerable to these hazards due to a lack of timely information, lack of access to financial instruments such as savings, credit and insurance, and dependence on informal safety nets that often break down after major covariate shocks. Thus, when disaster hits, they are usually the most affected as they have little capacity to anticipate, cope and recover from the impacts. In Fiji, a national level analysis of the relationship between poverty and disasters found that the level of poverty negatively affects the impacts of the disaster (SOPAC, 2009). The UN's Rapid Environmental Assessment of the impact of the December 2004 tsunami in the Indian Ocean noted that, disproportionately, many of the victims of this disaster were poor people who depended on eco-system services and natural resources for their livelihoods (IRIN, 2005).

Additionally, people who are at risk of falling into poverty and hardship – people just above poverty line and vulnerable populations (children, women, elderly) – can be pushed into transient poverty when a disaster hits as their livelihoods become destroyed. Although results might be context-specific, a study on the links between poverty and disasters (Shepherd et al., 2013) found that in areas of Ethiopia and Andhra Pradesh in India where drought is a major risk, this type of shock is also the single most important factor in impoverishment – outstripping, for example, ill health or dowry payments. The study also shows that disaster-related impoverishment appears to have a distinct within-country geography, being largely rural rather than urban.

Finally, poverty also increases disaster risks by intensifying the over-utilization of resources - for instance, cutting trees for firewood, thus increasing erosion and risk of flooding.

As both the chronic and transient poor are faced with more frequent disasters and climate shocks (for instance, low-intensity, high-probability shocks such as frequent storms, floods, or droughts), they have even less chances to rebuild their livelihoods and invest in human capital, thus becoming trapped in a cycle that sinks them further down into poverty.

*iii. Natural disasters will become more variable and unpredictable*

Globally, natural disasters are becoming more frequent and unpredictable as the effects of climate change intensify and combine with other forces such as rapid, unplanned urbanization, poor natural resource management and the erosion of traditional social networks that increases the exposure of the population at large. In the Pacific, the climate is already changing and the rate of change is likely to intensify in the future (World Bank, 2012a). Without appropriate policies and initiatives in place, the impacts of climate change are likely to be significant and pervasive and fall disproportionately on the poor (World Bank, 2012a).

PICs are highly exposed to natural hazards and climate change and the effects will be most dire for the poor and vulnerable. Although social protection systems are in their infancy in PICs, there is growing recognition that traditional and informal mechanisms are not sufficient to respond to the challenges of big covariate shocks. Social protection policies and programs must then carefully consider addressing disaster risk reduction and climate change adaptation as part of their objectives.

### c. How can social protection systems address climate and disaster challenges?

The economic and social losses caused by natural disasters and climate shocks, their relationship with poverty and the increasing nature of these threats all point out to the need for protecting the poor, help reduce their exposure and increase their capacity to deal with these shocks as key to development. Social protection interventions are an important instrument and experience from around the world have shown that when a disaster hits, having in place or establishing social protection interventions can help speed up recovery and prevent people from falling into poverty. As noted by an IEG assessment (2006), "getting cash support to victims quickly has positively affected people's sense of safety and security [and] has been a prominent first sign of government support" (See Box 1).

**Box 1: Pakistan Citizen Damage Compensation Program**

In July and August 2010, during the monsoon season, Pakistan experienced the worst floods in its history (IRIN, 2010). To respond to the floods, the Government put in place a temporary nationwide social safety net (SSN) program that successfully reached an estimated eight million flood-affected people. The program also led to the development

of a SSN disaster preparedness action plan by the Government of Pakistan (GOP) for future disasters and crises.

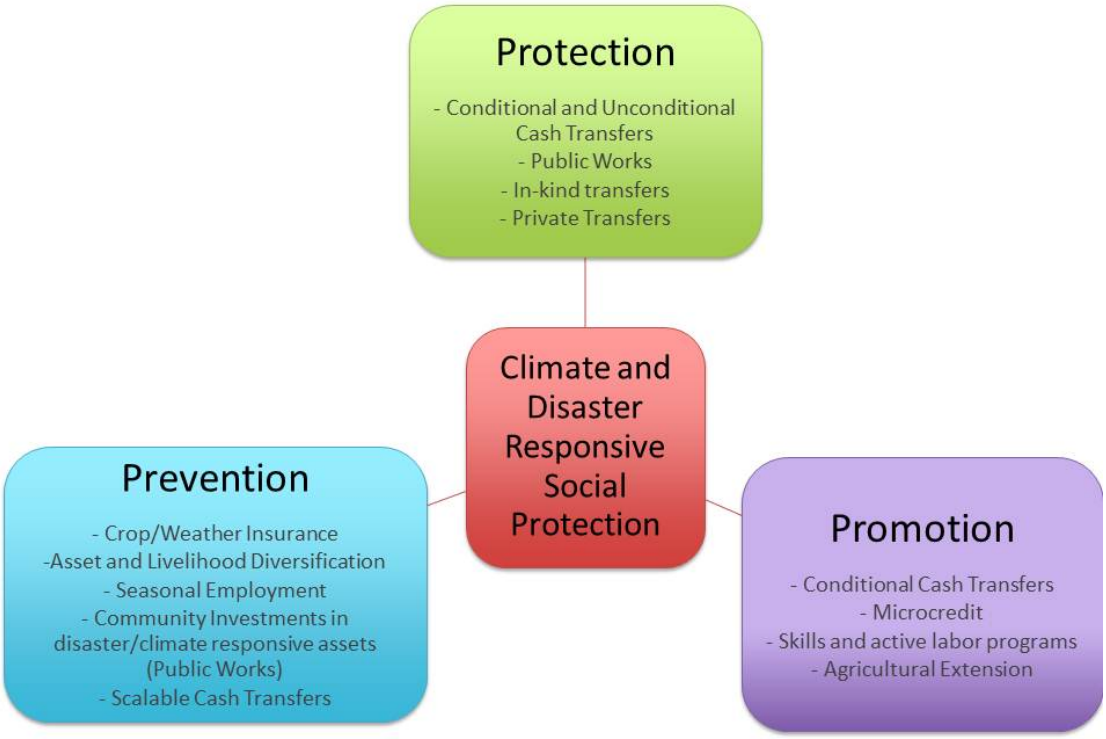
The Citizen's Damage Compensation Program (CDCP) is a rapid response cash grant program. Phase I of this program ran from September 2010 to June 2011 with the goal to provide quick assistance to families who lost their homes or faced a serious threat to their wellbeing as a result of the flood. Eligible households located in the affected areas were given a one-off cash grant of PRK 20,000 (or approximately US$ 213). The funds helped households cover urgent needs at a crucial time (PDAM, 2011), as shown by an evaluation of Phase I, which found that families had used the grants mostly for food, health needs, housing repair, and debt re-payment (Hunt et al., 2011). However, the amount was insufficient for the flood-affected households to recapitalize their damaged or lost assets. Phase II of the CDCP started in 2011 with the goal to support the recovery of affected households. Flood-affected households, including many of those from Phase I, were provided with cash payments which could be used to meet any of their recovery needs, such as reconstructing their houses, restoring their livelihoods or paying back accumulated debt. With additional donor support available, the GOP was able to double the size of the grant to eligible households to PRK 40,000 (around US$ 426), a more suitable amount to support recovery.

*Source: World Bank, 2013a.*

In addition, evidence from around the world shows that social protection can not only help protect the chronic poor from falling deeper into poverty after disasters, but also speed up the recovery process for the transient poor by offering longer-term risk management strategies. For instance, in Ethiopia, impact evaluations of the Productive Safety Nets Program (PSNP) show that predictable, seasonal assistance from the program has enabled households to manage risk more effectively and avoid adopting negative coping strategies when hit by a shock (e.g. droughts), such as selling livelihood assets; and protect against food insecurity (World Bank, 2013a) .

The World Bank Social Protection and Labor Strategy (World Bank, 2012c) recognizes three risk management functions for Social Protection — prevention, protection and promotion — and they all can play a role in disaster and climate risk management (see Figure 1).

**Figure 1: Functions for Climate and Disaster Responsive Social Protection**




Source: World Bank.

*i. Prevention*

Social protection interventions can help prevent or reduce, ex-ante, the impacts of disasters and climate-related shocks. By putting in place risk mitigation mechanisms and increasing the availability of coping strategies for vulnerable populations before a disaster hits, social protection interventions can help reduce their vulnerability.

Examples of these interventions are social or index-based insurance and public works to conserve soil and water, or develop hazard-resistant infrastructure (see Box 2).

**Box 2: Reducing impacts of disaster through weather index insurance**

In Ethiopia, the Rural Resilience (R4/HARITA) Program gives poor farmers the option to pay for index-based insurance by working on small community projects that build climate resilience and agricultural productivity, such as improved irrigation or soil management. In the event of a seasonal drought, automatic insurance payouts to the farmers are triggered if rainfall drops below a predetermined threshold. This enables farmers to afford

the seeds and inputs necessary to plant in the following season and protects them from having to sell off productive assets to survive.
*Source: World Bank, 2013a.*

### *ii. Protection*

Social protection contributes to equity by offering protection against destitution in the face of disasters and climate-related shocks. Thus, these interventions can be used to help affected and vulnerable populations cope with the effect of disasters and prevent them from falling deeper into poverty through the provision or temporary expansion of cash and asset transfers and/or subsidies, emergency public works, etc. (see Box 3)

**Box 3: Coping with disasters through scaling-up public works**

Besides promoting long-term risk reduction through its regular programming, the Bangladesh Chars Livelihoods Project (CLP) has helped protect those affected by floods in the aftermath of these shocks. In 2007, when severe flooding struck several regions of Bangladesh, causing losses of cash and food crops, and temporarily diminishing employment opportunities, it raised concerns regarding potential income and asset erosion of CLP's beneficiaries. To avert the use of negative coping strategies (e.g. distress sales of livestock, taking out private loans at exorbitant rates, etc.), and in response to a request from the Government of Bangladesh, the CLP expanded its public works activities by one million person days and into three further districts.
*Source: World Bank, 2013a.*

### *iii. Promotion*

Social protection programs can be used to increase opportunities, by promoting human capital development, access to sustainable livelihoods, and employment. In this way, they can contribute to long-term resilience and climate change adaptation by helping households diversify and/or enhance income and assets and by building institutional capacity to reduce vulnerability to natural hazard and climate change impacts. Examples of this are: introducing hazard-resilient crops into drought/flood prone communities; strengthening coordination between social protection, disaster risk management (DRM) and climate change adaptation agencies (CCA); raising awareness of DRM/CCA skills amongst social protection practitioners; etc. (see Box 4).

**Box 4: Providing opportunities for poor households through integrated risk management**

Recent evaluations of Ethiopia's HARITA Program show that insurance mechanisms for subsistence farmers might allow them to transfer risk and free them to make higher-risk investments with higher returns. In 2010, in some of the villages where the program had rolled out, farmers who bought insurance planted more seeds and seemed to be switching to high-yielding-variety seeds at higher rates than did farmers who did not buy insurance. In addition, farmers who bought insurance tended to invest less family labor in agriculture and to diversify their sources of income relative to farmers who did not purchase insurance. They also experienced smaller losses of livestock than did farmers who did not buy insurance. More farmers who bought insurance for the second time reported that they expect to plant different crops, use more fertilizer, and obtain loans (Oxfam America, 2011).

*Source: World Bank, 2013a.*

A summary of social protection functions, the corresponding risk management strategies they support and social protection instruments that can be used to cover some of these functions are presented in Table 1. Examples presented in the table below are expanded upon throughout this paper and are included as examples in the boxes.

**Table 1: Social protection functions for disaster risk management and climate change adaptation**

| SP Function | Risk Management Strategy | SP instruments | Examples |
|---|---|---|---|
| **Prevention** | Risk Mitigation | • Cash transfers<br>• Public works (food for assets, cash for work, insurance for work)<br>• Asset/ livelihood transfers<br>• Community-driven infrastructure (social funds)<br>• Weather-based insurance<br>• Training/skills | • Ethiopia PNSP<br>• Bangladesh CPL<br>• Malawi MASAF<br>• Ethiopia R4/HARITA<br>• Bangladesh CLP |
| **Protection** | Risk Coping | • Cash and in-kind transfers<br>• Public works (food for assets, cash for work)<br>• Access to credit<br>• Informal support mechanisms | • Pakistan CDCP<br>• Ethiopia PSNP<br>• Mexico PET<br>• Malawi MASAF<br>• Philippines CCT<br>• Tonga CFW |
| **Promotion** | Risk Reduction | • Conditional Cash Transfers<br>• Livelihoods interventions<br>• Training/Skills<br>• Microcredit<br>• Public Works (Infrastructure) | • Ethiopia PSNP<br>• Bangladesh CLP |

Despite the fact that the positive links between social protection systems, DRM and CCA are well established and understood, effective and systematic experiences of building those links are few. In most cases, the use of these mechanisms to respond to natural disasters has been ad hoc and ex-post, and although most times they have been relatively successful, they have faced challenges at the design, implementation and coordination levels.

In terms of design, social protection programs are rarely prepared to address the risks and impacts of natural hazards ahead of time. For instance, social protection targeting mechanisms often fail to take into account climate and disaster vulnerability in advance, meaning that many victims of relatively predictable shocks are missed when they occur.

Moreover, in some cases, the instruments and tools utilized in disaster response are limited to short-term relief measures such as food, blankets and essential items. These short-term responses miss the medium term recovery needs, and the importance of building long-term risk management strategies. Finally, coordination between social protection agencies and relevant agencies such as disaster risk management, meteorology and climate change adaptation is often limited, meaning that responses are uncoordinated, sometimes overlapping or leaving ostensible gaps.

By being prepared in advance, social protection systems might be able to respond to natural disasters and climate-related shocks more effectively. Moreover, by focusing on reducing risk and building resilience before shocks occur, they can help decrease the impacts of the shock on those most vulnerable. A recent World Bank toolkit (http://preventionweb.net/go/42486) on this particular topic suggests a series of aspects and principles to focus on when preparing SP interventions to address disaster and climate risk upfront (World Bank, 2013a):

a. Climate- and disaster-aware planning:
    - acknowledging and hedging against uncertainty and planning for the greater frequency and severity of disasters;
    - feedback loops with early warning systems and coordination with agencies responsible for meteorology and climate change; and

- risk mapping to determine the impact of events on geographic areas and physical, natural, and institutional assets.

b. Interventions centered on livelihoods and assets: planning that reflects understanding of livelihood sources and economic decision making at the community and household level

c. Building adaptive and response capacity at the system level: budgeting of adequate financing, human resources, and administrative systems.

A description of some of the country social protection programs that integrate the principles of disaster- and climate- responsive SP is provided in Table 2. These principles will be explored more in-depth in the context of PICs in Section 4.

**Table 2: Examples of social protection programs integrating climate resilience**

| Program Name | Country | SP instruments | Description |
|---|---|---|---|
| **Chars Livelihood Project (CLP)** | Bangladesh | • Cash transfers<br>• Public works<br>• Asset and livelihood transfers<br>• Training and skills | • Aims to secure and promote livelihoods opportunities while at the same time strengthening the resilience of its target population to natural shocks and climate variability.<br>• Works with extremely poor households located on fluvial islands in Bangladesh, which are particularly vulnerable to annual seasonal flooding as well as random extreme flooding events.<br>• The CLP uses a combination of public works, asset transfers (cash/in-kind), livelihoods-related training, market development, and social development activities to achieve its aims.<br>• Public works focus on reduction of flood risks;<br>• Provides post-disaster relief and recovery support to protect and restore the assets/income being built up through the program;<br>• Builds direct measurement of climate resilience outcomes into its monitoring and evaluation systems. |
| **Productive Safety Nets Program (PSNP)** | Ethiopia | • Cash and in-kind transfers<br>• Public works | • Large national social safety net (SSN) program that responds not only to chronic food insecurity among Ethiopia's poor, but also to shorter-term shocks, mainly droughts.<br>• Targets a highly climate-vulnerable population<br>• Public works activities geared towards improving climate resilience;<br>• A risk financing facility to help poor households and communities better cope with transitory shocks, including households outside of the core program<br>• Works through, and focuses on strengthening, existing government institutional systems at all levels - rather than creating separate systems. |

| | | | |
|---|---|---|---|
| | | | • Combination of a secure and predictable transfer to poor households, protection of poor households against natural hazard shock impacts and significant improvements in the management of the natural environment that contributes to these risks has enabled the program's core beneficiaries to meet consumption needs, mitigate risks and avoid selling productive assets during times of crisis (e.g. droughts). There is evidence that livelihoods are stabilizing and food insecurity is being reduced among these households. |
| **R4 Rural Resilience Initiative (R4/HARITA)** | Ethiopia | • Weather-based insurance<br>• Training and Skills<br>• Access to credit<br>• Public Works | • Disaster micro-insurance for the poor integrated into a social safety net (SSN) program, enhancing both its climate-related and social protection benefits.<br>• Program offers weather-based insurance to a chronically poor, highly climate-vulnerable population in the Tigray region of Ethiopia; most are already participants in the country's national Productive Safety Net Program (PSNP).<br>• Beneficiaries pay for the insurance through the provision of additional labor on community-based disaster risk reduction activities that complement the PSNP's public works activities. |
| **Malawi Social Action Fund (MASAF)** | Malawi | • Public works<br>• Community-driven infrastructure (social funds) | • MASAF was used for government's response to disaster when drought caught the country unprepared in 2005. Organization had credibility in terms of having the capacity to deliver results as well as the systems that ensured transparency and accountability.<br>• Outreach within the communities had led to an accumulation of local knowledge.<br>• Autonomy and flexibility of the setup of MASAF allowed for speedy design of interventions geared toward risk reduction.<br>• Disaster response consisted of a conditional cash transfer per day for 10 days' work on public works so that beneficiaries could buy two bags of fertilizer, a bag of maize, and five kilos of maize seed.<br>• Fertilizer was to be bought at one-third of the market price against coupons issued to the ultra-poor identified with the help of local leaders.<br>• Targeted information, education, and communication campaigns played a key role in helping to bring different stakeholders to a common platform. |
| **Mexico PET** | Mexico | • Public works | • Social safety net (SSN) program in a middle-income country that has integrated disaster risk management and climate change adaptation into its operations.<br>• Cash-for-work program provides temporary transfers in exchange for labor in community projects to eligible households in marginalized municipalities or whose livelihoods have been affected by natural disasters or other crises.<br>• Highly collaborative and formalized institutional relationship that has been developed between social protection, disaster management and sectoral agencies. |

| | | | |
|---|---|---|---|
| | | | • Quick and efficient disaster response mechanism and contingency fund.<br>• Incorporates disaster and climate sensitive targeting criteria into sectoral public works programs. |
| **Pakistan CDCP** | Pakistan | • Cash Transfers | • Rapid response cash grant aimed to provide quick assistance to families who lost their homes or faced a serious threat to their wellbeing as a result of the 2010 Floods.<br>• Phase I funded by the GOP, which provided almost US$ 400 million in cash grants to more than 1.62 million families across Pakistan.<br>• Eligible households located in the affected areas were given a one-off cash grant of approximately US$ 213.<br>• Second phase supported the recovery of affected households with cash payments that can be used to meet any of their recovery needs, such as reconstructing their houses, restoring their livelihoods or paying back accumulated debt.<br>• Second phase doubled the size of the grant to eligible households, which provided a more suitable amount to support recovery. |

*Source: World Bank, 2013a and World Bank, 2009.*

### d. Context: Pacific island countries, risk and vulnerability

The Pacific Island region is extensive and diverse. This paper focuses on the ten World Bank member countries, including Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Palau, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Although not considered part of Pacific Islands, Papua New Guinea and Timor-Leste are also considered here as important players in the region. These countries have a population of over 10 million people, spread across hundreds of islands, and scattered over an area equivalent to 15 percent of the globe's surface.

The region is extremely diverse, both in geographical and cultural terms. On one hand, topography makes these countries very different, with some being part of what is called 'continental islands' which tend to be larger and prone to geological hazards, others being 'oceanic islands' (mainly volcanic islands), others being atolls with very small, low-lying land areas and others 'raised limestone islands'. Culturally, islands are generally divided between

Melanesia (PNG, Fiji, Solomon Islands and Vanuatu), Polynesia (Samoa, Tonga and Tuvalu) and Micronesia (FSM, Kiribati, Marshall Islands and Palau). Although some of these tend to be more homogenous (Polynesia), some islands are quite culturally diverse. For instance, in Vanuatu, with only 250 thousand people, over 100 languages are spoken (Campbell, 2006).

In spite of this diversity, these countries are all greatly exposed to natural hazards given their geographic and physical characteristics. Moreover, some of them are extremely vulnerable to the effects of these hazards given their particular socioeconomic and environmental context. The risks and particular vulnerabilities these countries face are discussed below.

### i. Risks and vulnerability in the Pacific island countries

Pacific island countries experience a dangerous combination of natural hazards, high exposure and high vulnerability that makes them particularly prone to disaster risk. According to the 2012 World Risk Report (Bündnis, Entwicklung and Hilft, 2012) five out of the 15 countries most at risk of disasters in the world are Pacific Island Countries[3], with Vanuatu and Tonga in first and second place, respectively (see Table 3)[4]. The World Risk Index (WRI) measures risk based on the principle that frequency and strength of natural hazards do not per se determine how likely a country is to experience disasters. Although natural hazards themselves (earthquakes, cyclones, extreme rainfall, etc.) are largely outside human control, disasters are not (World Bank, 2010), as they are the result of the country's exposure and vulnerability to those hazards.[5] The World Risk Index is based on the core understanding that a society's disaster risk is influenced by its structure, processes and framework conditions,

[3] Six countries out of 15 if Timor-Leste is taken into account.

[4] Vanuatu is the country with the largest disaster risk worldwide, followed by Tonga, the Philippines, Guatemala and Bangladesh. Since the index is the product of exposure and vulnerability, it shows that these countries bear the disastrous combination of extreme exposure and high vulnerability.

[5] There are several indices that look at disaster and climate risks (Germanwatch Climate Risk Index, Global Assessment Report by UNISDR, etc.). The WRI is discussed here because, in addition to exposure analysis, this report focuses strongly on the vulnerability of the population, i.e. its susceptibility, its capacity to cope with and to adapt to future natural events as well as the consequences of climate change. Disaster risk is seen as a function of exposure and vulnerability. The World Risk Index is calculated by combining four individually calculated components of exposure, susceptibility, lack of coping capacities and lack of adaptive capacities, with these last three yielding the vulnerability index, which indicates whether a disaster may actually ensue should an extreme natural event occur. The vulnerability index multiplied by the exposure index yields the World Risk Index (Bündnis Entwicklung Hilft, 2012).

which in turn may be affected by natural events and the effects of climate change. Besides having high levels of exposure to hazards, PICs are highly vulnerable (see Table 3), due to a combination of factors that drive up disaster and climate risk. An analysis of these factors follows below.

**Table 3: Fifteen countries most at risk of disasters (exposure and vulnerability)**

| World Risk Index | | |
|---|---|---|
| **Rank** | **Country** | **Risk (%)** |
| 1. | Vanuatu | 36.31 |
| 2. | Tonga | 28.62 |
| 3. | Philippines | 27.98 |
| 4. | Guatemala | 20.75 |
| 5. | Bangladesh | 20.22 |
| 6. | Solomon Islands | 18.15 |
| 7. | Costa Rica | 17.38 |
| 8. | Cambodia | 17.17 |
| 9. | Timor-Leste | 17.13 |
| 10. | El Salvador | 16.89 |
| 11. | Brunei Darussalam | 15.92 |
| 12. | Papua New Guinea | 15.81 |
| 13. | Mauritius | 15.39 |
| 14. | Nicaragua | 15.36 |
| 15. | Fiji | 13.69 |

*Source: Bündnis Entwicklung Hilft, 2012*

- ***Hazards and Geographic Exposure***

The Pacific is one of the regions most exposed to natural hazards; although the hazards vary by sub-regions. For instance, although tropical cyclones are the most common hazard, many countries lie along active fault lines, and as part of the "Pacific Ring of Fire", several of these countries are exposed to a serious threat from earthquakes and tsunamis[6]. In addition, although droughts are less common, they tend to affect the highest number of people per event, as evidenced by data between 1950 and 2004 (World Bank, 2006b).

[6] Pacific island countries located in the southwestern region – primarily PNG, Solomon Islands, Vanuatu, Fiji and Tonga - are particularly at risk (World Bank, 2006b).

Different countries face specific risks. For instance, in the Solomon Islands, an earthquake loss exceeding US$ 270 million (40 percent of GDP) is to be expected on average, once every 100 years, with earthquake risk being more prominent than cyclones. In Samoa, however, a tropical cyclone loss exceeding US$ 134 million, which is equivalent to about 24 percent of Samoa's GDP, is to be expected on average once every 100 years. In Samoa, tropical cyclone losses are expected to be substantially more frequent and severe than losses due to earthquake ground shaking and tsunamis (World Bank et al., 2011).

- ***Climate Change***

According to IPCC (IPCC, 2012), a change in climate will lead to variations in the frequency, intensity, extent, duration, and timing of extreme weather and climate events. According to a study by the World Bank (2006), there is a strong evidence in the Pacific of an increase in the observed frequency and intensity of weather and climate-related events. According to this study, ten of the 15 most extreme events reported in the region in half a century have occurred in the past 15 years.

Moreover, the climate also appears to be changing. A study that looked at climate trends, between 1950 and 2004 shows that, while the southern Pacific seems to be experiencing a significantly drier and warmer climate (by 15 percent and 0.8˚C, respectively), the Central Equatorial Pacific, by contrast, is experiencing more intense rain (representing a change of about 30 percent) and a similarly hotter climate (0.6˚C). Sea surface temperatures in both areas have increased by about 0.4˚C (World Bank, 2006b).

The rate of climate change is likely to intensify in the future, in terms of both average and extreme conditions. As average temperatures increase, sea level is expected to rise by between 9 and 90 centimeters by the end of the century, with the eastern Pacific experiencing the largest rise. Cyclones are expected to increase in intensity by about 5–20 percent. Storm frequency is likely to increase in the equatorial and northern Pacific. And in general, the future climate is expected to see more droughts in the southern Pacific and more rain and floods in the equatorial Pacific (World Bank, 2006b).

Climate change will exacerbate current risks from natural hazards. The climatic changes will affect every aspect of life: freshwater supplies for natural systems, communities and businesses; food security, threatened both through impacts on agriculture and fisheries; infrastructure, as the risk from coastal flooding and erosion increases as sea levels rise. Overall, in the coming decades, impacts are expected to become more widespread and more severe (PIRCA).

- ***Other Factors that Contribute to PIC's vulnerability to natural disasters***

Besides being exposed to a high number of hydro-meteorological and geological hazards, PICs as a whole have a set of other common economic and social characteristics that make them vulnerable to disasters, such as:

- ***Small island states and limited natural resources***

Small island developing states (SIDS) together with land-locked countries comprise about two thirds of the countries with very high economic vulnerability to disasters (World Bank, 2010). There are multiple reasons this is the case. First, as small landmasses in the middle of a vast ocean, they are more exposed to weather inclemency and potentially high levels of losses. In the case of small islands, economic development may be set back by decades due to disaster impacts (SOPAC). Many of the 25 countries with natural disaster damages in a range of more than 1 percent of GDP (in a sample of 175 countries) are small island economies (World Bank, 2010).

In addition, PICs have very limited natural resources and rely, for livelihoods, mostly on coastal areas, where most of the populations and resources are located. Although the coastal areas are the most highly diverse of the ecosystems, they are also extremely fragile and vulnerable to change (SPREP). As these areas become more developed and over-utilized, an increasing degradation of habitats, soils, forests, coastal and inland waters, reefs occurs, as well as overexploitation of resources and growing conflicts in resource use and access.

- ***Narrowly based economies, import dependency and large distances to major markets, weak financial management and preparedness to deal with shocks***

Most of the population in PICs (except Marshall Islands, Palau and Tuvalu) live in rural areas and depends on the rural economy for their livelihoods. For instance, Solomon Islands and Vanuatu are agrarian societies in which agriculture provides the overwhelming main source of employment and livelihoods. The Fijian economy is more diversified, with a higher percentage of the population living in urban areas. Yet agriculture employs 70 percent of the labor force (World Bank, 2011a). Agriculture and subsistence activities (fishing) are very sensitive to natural disasters and climate extremes.

Moreover, economic growth has been slow and the islands' links to global markets (open economies importing food and essential items, and exporting agricultural products and tourism) makes them highly exposed to global economic shocks (AusAID, 2012b). This becomes a negative spiral, as the PICs have limited options for trade and economic diversification, making them even more dependent on outside actors – both for aid and remittances – when shocks hit.

Financial management and preparedness to deal with shocks in PICs is generally very small due to their limited fiscal reserves and contingency budgets. There recently have been new initiatives to pool risk at a sovereign level for a numbers of PICs, such as the PCRAFI risk insurance pilot. However, the current payouts are very low (usually around 1-2 US$ million) even in case of a major natural disaster. These insurance mechanisms need to be further developed and their funding enhanced for them to play a bigger role in the disaster response.

- ***Urbanization and the breakup of traditional safety nets***[7]

In spite of the narrowly developed economies, approximately 36 percent of the Pacific population (excluding PNG) lives in urban areas. Although by international standards the absolute numbers of population may be small, the reduced land areas have given rise to population densities comparable to highly populated countries in Asia (Wilkinson, 2011; Haberkorn, 2008). Expansion is occurring in PICs small urban centers and is expected to

[7] This section is largely based on Wilkinson, 2011.

continue over the next few decades, as they become centers of opportunity. This will also make them hubs of social and environmental risk at the same time.

Significant proportions of urban areas in the Pacific are made up of poor housing or slums, sometimes known as squatter or informal communities. These areas are usually beyond the reach and services provided by local and central government. In addition, a large proportion of young people in urban areas means that urban population growth will continue for several years, creating further pressures. Poor land use planning also exacerbates risk.

Particularly relevant for disaster and climate change risks is the fact that, while the density of urban life can be seen on the one hand to have relieved pressure on natural habitats and biodiversity in rural areas, the impact on sensitive coastal ecosystems is intensifying in areas of urban growth, placing urban populations at increasing risk of disease, coastal erosion, and flooding. Much urban growth in the capital cities of the Melanesian countries (Fiji, Papua New Guinea, the Solomon Islands and Vanuatu) is taking place in low lying and flood prone areas not only placing these populations at risk of flooding, including tidal surges and tsunamis, but also resulting in high levels of environmental pollution through lack of waste controls.

The World Bank (2004) noted that "growing urbanization and squatter settlements, degradation of coastal ecosystems, and rapidly developing infrastructure on coastal areas are intensifying the [Pacific] islands' exposure to extreme weather events."

Although in the past Pacific people have built traditional practices for resilience to natural disasters, these adaptation mechanisms are being lost as people migrate to the cities and to fragile coastal areas. Moreover, the breakup of families due to urban migration is resulting in the weakening of traditional safety nets and community coping mechanisms. At the same time, urban safety nets are non-existent and people lack coping mechanisms in the face of shocks. The lack of institutional capacity is another factor in vulnerability, including capacity to forecast and disseminate early warning messages to scattered population.

### ii. Poverty and hardship in Pacific island countries

In PICs, traditionally the idea that the community, clan or family would support those in need meant that nobody was supposed to fall into poverty. Until recently, most countries in the region considered poverty as a foreign concept, and indeed many still do. However, this concept around the non-existence of absolute poverty is gradually changing as economic forces, systemic shocks and urbanization erode traditional safety nets and more governments recognize that a significant proportion of the population may face difficulties meeting basic needs.

Nevertheless, extreme poverty, defined as the proportion of the population living below US$ 1.25 a day, is largely considered an irrelevant concept in the Pacific context due to the high dependence on subsistence living and traditional social safety nets (Pacific Islands Forum Secretariat, 2011). In general, hunger and destitution are still rare in the region and many prefer to use the term 'hardship' or poverty of opportunity, which has been defined as a lack of basic services, a lack of opportunities to participate in the economy and a lack of adequate resources to meet the basic needs of the household or customary social obligations (Abbott and Pollard, 2004).

Thus, while food poverty in these countries is relatively low – 2 to 5 percent in Fiji, Kiribati, Samoa, Tonga, Tuvalu and Vanuatu, and 9 to 13 percent in FSM and Solomon Islands, the population living below the (national) Basic Needs Poverty Lines is significantly higher, with most countries ranging from 25 to 30 percent (see Table 4).

**Table 4: Food and Basic Needs Poverty in PICs**

| | Food Poverty (%) | Basic Needs Poverty (%) |
|---|---|---|
| Fiji | 5 (2008) | 31 (2008) |
| PNG | ... | 28 (2009e) |
| Solomon Is | 9 (2006) | 23 (2006) |
| Vanuatu | 2 (2010) | 13 (2010) |
| FSM | 13 (2005) | 31 (2005) |
| Kiribati | 5 (2006) | 22 (2006) |
| Palau | 0 (2006) | 25 (2006) |
| Samoa | 5 (2008) | 27 (2008) |
| Tonga | 2 (2009) | 23 (2009) |
| Tuvalu | 4 (2004) | 20 (2010) |

Source: Pacific Islands Forum Secretariat, 2011.

In addition, income and expenditure distribution curves in Pacific island countries are generally quite flat around the poverty line, which points to a high level of vulnerability to poverty in the region (ADB, 2010b). Since much of the population lives just above the poverty line, even small events can push many into poverty. This fact, combined with other socio-economic factors, increases people's vulnerability to climate and natural hazard risks.

Some of the factors that increase hardship and vulnerability are[8]:

- An increased demand for cash and monetization of the economy, as the population becomes more urbanized and less reliant on subsistence agriculture. This, combined with reliance on expensive imported food (due to long distances), and social obligations (church, community) means households might be cash–strapped and resort to harmful coping mechanism (e.g. reducing consumption of nutritious food);
- Inadequate health and education services, low literacy rates, limited opportunities for secondary schooling (due to fees/quality) and the rise of life-style diseases (diabetes, hypertension) which put pressure on already inadequate health services;

[8] All of this adapted from (AUSAID, 2012a) and (AUSAID, 2010) and communications with World Bank staff.

- High unemployment, especially among young people, which often forces people to migrate for jobs;
- Exposure to political and economic shocks, as was demonstrated by the impact of the triple fuel, food and financial crisis in 2008;
- Limited financial services and very low levels of savings and access to credit that allow households to cope in the face of shocks;
- Large dependency ratios, translating into households with children and elderly being the poorest; very low levels of social security and pensions; and
- Weakening forms of traditional support and unequal distribution of it.

Groups most at risk are children, the elderly, women and the disabled. In particular, the ADB study (ADB, 2010a) identified the following population groups as being vulnerable through a lack of access to economic resources, education and health services, employment and credit, and infrastructure and markets: (i) rural communities, particularly rural children; (ii) rural women involved in both subsidence and wage activities; (iii) out-of-school and unemployed youth; (iv) landless people—outer island and inland migrants to coastal towns and cities; (v) low-paid wage workers—the formal and informal sector working poor; (vi) disabled people for whom facilities for education, training, and rehabilitation, including opportunities for employment, are limited; (vii) the destitute, comprising deserted wives, widows, single parents, the chronically ill, the severely disabled, and the aged; and (viii) children of the poor. Some evidence suggests that in the absence of formal risk coping mechanisms or informal support, during times of hardship, vulnerable groups will increasingly be forced into poverty-entrenching support mechanisms (ADB, 2010a). For example, in Samoa, children have been taken out of school either because their parents have been unable to afford to pay school fees or so that children could earn income for their families in the absence of other sources of livelihood (Chibber, 2009).

## II. Analysis of Social Protection and Disaster and Climate Risk Management in the Pacific

### a. Disaster risk management and climate change adaptation in the Pacific Islands – current situation and constraints

Informal, community-based measures to reduce the risks and impacts of natural disasters in the Pacific Islands have a strong tradition. Communities have long carried out disaster risk management activities by themselves, usually focusing on intra and inter community cooperation, food security, traditional knowledge and settlements (Campbell, 2006). For instance, food surplus has usually been stored and preserved for times of hardship, and houses built on mounds to reduce the risk of flooding. However, some of the more recent economic and social changes have undermined many of these practices. For instance, as populations become more urbanized, they move into highly vulnerable areas, while abandoning traditional food security mechanisms.

As traditional practices loose effectiveness – not only due to socio-economic and cultural changes, but also due to increasing frequency and unpredictability of climate shocks – the need for formal, holistic, contextualized disaster risk management and climate change adaptation measures becomes increasingly evident.

Although funding for disaster risk management and climate change adaptation has increased in the last decade (World Bank, 2006b), most of the focus seems to traditionally have been placed on more reactive disaster response. Disaster response has usually been focused on providing short-term relief in the form of in-kind commodities such as food, relief kits, shelter, etc. Some of these activities have sometimes been followed by limited-scale recovery efforts, such as housing reconstruction, small shelter solutions, etc. In general, PICs have limited financial and institutional capacity for large-scale disaster response, and thus rely on international donors (Australia, New Zealand, Red Cross, the UN system and large international NGOs) for relief after major disasters.

In addition, the actions taken so far for disaster risk reduction and climate change adaptation seem to not have been sufficient for sustained and systematic progress on-the ground (World Bank, 2009a). There is a need for stronger commitments and action by governments at

several levels, including political, regulatory and sectoral actions (World Bank, 2009a). Several constraints impede increasing the effectiveness of activity in this sector, including[9:]

- **Disaster response and risk reduction are mostly financed by external donors and remain outside of the national budget**

A great proportion of the activities destined to reduce risks of or help cope with the impacts of natural disasters and shocks are financed by international donors, and funds are not provided through national budgets. This leads to uncoordinated action and fragmentation, as well as a short-term project focus that impedes sustained action and ownership. Moreover, some have pointed out that this situation incentivizes activities in disaster response at the expense of risk reduction; while disaster response has high visibility and can be funded off-budget, preparedness and risk reduction require day-to-day commitment. Thus, while donors continue to contribute to response generously, governments have little incentive to invest in risk reduction (World Bank, 2006b).

As a result, PIC governments tend to consider the need for climate change adaptation and much of disaster risk reduction as being externally driven and thus expect that activities will be externally funded (World Bank, 2009a). A study of external assistance for DRM and CCA (Gero et al., 2011) found that while there was ongoing support from both donors and PIC national budgets for these interventions with a view to build adaptive capacity, the bulk of the support was donor funded.

As the strong reliance on external assistance threatens to undermine the building of a national system for disaster and climate risk reduction, this has led regional organizations, donors and international partners to consider ways to assist PICs to build internal capacity to respond to their own needs. Moreover, some countries in the region have taken the lead in building a coordinated national response and risk reduction system. For instance, Vanuatu has recognized this problem and requires that any external technical assistance be aimed at

[9] Only those constraints and characteristics that are relevant to the topic of this note are presented here. Many others can be described that are particular to the DRM sector in the Pacific. Literature on this is included in the references.

building the in-country capacity required for disaster response as well as for sustained risk reduction (World Bank, 2009a; Griffiths, 2013). (See Box 5)

**Box 5: Vanuatu Humanitarian Team**

In Vanuatu, the National Disaster Management Office (NDMO) and other key Government ministries are being supported by the Vanuatu Humanitarian Team (VHT). The VHT was established in late 2011 and is a collaborative project set up by humanitarian stakeholders in Vanuatu and the UN's Office for the Coordination of Humanitarian Affairs in the Pacific (OCHA). It was established based on the recognition that humanitarian stakeholders with a presence in the country could strengthen the preparedness and response capacity in certain sectors or clusters, as well as the NDMO's capacity, through providing consistent on-ground support and access to personnel and other resources. Here, Government ministries lead clusters in agriculture and food security, emergency education, health, logistics and WASH (Water, Sanitation and Hygiene). Members of the VHT support the Government ministries as cluster co-leads.

Since its establishment, the VHT has assisted with the response to Tropical Cyclone (TC) Jasmine and TC Pam in March 2015. The VHT is included as an integral component in the NDMO's tsunami-and-cyclone response preparedness plans, as well as Standard Operating Procedures (SOPs). The VHT is also extending disaster preparedness support at the provincial level within Vanuatu as well as assisting the NDMO to develop SOPs to strengthen coordination between Port Vila and the provinces.

*Source: Griffiths, 2013.*

- **DRM and CCA are not fully mainstreamed into national budgets, sectors and programs**

A regional study (World Bank, 2009a) found that across the region, there are universally weak institutional frameworks at national level for defining roles, accountabilities, and linkages across sectors and between levels of government, in ways that would effectively operationalize existing or emerging national hazard risk management policies. This includes links between disaster risk management and climate change adaptation themselves, but also with other sectors that are relevant for development, such as social protection.

Recently, some governments have increased their commitment to institutionalizing DRM and CCA, including preparing national DRM/CCA strategies and actions plans. For example, Samoa has a National Action plan for DRM 2011-2016. In Timor-Leste, the National Disaster Management Office (NDMO) is part of the Ministry of Social Affairs, which would make it easy

to coordinate DRM and SP agendas.[10]

Nevertheless, governments and development partners should increase efforts to ensure sustainable financing and institutionalization of DRM and CCA. As suggested by the World Bank (2012a), improved coordination between DRM and CCA institutions and greater involvement by relevant ministries would increase PICs governments' ability to carry out integrated and intersectoral approaches that are needed for climate resilient development, while also reducing inefficiencies in the use of scarce resources.

- **Limited human resources and institutional capacity at the national level**

A recurrent theme across PICs is the lack of adequate human resources and institutional capacity, and the disaster risk management and climate change adaptation sectors are not an exception. Disaster response relies on very few people with limited resources (Gero et al., 2011), which increases the vulnerability of these countries to disaster risk. On the other hand, there are a multitude of donors active in the disaster risk reduction and climate change adaptation sectors, but often they provide more technical assistance than these countries are able to absorb (World Bank, 2009a).

According to a regional study (World Bank, 2009a), significant barriers to effective risk reduction are the relatively low-level availability and utilization of relevant knowledge, skills, wider understanding, and decision-support tools; and shortfalls in data management and information-sharing mechanisms. It is important that human resource capacity is improved in terms of the numbers, skills, competencies, deployment and co-ordination required to respond to natural disasters. Moreover, it is important to find synergies and collaboration between disaster risk management and climate change adaptation sector, but also with other sectors, to ensure resources, knowledge and skills are used as efficiently as possible.

- **Limited data availability**

A cross-country study of seven countries in the region (World Bank, 2009a) found that in the previous 10-15 years there had been a widespread degradation of hazard and climate monitoring and information management systems, which impeded the identification of

[10] Communication with an expert.

areas, assets, operations, and communities at risk as well as their vulnerabilities. Due to scarce resources, lack of knowledge or technical capacity, etc., governments and donors often prefer not to fund long-term data collection activities even if essential for supporting informed decision-making.

Moreover, even in those countries where data is reasonably adequate, there is little cross-sector coordination that allows other agencies to access and utilize that data effectively. The capacity to share and access data across sectors is crucial.

Finally, there is also an extreme urgency to update both the need for and current capabilities of appropriate early warning systems (World Bank, 2009a), as most of these countries rely on other countries' EWS systems.

Some efforts have taken place in past years to improve this situation. The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) aims to provide 15 countries in the region with disaster risk assessment tools to help them better understand, model, and assess their exposure to natural disasters, as part of the broader agenda on disaster risk management and climate change adaptation in the Pacific region (World Bank, n.d.).[11]

- **Limited community involvement in formal risk reduction activities**

Implementation of risk-reducing measures has largely been through a top-down approach, and for many countries there is a sizable gap between the village or community level and the provincial or national level at which scientific knowledge, mainstreaming, and capacity building are usually directed (World Bank, 2009a). Often this reflects the manner in which information or assistance is provided, frequently inappropriate in the native cultural or organizational context.

[11] The Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) is a joint initiative of SOPAC/SPC, World Bank, and the Asian Development Bank with the financial support of the Government of Japan, the Global Facility for Disaster Reduction and Recovery (GFDRR) and the ACP-EU Natural Disaster Risk Reduction Programme, and technical support from AIR Worldwide, New Zealand GNS Science, Geoscience Australia, Pacific Disaster Center (PDC), OpenGeo and GFDRR Labs.

Recently, however, some organizations have recognized that tangible benefits need to be delivered at the local level, where needs are the greatest, and are starting to increase the emphasis on community-based adaptation, management or natural resources and community-based disaster risk management (World Bank, 2009a).

For instance, the World Bank has recently approved the Community Resilience to Climate and Disaster Risk Project for Solomon Islands (CRISP), which aims to increase the capacity of selected rural communities to manage natural hazards and climate change risks. The project will support both structural and non-structural disaster risk and adaptation investments at the community and provincial level, including, among other activities, risk analysis, design, development and implementation of community-led rural investments (World Bank, 2014).

### b. Social protection in the Pacific island countries

Social Protection is a relatively new, but growing area of government intervention in PICs. As traditional informal safety nets weaken and community and faith-based groups are only able to offer a limited range of services (e.g., to orphans and disabled people) to make up for the failing of those traditional mechanisms, governments are recognizing the need to establish more formal mechanisms.

Although some countries in the region already have some formal social protection programs in place, they tend to be small. The low scores of most PICs in the Asian Development Bank's Social Protection Index[12] seem to confirm that these systems are weak (ADB, 2010a). Some of the most developed interventions are in Fiji and Kiribati, which have complex cash transfers.[13] Other countries like Vanuatu are just beginning to consider the State's role in the provision of social risk management interventions. In most countries, there are concerns about welfare dependency and the role of the State in re-distribution. However, with growing

[12] ADB has developed a social protection index that includes four quantitative indicators to measure and compare the adequacy of social protection in its member countries. The indicators include (1) expenditure on social protection (as a percentage of gross domestic product), (2) coverage of social protection programs in terms of the extent to which they reach their target populations, (3) poverty targeting in terms of the proportion of poor who receive social protection transfers, and (4) impact of social protection expenditures measured as the average expenditure on social protection per person living below the poverty line (ADB, 2010a).

[13] Communication with World Bank staff.

poverty and hardship, there is also a recognition that government intervention might be needed to close the gap.[14] In any case, overall social protection coverage ratios are low - ranging from 30 percent of target population receiving some form of formal social protection in Nauru to only 1 percent of target groups in PNG (ADB, 2010a).

The predominant form of social protection seems to be social insurance programs for formal workers and the elderly. Most PICs have established provident funds or superannuation schemes that provide pensions for formal sector workers, particularly retired civil servants (ADB, 2010a; AusAID, 2010). However, most social insurance programs reach only a small part of the workforce and elderly people.

Universal old age pensions are the most common type of non-contributory social protection (AusAID, 2010). Some countries, such as Fiji, Kiribati and Samoa, have introduced universal income support for the elderly. In Samoa, the cost of the scheme represents 1 percent of GDP (AusAID, 2010).

Some cash transfer schemes exist, although they are also limited. The Poverty Benefit Scheme (PBS) in Fiji, which replaced Family Assistance Program (FAP) in2013, is the largest cash transfer in the region, aimed to reach the poorest 10 percent of the country's population. The design elements of PBS are intended to move from categorical targeting of elderly, disabled and chronically ill (under FAP), to poverty targeting through standardized household welfare assessments. It is expected that the reform will significantly contribute to focusing the benefit on reducing poverty incidence in the country.

Many PICs provide free basic education and health services to the general population. Recently, in response to the hardship faced by vulnerable groups in Samoa, Solomon Islands, and Vanuatu, "fee-free" primary education schemes were introduced with substantial support from donors. However, the quality of service remains poor in many countries, and access is generally limited outside of urban areas, particularly in larger, more populous countries such as Solomon Islands (ADB, 2010a).

[14] Ibid.

A few countries, with the support from donors, have established one-off public works programs, although often their goal has been to build infrastructure, with the employment objective as secondary (AusAID, 2010). For instance, in the Solomon Islands, the Cash for Work pilot program provided wages and tools to target communities for the clean-up and repair of public areas and infrastructure (common gardens, halls and churches, schools, wells, drains and paths) that were damaged by flash floods in 2014. A study by AusAID (2010) found that, in some previous projects, wage rates had been established well above market wage, with the potential of distorting labor markets.

In the region, Government capacity to design, implement, and monitor social protection programs remains limited. The data on vulnerable groups is poor and is not often collected on a regular basis, which makes identifying and monitoring vulnerable groups difficult. This may be a reason why some PICs governments have opted for a universal benefit (ADB, 2010a). Finally, involving community and nongovernment organizations (NGOs) in the delivery of basic social services, particularly to vulnerable groups, is common across the Pacific. Such groups are normally decentralized and well integrated into existing social structures. In many Pacific countries, governments and community organizations such as churches have established partnerships, particularly in the health and education sectors. Community delivery of basic social services not only builds on the strong tradition of community support networks in the region, but also assists in overcoming capacity and financial resource constraints that limit the government's ability to provide broad basic service coverage to the entire population, particularly in rural areas (ABD, 2010a).

### c. How do social protection interventions currently address the risks from disasters and climate volatility in the Pacific?

There is little evidence that formal social protection mechanisms to date have been used either for disaster response[15] or for reducing risks arising from climatic and natural hazards, with the exception of ex-post cash-for-work (CFW) programs, such as the one developed in

[15] A study by Naidu, V. and Moharty, M. (2009) "Situational Analysis of Social Protection Policies, Services and Delivery Mechanisms in the Pacific" mentions that at least Fiji, Kiribati, Solomon Islands, Samoa and Vanuatu have a mechanism called "Disaster victim assistance" but no details have been found.

Tonga by UNDP. Given the level of institutional development and coordination of both the social protection and the disaster risk management sectors, their limited budgets and human resources, this situation is not unexpected.

A recent Post-Disaster Needs Assessment (PDNA) found evidence that, after cyclone Evan in December 2012, the government of Fiji was using Provident Funds as an ad hoc one-off mechanism for disaster response (Government of Fiji, 2013). Similarly, 5,000 workers under the Vanuatu National Provident Fund have applied to withdraw 20% of their retirement funds post-TC Pam that hit Vanuatu in March 2015. The government opened access to the provident funds for a set amount of money as a means of providing people access to funds for recovery. Thus, people who chose to take this option would be accessing funds from their retirement savings to cover the needs arising after the disaster.

This type of intervention may be problematic at several levels. First, and more importantly, this measure is not sustainable in the long term, as it implies extracting funds from old-age savings, which run the risk of becoming depleted before reaching their intended use period. Second, since there is a very small formal sector that contributes to these funds, and there is very low coverage of poor or vulnerable households in these schemes, the intervention might not have reached those most in need for response after the disaster. Finally, this seems to have been an ad hoc mechanism that is not part of a systematic plan for disaster response, and it is unsustainable in the long run.

Another mechanism that may help have an effect for small-scale farmers' resilience to shocks might be the Copra Subsidy Scheme—Kiribati's largest social protection program—which helps farmers cope with fluctuations in copra prices by guaranteeing a minimum purchase price from government. This maintains copra production in the outer islands and protects famers' assets when prices are low. However, the program might not be sustainable because it maintains an artificially high price for copra, while providing inequitable support to households, as those with less labor capacity receive smaller subsidies even though they are vulnerable. Moreover the scheme is quite expensive and runs at a significant fiscal loss to the Government. Core social protection instruments—such as cash transfers or cash for work—may tackle underlying risks more cost effectively and equitably (AusAID, 2012b).

In terms of informal social protection mechanisms, it is well known that one of the risk management strategies utilized by Pacific islanders involves migration, both domestic and international. Migration not only allows migrants to send remittances home, but it is also part of a risk management strategy to escape environmental pressures and risks in some areas. Mohanty (2011) notes that people are migrating from low-lying, smaller and outer islands to larger islands in search of secured land with hopes of minimizing the impact of environmental and climatic change. However, migration opportunities might be limited for some of the poorest and most vulnerable households, often located in the most remote communities (AusAID, 2012a).

Through migration, however, remittances become important forms of risk management for those who are left behind. For instance, a study on disaster remittances following a cyclone in Samoa found that amounts remitted rose steeply in response to the cyclone, achieving about 25 per cent of the total value of the losses incurred by recipient families (Macpherson 1994 in AusAID, 2012a). More recently, in December 2009, a remarkable upsurge in remittances to Samoa occurred after the tsunami (Gibson 2010 in AusAID, 2012a).

Other types of informal coping mechanism might revolve around informal lending and borrowing from family and friends. While the latter might not be very effective in the case of systemic shocks, the former has the potential of being harmful if interest rates are high and conditions are onerous meaning those households might sink further down in poverty. Finally, Mohanty (2011) points out that the credit union systems also work for those who are not covered by formal social insurance schemes. Credit unions provide a sense of support to those without regular employment. In Fiji, for instance, there are several community-, profession- or company-based credit unions that act as “safety nets”.

### d. How should social protection integrate disaster response and climate resilience in the Pacific Island Countries?

As highlighted earlier in this note, the Pacific Island Countries are highly exposed to natural disaster risk. Climate change will contribute to further compounding those risks, exerting renewed pressure on these countries’ disaster risk management systems and impacting the

poorest and most vulnerable. As the countries in this region consider expanding and reforming their social protection systems, it is crucial that they consider disaster and climate considerations as key risk factors for their target populations.

If designed well, social protection programs play a key role in helping households cope with the short-term impacts of shocks, as has been demonstrated by several studies. For instance, evaluations of the cash and voucher programs used in humanitarian emergencies, such as in response to the Indian Ocean tsunami in December 2004 (e.g., in Thailand, Indonesia, India and Sri Lanka) and the South Asia earthquake in 2005 (e.g., in Pakistan) found evidence that beneficiaries largely spent the cash on necessities such as food, clothing and school fees, which helped them cope with the shock (Parks et al., 2009). Moreover, if provided systematically and predictably, social protection transfers can reduce long term risk by helping poor households build savings, an asset-base or human capital.

In general, based on the international evidence, a social protection system in the Pacific that takes climate and disaster risks into account will need to have the following characteristics[16]:

*i. Climate and Disaster aware Planning*

Whether designing a new social protection intervention or adapting an existing one, policymakers and practitioners in countries at risk for natural disasters need to be mindful of the particular nature of the risks and how they might affect vulnerable populations. This requires:

- Acknowledging uncertainty and building the necessary contingency and information mechanisms, such as information from early warning systems, into social protection interventions to deal with disaster risk;
- Risk mapping to determine how different hazards might affect a geographic area and which human, physical, natural, or institutional assets need to be supported or strengthened;

[16] Adapted from World Bank, 2013a.

- Incorporating climate- and disaster considerations into the targeting system by using area- and household-level data on hazard exposure to inform targeting, distinguishing the chronic poor from those at risk of falling into transitory poverty, etc. Climate and disaster targeting can be done as part of regular SP programs in areas at high risk or for particularly vulnerable populations. Alternatively, targeting methods can be adapted post-disaster to reach those affected (see Box 6).

**Box 6: Climate and disaster responsive targeting**

In ***Bangladesh***, the Char Livelihoods Project (CLP) targets only poor communities living on fluvial islands (chars), which are highly vulnerable to flooding and climate change impacts. In ***Ethiopia***, the PSNP covers geographic regions and districts that are famine-prone (i.e., highly climate-vulnerable, usually due to droughts). The PSNP further includes a household level criterion focused on severe asset loss over time, which is sensitive to the cumulative effect of both disaster and economic shocks.

In addition, the PSNP has a scalability feature, which allows it to increase coverage in response to extreme weather events – supporting transitorily food-insecure populations that have been affected by shocks. The program relies on a contingency budget and a risk financing mechanisms to scale up effectively and reach chronic and transitory food-insecure populations.

*Source: World Bank, 2013a and Kuriakose et al., 2012.*

Traditionally, targeting of formal social protection interventions in the Pacific Island countries has been limited given low capacity and scarce data. The World Bank and other development partners (e.g., DFAT) are currently collaborating to increase the availability of data and to improve targeting mechanisms in selected PICs. For instance, as part of this effort, the World Bank has worked with the government of Fiji to incorporate a module on households' shocks and coping mechanisms as part of the 2013/14 Household Income and Expenditure Survey (HIES). This will allow collecting data to understand the shocks households are exposed to and their risk management strategies.

Given the data constraints that exist for the disaster risk management sector as signaled above, as well as limitations that exist in the setup of early warning systems, a potential entry point for agencies working on social protection would be to collaborate with disaster management and meteorology agencies on building effective databases on vulnerability. This

would allow coordination among agencies, a more effective use of resources and supplementing some of the data needs of the disaster management system.

In addition, some PICs are currently in the process of reviewing and reforming targeting mechanisms for their SP programs, which will increase their efficiency in reaching the poorest and most vulnerable. Throughout the review of these mechanisms, it is critical to consider climate and natural hazard risks as important factors of vulnerability and hardship, especially as they play a role in creating and perpetuating poverty. Finally, as these mechanisms are reformed or created, it would be important to assess ways in which they can be rolled out to address the needs of disaster victims when shocks hit.

*ii. Interventions centered on livelihoods and assets*

When designing SP interventions to address disaster risk and response, it is important to take into account how livelihoods and assets might be impacted by different risks and what economic decisions households and communities make to sustain livelihoods in face of these pressures. This might help identify the right level and mix of instruments to encourage healthy risk-taking behavior and livelihoods diversification. For instance, in some cases, cash transfers can help build savings and an asset base, but in others, community assets for disaster risk reduction (e.g. planting mangroves in coastal zones) might be more relevant. Likewise, in some cases, where there are no other viable alternatives, resettlement might be the only option, but this should be carefully considered given the inherent challenges it faces. It is important to keep in mind that the goals should be:

- Strengthening social, physical and natural community assets in a way that increases resilience to shocks; and
- Supporting viable livelihoods to ensure long-term sustainability (see Box 7).

**Box 7: Working with communities to strengthen livelihoods and community assets**

HARITA/R4 Initiative, an 'insurance-for-work' scheme implemented in Ethiopia, gives poor farmers the option to pay for insurance by working on small-scale community-identified projects that build climate resilience and agricultural productivity, such as improved

irrigation or soil management. In the event of a seasonal drought, automatic insurance payouts to the client farmers are triggered if rainfall drops below a predetermined threshold.

In order for the insurance mechanism to work in poor communities, HARITA/R4 has focused on educating poor and largely illiterate farmers about the benefits of insurance, as well as on ensuring that the insurance product meets their needs, while building trust between the insurance providers and farmers. Communities have actively participated in the development of the products, resulting in what many consider to be an attractive micro-insurance package (Suarez and Linnerooth-Bayer, 2011). Farmer design teams are formed in each village; they work with program implementers to develop product options that are identified as meeting their needs. These teams also play a key role in the design, monitoring, and evaluation of HARITA/R4's climate resilience-building public works.

*Source: World Bank, 2013a.*

In PICs, it seems that formal social protection mechanisms have not traditionally focused on strengthening community assets or supporting livelihoods for individuals. New data collection initiatives, such as the one described in the previous sub-section, will most likely allow PICs governments understand better what shocks households' livelihoods and community assets are exposed to and how they manage those shocks. A better understanding of people's exposure to shocks and coping mechanisms might provide an opportunity to increase the role of SP interventions along the promotion function, especially those that aim to enhance human capital (conditional cash transfer, but also skills and training programs) as well as community and individual assets (asset transfers, public works).

In addition, traditional social protection mechanisms need to be better understood and strengthened where possible (Parks et al., 2009). In this direction, another entry point for social protection agencies might be to promote the use of community-based and civil society mechanisms for identifying both households and community vulnerability to climate shocks and natural disasters, and assessing the appropriate interventions based on communities' inputs.

### *iii. Building Adaptive and Response Capacity at System Level*

Traditional, informal safety nets become inadequate when faced with the disproportionate increases of covariate risk brought about by natural disasters and climate change. As shocks

from natural disasters become systemic, they affect those in the community who cannot rely on their family and neighbors for support. This type of risk requires social protection programs that are responsive and adaptive in the face of large systemic shocks. Building adaptive and responsive SP systems will require:

- Developing appropriate institutional capacity and coordination with DRM and climate change agencies to tap into combined expertise and institutional capacity. This is challenging because DRM/CCA and SP agencies often work in isolation from each other and have different approaches and focus. Social protection agencies often lack skills, knowledge and experience on how to integrate DRM/CCA into programs and systems, etc. For these reasons, it is important to promote inter-agency collaboration and working across disciplines; coordination and collaboration with the international humanitarian response system in post-disaster context; and undertaking capacity development activities (See Box 8).

**Box 8: Institutional coordination in Mexico's Temporary Employment Program (PET)**

The PET is an inter-agency program overseen by the Ministry of Social Welfare (SEDESOL) and implemented by several sector ministries and agencies, including the Transport and Communications Ministry, the Agriculture and Natural Resources Ministry and the Ministry of Labor. A PET Technical Commission has the role of strengthening institutional coordination in the planning, implementation, monitoring, and evaluation of the program, as well as coordinating resources to obtain maximum socioeconomic impact.

Moreover, SEDESOL is co-signatory to a Parliamentary Act with the Ministry of Interior's department in charge of the Government of Mexico's emergency and recovery response to natural disasters. The Ministry of the Interior is tasked with the oversight of a coordinated institutional response to natural disasters, and the management of a major national disaster response contingency fund, the Natural Disasters Fund (FONDEN). Emergency response, including some contingency financing, is coordinated by SEGOB with line ministries implementing previously defined functions.

*Source: World Bank, 2013a.*

The collaboration between social protection, disaster management and climate change actors in PICs currently remains weak, for various reasons. First, social protection requires strong policy coordination and coherence across several sectors to avoid piecemeal and reactive responses, including strengthening ministries that are responsible for a range of benefit programs and services (Parks et al., 2009). Moreover,

as new social protection programs are designed and adapted with disaster response and resilience goals in the PICs, it becomes essential that the relevant agencies establish partnerships with disaster risk management, meteorology and climate change adaptation actors at the national level, especially for coordinating around hazard and risk mapping and early warning systems ahead of disasters, as well as for rapid response when a disaster hits.

- Developing scalable and flexible mechanisms that can quickly react to protect populations during or after a disaster. These mechanisms include targeting, registry, and payment systems that can identify, enroll, and make transfers to additional eligible participants, as well as funding arrangements that can mobilize adequate resources on short notice (See Box 9).

**Box 9: Scaling-up cash-transfers after disasters**

Following the January 2011 floods in Brazil, the Bolsa Familia was able to extend in kind and cash benefits to 162,000 affected families in 279 municipalities within 10 days. The rapid response was made possible by using the Bolsa Familia registry (Cadastro Unico) and ID cards to identify and verify the affected families and disbursing payments through program banking arrangements with the Caixa Economica Federal branches.

In Pakistan, the Citizen Damage Compensation Program in response to 2011 floods benefitted greatly from the National Database Registration Authority (NADRA) which maintains a database of civil registration data of over 96 million citizens in Pakistan and abroad, and also from a database of the beneficiaries of an ongoing national SSN program. The CDCP made use of both of these databases to identify its beneficiary household pool. NADRA also helped CDCP refine its eligibility criteria by triangulating household data with other disaster specific eligibility criteria to verify beneficiary eligibility and produced lists of over 2million beneficiaries. The Conditional Cash Transfer (CCT) program in the Philippines was utilized to top-up payments to beneficiaries in the areas affected by typhoon Yolanda in November 2013.

*Source: World Bank, 2013a.*

Building responsive social protection systems is challenging in countries such as PICs where social protection agencies have relatively low capacity and have not yet developed technology and systems that allow them to scale up. As these features require capacity to quickly adjust benefits and payment systems based on the post-disaster context and needs, it is important to plan and enhance capacity and coordination before disaster hits. For this,

contingency budgets and plans, emergency response teams, and partnerships with the private sector and civil society are vital.

Assessing options for building scalable and responsive programs in some of these countries might first require the development of country-specific diagnostics and assessments to identify entry points. In particular these diagnostics could look at existing systems, assess linkages and capacity and provide suggestions to increase collaboration and reduce fragmentation of programs and actors.[17] Specific assessments to identify potential mechanisms for the scale up of social protection systems in the face of disasters and shocks might also be needed (See Box 10).

**Box 10: Mexico Temporary Employment Program**

The Temporary Employment Program (PET) in Mexico is a cash-for-work program providing temporary transfers in exchange for labor in community projects to eligible households in marginalized municipalities or whose livelihoods have been affected by natural disasters or other crises. PET aims to reach the poor with labor-intensive public work programs that build infrastructure as well as environmental or sustainable agricultural improvements. Incremental funds are usually made available for additional beneficiaries in places that have been affected by systemic shocks such as natural disasters. This way, the PET provides resources both for ex-post (disaster recovery/reconstruction) and ex-ante (disaster risk reduction) community-based public works. In the last decade, the program has invested approximately US$ 420 million in public works projects. Different ministries share responsibility for implementation, in accordance with their specializations and comparative advantages.

Some of the types of interventions supported by the public works have a goal to build climate resilience, such as building flood channels and reinforced terrace borders to protect against rain storms/hurricanes; planting of coastal areas to protect from storm surge/high winds; water collection and preservation in arid/drought-prone areas, etc. Disaster preparedness and risk reduction information and outreach activities are also carried out.

In 2003, a subcomponent of the PET was established as the Emergency PET (PETi), and assigned the task of emergency response. In 2006, an annual contingency fund became mandatory for each agency involved in the implementation of the program (of up to 20 percent) to be used in case of emergency. PETi is activated when a state of emergency is declared with the goal of supporting households that have been affected by a disaster through relief and recovery activities, with the goal of providing them with a source of income while helping them avoid negative coping strategies.

[17] In 2014/15, the Bank's SP&L team (East Asia and Pacific region) has conducted such stocktaking SP/DRM/CCA country diagnostics in Vietnam, Philippines, Fiji and Tonga.

Once response is approved, the emergency actions are launched, including a damage assessment, planning visits to identify potential beneficiaries based on damage, and beneficiary selection and enrollment. Social Assistance Teams are mobilized to work together with the municipal authorities in identifying and communicating with the affected population. The beneficiaries provide labor to community works focused primarily on post-disaster clean-up activities (e.g., waste collection and disposal, etc.) and supporting temporary shelters and displacement centers.

The regular PET's beneficiary *targeting system* uses social marginalization indexes to more accurately identify the most vulnerable communities. Municipalities with medium, high or very high marginalization levels or high unemployment are selected for operation of regular PET. The marginalization index is a composite measure published by CONAPO (National Population Commission) that allows classifying municipalities based on their lack of access to services, housing conditions, income, and remoteness or size of the locality. Individuals self-select themselves into the program. However, preference is given to those individuals who have registered in the program through the National Employment Service (SNE).

In the case of PETi, when an emergency is declared, geographical targeting is the first level of beneficiary selection. Participation is mainly limited to households residing in municipalities inside the area where the emergency has been declared. Since 2009, housing damage surveys have been the mechanism used to identify eligible households within disaster-affected communities. The PETi emergency response teams perform a visual assessment of household and property damage, and interview the heads of the households that have sustained the damage. In addition to targeting based on housing damage, PET also targets beneficiaries who cannot return to work due to loss of infrastructure at their workspace, as well as loss of their lands/crops. It has been observed that in emergency response, a certain amount of exclusion error is more likely, as some households may have sustained damage and income losses in municipalities not officially declared under a state of emergency.

Regular PET uses a *standardized and centralized database* that allows for the efficient sharing of information among the implementing partners. For registration in regular PET, the SNE provides information on the availability of employment opportunities in PET projects. Eligible individuals can request to participate through the local SNE office.

In the case of PETi, during the housing damage survey, the PET team provides eligible household heads with a receipt or number code which they can use to register at temporary registration desks and to claim benefits. Field staff enters the beneficiary data into PETi's own registry after each natural disaster. The registry is used for public works follow-up by other participating government agencies.

Regular PET payments are meant to function as a supplementary and temporary income support. Generally, the payments cover 10 working days. The wage is set at 99 percent of the current minimum wage rate (62 pesos or US$ 4.60 in 2012). This represents 52 percent of the poverty line in urban areas, 146 percent in rural areas (national poverty line is individual). Beneficiaries can work up to 132 working days per intervention, with the average intervention being 76 working days.

When responding to a disaster, PETi adapts some of these mechanisms to ensure that support reaches beneficiaries in a timely and adequate manner. Thus, the limit to the number of days

a beneficiary can work is lifted and this limit removal can last as long as the state of emergency is in place. Payments are disbursed to beneficiaries within five working days, on average, after a disaster has been declared in an area.

*Source: World Bank, 2013a.*

### e. A look at specific social protection instruments and their potential use for DRM/CCA in the Pacific Island Countries

Experience shows that when disasters hit, usually, existing mechanisms or programs may be adapted or expanded to increase speed of response. This approach might be appropriate when adequate social protection programs exist, as some of the existing mechanisms can be modified or improved in the short term (Parks et al., 2009). For instance, programs' targeting mechanisms could be modified through the adoption of simple targeting methods focusing, for example, on: (i) geographic characteristics; (ii) housing or livelihoods damage; (iii) household/individual vulnerability characteristics such as disability and old age.

In the case of PICs, most systems and programs for social protection are weak or not yet developed. For this reason, in most cases, as new social interventions or schemes are developed, they should aim to address the risks and priorities imposed by the extreme vulnerability of the region to disasters and climate change.

The choice of social protection instrument is highly relative and contextual and must be based on a careful assessment of the objectives that are to be achieved by the intervention, as well as the capacity and resources for implementation. However, based on successful experiences, some general lessons can be drawn from the use of different SP instruments for disaster response and risk reduction.

#### *i. In-kind vs. cash benefits*

In the past, food aid and other in-kind relief (blankets, emergency kits) have been the main form of humanitarian assistance after a natural disaster around the world. Although many agencies that have traditionally used this type of assistance are now more widely promoting the use of cash-based interventions, food aid continues to be key in many contexts, for instance, when markets are disrupted, are not developed or when there is no cash-based local economy, such as is the case in many remote island locations in the Pacific. In some

cases, when there is high inflation or prices rise quickly after a disaster, locals may prefer food or in-kind transfers, as was the case in Ethiopia after the 2011 drought. In-kind transfers are also sometimes preferred if there are security constraints or specific gender or malnutrition issues that need to be addressed by providing specific interventions such as school-feeding, take home rations, etc. In-kind modality is also preferred in the aftermath of natural disasters, when markets, especially for food/supplies, do not exist.

Cash transfers, on the other hand, are versatile instruments that can be used to meet a range of needs. For instance, cash transfers have been successfully used to reach populations affected by natural disasters in several occasions, such as during the floods in Pakistan in 2011 or typhoon in Philippines in 2013. In general, cash transfers serve the purpose of getting help to the victims of those disasters with the goal of preventing them from falling or sinking deeper into poverty (See Box 11).

**Box 11: Cash transfers in Pakistan**

In Pakistan, Phase I of the CDCP aimed to provide quick assistance to families who lost their homes or faced a serious threat to their wellbeing as a result of the flood. Eligible households located in the affected areas were given a one-off cash grant in the amount of PRK 20,000 (or approximately US$ 213). This amount was determined based on the funds available to the Government of Pakistan to try to cover the urgent needs of a very large flood-affected target population.

The funds helped households to cover needs at a crucial time, with an evaluation of Phase I finding that families had used the grants mostly for food, health needs, housing repair, and debt re-payment (Hunt et al., 2011). However, the amount was insufficient for the flood-affected households to recapitalize their damaged or lost assets, and a decision was taken to implement a second phase of the CDCP in order to support the recovery of affected households.

*Source: World Bank, 2013a.*

Cash transfers are useful to stabilize the situation after a disaster, to protect and replace lost income and assets, ensure adequate household nutrition and health care, and keep children in school. Cash programs were also found to be 20-50 percent cheaper to administer than food or in-kind programs, hinting at their cost-effectiveness (Parks et al., 2009).

Finally, a few programs have also experimented with transferring productive assets to populations that are at risk of natural and climate shocks, especially in those cases where

crops and livestock might be affected (droughts, floods, cyclones). Just as with cash transfers, this type of productive asset transfer might also help families increase their risk management strategies ahead of a disaster, by helping them build an asset base (See Box 12).

**Box 12: Asset transfers in Bangladesh CLP Program**

The CLP's Asset Transfer Project (ATP) is designed to strengthen the income and assets base of its core households, with the longer-term aim of lifting their regular income above the poverty line. The program is comprised of three key elements: the provision of a substantial productive asset; payment of a monthly stipend; and livelihoods-related training.

The program provides access to a cash grant for the purchase of productive assets of their choice. The participants are trained in the selection, care and profitable sale of their assets and in reinvestment strategies to accumulate further assets (Marks, 2010). The level of the asset grant is determined based on the market cost of purchasing and maintaining the chosen item at the time of program implementation (Howe 2006) and has averaged between Tk 13,000-17,000 during CLP-1 (Conroy et al, 2010).

*Source: World Bank, 2013a.*

There is some evidence that in PICs the disaster response more often tends to be in-kind, and it appears that formal cash transfer mechanisms are very limited and have seldom been used for responding to natural disasters.[18] There is also little evidence that the existing mechanisms help households create resilience to natural disasters and climate shocks.

Evidence shows that remittances and other forms of accessing cash are very important in the wake of disasters. This clearly points out to the need of providing some type of cash interventions, especially in urban areas. As the demand for more formal, cash-based social protection increases, PICs governments will need to keep in mind their important role in building resilience to natural and climate shocks and for response after a disaster. In each case, however, the risks and benefits of an in-cash versus and in-kind benefit will need to be assessed and weighed against the particular context.

### *ii. Conditional or Unconditional Cash Transfers*

In general, the use of cash transfers after emergencies has been limited to unconditional transfers, since conditions (schooling, health) might be too onerous for affected families

[18] Communication with an expert.

immediately after a disaster, due to disruptions in services, etc. Even in the case of CCTs, the emerging practice (e.g., response to typhoon Haiyan in the Philippines) is to exempt households from conditions for a certain period after the disaster. Conditions (e.g., the requirement to send children to school, attend health checks or other activities as a condition to receive the cash transfer) might be more useful in the recovery phase or later, when there is a long-term objective, such as encouraging human capital development after a disaster. In these cases, if relevant for the country context and program objectives, conditions might be useful to encourage families to put children back into schools and access health care. In any case, conditional cash transfers require significant capacity to implement and monitor conditionalities as well as having in place adequate service provision for beneficiaries to be able to meet those conditionalities.[19] Their benefits and disadvantages will have to be weighed against the program objectives.

It is important to note that besides their role in disaster response, cash transfers can also play a role in helping vulnerable populations build resilience to natural disasters and climate shocks. Conditional and unconditional cash transfers can help the poor and vulnerable build an asset base, invest in human capital and in the long term, diversify livelihoods, access credit, etc., which make them more resilient to shocks (See Box 13).

**Box 13: Bangladesh Chars Livelihoods Project (CLP)**

Starting from 2007, the CLP, a livelihoods scheme that mostly focused on temporary employment and asset transfers to poor beneficiaries affected by seasonal floods, introduced a cash grant varying from Tk 800 to Tk 2,000 (US $10-25) to those households unable to participate in the employment program (e.g., those headed by disabled people or women without the physical strength to provide labor). A CLP study found that, during the prolonged 2007 lean season, the recipient households took 40 percent less cash loans and significantly less food loans and credit than control households (Conroy et al, 2010). The participation of disabled-, older- and female-headed households grew progressively over CLP intakes (Hodson, 2009), possibly indicating the success of this and other CLP social equality measures.

*Source: World Bank, 2013a.*

[19] For instance, sending children to school requires that there is actually a school nearby, etc.

Although the experience with either conditional or unconditional cash transfers is limited in PICs, demand for these types of interventions might increase together with increased monetization. There is evidence that cash interventions are needed after natural disasters, although this is often currently provided through informal, private remittances.

*iii. Public Works Programs*

Public works programs[20] (cash or in-kind transfers in exchange for labor on community and public assets) have been used with the goal of providing relief, recovery and reconstruction after disasters. In addition to reaching individual households in need, public works programs (PWPs) also bring additional tangible and immediate benefit to the community and society by helping build or rehabilitate infrastructure, assets, or natural resources that are much needed. In the aftermath of disasters, public works programs have been used to build or restore communal assets, as well as for rubble clearance, marketplace rehabilitation, roads, and slope stabilisation.

Moreover, PWPs have a role to play in preparing and building resilience towards disasters. By implementing disaster- and climate- sensitive PWPs before disaster hits, it is possible to increase the availability of coping strategies and reduce the risk both at the household and the community level; while the cash or in-kind transfer helps individuals increase or maintain consumption, the assets created by the intervention may benefit the entire community, especially by putting in place assets and measures that help reduce risk from disasters.

Although the main objective of PWPs is usually to transfer cash or assets to the affected and vulnerable population, it is important that the resources allocated to the infrastructure portion of the works are used in the most productive way. For that reason, a recent trend in public works programs has been to focus the public work activities on small environmental conservation and rehabilitation works, soil and water management, etc. (for instance, building small irrigation works, planting mangroves for coastal protection). These activities are usually small, which allows keeping the transfer to poor households sizable, while the

[20] Also called, workfare, temporary employment programs, food for assets, cash for assets, cash for work.

public works activities help build resilience of the community to environmental and climate hazards through the assets created (See Box 14).

**Box 14: Ethiopia Productive Safety Nets Program**

The Productive Safety Nets Program in Ethiopia (PSNP) helps address the needs of chronically food insecure households in identified famine-prone areas of rural Ethiopia through:

- The predictable provision of adequate food and cash transfers to targeted beneficiary households, thus allowing effective consumption smoothing and avoiding asset depletion.
- The creation of productive and sustainable community assets that contribute to the rehabilitation of severely degraded areas, build resilience to climate-related impacts, and increase household productivity. The program also contributes to improved access to social services, such as education and health.
- The use of risk financing mechanisms, which allow for the program to be scaled up in times of transitory crisis.

The program finances labor-intensive public works, such as building terraced fields on hill slopes to reduce soil erosion and increase water retention, and social services infrastructure. Cash is paid for up to five days of work a month per household member, for six months a year, until the recipient households graduate from the program by accumulating an asset and income level that enables them to meet 12 months of food needs and to withstand modest shocks. In addition, about 20percent of the participating households with members unable to work receive unconditional cash or food transfers (World Bank/United Nations, 2010).

Some 60 per cent of the PSNP's public works sub-projects are in soil and water conservation, strengthening both livelihoods and resistance to the impacts of variable rainfall. A 2008 independent Public Works Impact Assessment (M.A Consulting Group, 2009) found that:

- Soil and water conservation projects led to significant and visible increases in wood and herbaceous vegetation cover and a broader diversity of plant species, in turn contributing to an increased supply of livestock feed, bee forage, and medicinal plants.
- Small-scale irrigation from water sources developed by the PSNP helped 4–12 percent of households to expand livestock holdings and to increase incomes by 4–25 percent, with even very small irrigated plots (190 m2) estimated to be capable of generating gross margins of between ETB 4,200 to 6,000 per year (US$413-91) if double cropped.
- The construction of water conservation structures has reduced surface runoff, increased infiltration, and raised groundwater levels, thereby enhancing spring yields and increasing stream base-flows with the result that, in several communities, springs now last longer into the dry season. The domestic water supplies have doubled in the sampled communities.

The PSNP has dedicated specific resources to ensuring the quality and sustainability of the public works. Woreda, zonal, or regional experts carry out technical supervision, with an overall project supervisor making at least weekly visits to all work sites. A program of skills

upgrading and training across different technical agencies and levels is provided through the capacity building component of the program. Regional Public Works Focal Units (RPWFU) have been also established in all regions to coordinate the implementation of activities at the regional level and to provide technical support to the woredas (World Bank, 2010).

*Source: World Bank, 2013a.*

Looking at the formal social protection mechanisms, it is clear that PWPs have not been used in this fashion in PICs. However, given these countries contexts, there is tremendous potential to use PWP as a mechanism to provide cash transfers and employment to poor and vulnerable populations, while at the same time helping build or rehabilitate infrastructure, assets and resources that help communities increase their resilience.[21] Parks et al. (2009) have noted that focusing such programs on young people in the Pacific would be particularly valuable given the large numbers of unemployed youth in many Pacific Islands. Gender requirements must be included.

Although PWPs usually require a relatively good level of capacity for implementation, there are several experiences (especially in sub-Saharan Africa) where they have been implemented through a community-based model. High levels of community engagement help transfer some of the needs for capacity to the local communities. Given the strong tradition of community participation in PICs, PWPs could be implemented through a community-driven delivery mechanism (See Box 15).

**Box 15: Implementing Public Works Programs through community-based approaches**

Community participation has many advantages for project implementation as well as for communities themselves:

- Since communities have better access to information at the local level, they are better able to select, design, implement, and monitor projects by being close to where the projects are happening.
- Community participation might also reduce administrative and coordination costs.
- It allows communities to take ownership of the program.
- It may promote the execution of activities that genuinely respond to the needs of the poor.

[21] The disaster preparedness and response can be potentially incorporated into some of the existing PWPs in the Pacific, including Urban Youth Employment Project (UYEP) in PNG, and Rapid Employment Project (REP) in Solomon Islands.

- It may contribute to better-quality works and may lead to better maintenance of the assets created.
- It may increase the program's public accountability and transparency.

There are several ways in which communities can be involved in program implementation. They can determine eligibility criteria for beneficiary selection and/or identify beneficiaries, select projects, monitor activities, or even help fund projects. The success of their involvement depends on how their participation is built into program design. The degree of involvement and scope of activities in which communities are involved vary greatly across countries.

In Yemen's Public Works Program, the active participation of poor communities became the cornerstone of the success in delivered services. Their involvement encompassed identifying, prioritizing, and selecting projects according to their needs; providing contributions (in cash or in kind) as a prerequisite to implementation; and implementation, operation, and maintenance of projects. This process increased community awareness of the program's development aspects and community understanding of implementation issues. Moreover, it promoted a strong sense of ownership—which was evidenced by community contributions, which reached 11 percent of total project cost— and improved community members' abilities to assume responsibility of completed projects, thus guaranteeing sustainability.

In Malawi, project selection within the Social Action Fund Program (MASAF) is, in principle, made at the district level in consultation with traditional leaders using participatory rural appraisal methodologies. Practical application has varied, however, and the evidence shows that those communities that participated in project selection had fewer implementation problems compared with the other communities, which is directly attributable to the procedure used for project selection.

In Ethiopia, PSNP project selection is handled at the community level using a planning process based on the concept of community-based participatory watershed development (CBPWD). This approach was developed by the government of Ethiopia in collaboration with the World Food Program and other agencies. It is recognized both nationally and internationally as an appropriate method and serves as the basis for developing a pipeline of projects, many of which have a soil and water conservation focus. A guideline authored by the Ministry of Agriculture and Rural Development provides local government staff and rural communities with a workable and adaptable planning tool.

*Source: Adapted from Subbarao et al., 2012.*

iv. *Index-based insurance*

Weather-index insurance is designed to trigger compensation against a weather-related shock (flood, drought, etc.) based on a parameter previously defined, i.e. payment is not triggered by actual loss, but on the basis of an index, such as rainfall measured at a local weather station (WFP, 2010). Although so far most of these initiatives have been small scale,

some initial results suggest that this type of interventions might help vulnerable farmers build resilience by protecting against shocks, increasing productivity and diversifying livelihoods. For instance, Index insurance could help manage catastrophic and highly covariate risks such as hurricanes, floods and severe (possibly back-to-back) droughts (protection role). In addition, micro-level insurance for poor farmers exposed to climate risk has the potential to allow households to increase productivity by encouraging the use of higher-yielding crops, as well as asset or livelihood diversification, and to access credit by using the insurance as collateral (promotion role).

The R4 Rural Resilience/HARITA project in Ethiopia provides poor farmers the option to pay for insurance by working on public works projects (See Boxes 2 and 4 and Table 2). The positive response by cash-poor PSNP beneficiaries to the opportunity to purchase insurance with their labor indicates that the demand exists for micro-level disaster insurance by the chronically poor, provided it is designed to meet their self-assessed needs and circumstances. SP programs can provide an effective, and likely cost-efficient, vehicle to make disaster insurance accessible to the chronically poor. The security provided by the insurance, combined with regular cash transfers and/or other forms of asset protection against climate-related impacts, may further create an enabling environment for prudent risk-taking by poor households to increase and diversify their asset/income base (World Bank, 2013a).

Nevertheless, feasibility of index insurance needs to be carefully considered. Similarly, different levels of insurance might work better in different contexts (macro/meso level vs. micro level). According to a comprehensive study of weather-index insurance around the world (IFAD/WFP, 2010) WII is expensive to launch as it requires significant resources and technical expertise to conduct the initial research and development, and, in some cases, access data, and build the local market capacity.

In PICs, insurance could play an important protection and promotion role as part of a comprehensive package of integrated social protection tools. It is important, however, that the proposition for these countries take into account what might be significant data constraints as well as potentially shallow markets. In this cases, a higher level (national or meso level) insurance mechanism can serve as a contingency financing mechanism for social

protection programs. In all cases, it is important to use, when possible, existing, efficient delivery channels, such as successful safety nets projects, and to engage the private sector from the beginning.

## III. Conclusions and Recommendations

As the risks from natural disasters and climate change continue to grow, it is essential to find solutions that can help the poor and vulnerable cope with the impacts and build long term resilience. Social protection, with its goals to prevent the poor from falling deeper into poverty, protect them against shocks and promote them out of extreme poverty, represents a potentially useful mechanism for disaster risk management and climate change adaptation. As demonstrated by the examples of Bangladesh, Brazil, Ethiopia, Malawi, Mexico, and Pakistan that have been presented throughout this paper, social protection mechanisms might help deal with disaster risk in very diverse contexts and circumstances. Pacific island countries (PICs) might be able to extrapolate some of the lessons from these examples.

Although PICs' social, economic and cultural context is unique and varies substantially from country to country, they all face similar challenges as they become more integrated in the global economy, as well as more exposed to forces that modify their traditional societies. PICs' high exposure and vulnerability to natural hazards and climate change compound these problems. These vulnerabilities not only point out to the need for more comprehensive formal social protection systems, but also make it essential that, as SP systems start to emerge and evolve, they include disaster and climate risk considerations, in order to provide prevention, protection and promotion functions around these risks.

This paper has intended to provide a framework for exploring the potential for social protection for disaster risk management and climate change adaptation in the region. Given the highly contextual nature of the region, the particularities arising from its location, topography and cultural forces, as well as the differences from country to country, the new and reformed social protection systems might look somewhat different from other regions in the world. In any case, some lessons, principles and pointers presented throughout this paper should be useful, while keeping in mind that they need to be extrapolated to the region with due caution.

A climate and disaster responsive social protection system in PICs would need to take into account the following characteristics:

- ***Climate- and Disaster-aware Planning,*** which implies building the necessary contingency, information and targeting mechanisms that allow anticipating, coping with and reducing risk from natural disasters at a system level.
- ***Interventions Centered on Livelihoods and Assets,*** with the goal of strengthening social, physical and natural household and community assets in a way that increases resilience to shocks; and supporting viable livelihoods for households.
- ***Building Adaptive and Response Capacity at System Level*** to deal with large systemic shocks, including appropriate institutional capacity and coordination with DRM and climate change agencies and, scalable and flexible mechanisms that can quickly react to protect populations during or after a disaster.

As new social interventions or schemes are developed or expanded in PICs, they should aim to address the risks and priorities imposed by the extreme vulnerability of the region to disasters and climate change. Nevertheless, the choice of social protection instrument is always highly contextual and should be based on a careful assessment of the objectives that are to be achieved by the intervention, as well as the capacity and resources for implementation. Based on successful experiences, some key considerations that can be drawn regarding the use of different SP instruments for disaster response and risk reduction include:

- Providing ***in-kind or cash benefits***, as appropriate to the context, keeping in mind that although cash provides versatility, in-kind transfers are needed when markets are not developed or destroyed.
- Choosing between ***conditional or unconditional cash transfer*** based on the program's objective but keeping in mind that conditions might be onerous after a systemic shock.
- Considering ***public works programs*** in cases where there is also an objective of building or reconstructing assets, while ensuring that public works activities

contribute to risk reduction and resilience goals. The public works could serve as a good instrument to enhance the housing and urban development agenda.

- Where markets exist, consider ***index-based insurance*** combined with regular social protection mechanisms to create an enabling environment for prudent risk-taking by poor households to increase and diversify their asset/income base.

Based on these principles, an overall assessment of the common challenges for disaster risk management and social protection in the region points out to several commonalities or synergies that could be explored:

- ***National level policy and planning coordination***: In terms of the disaster risk management sector, there is a need to mainstream disaster risk reduction and climate change into national budgets and into sector policies, plans and programs.
- ***Data, information and identification of vulnerabilities*****:** There is a need across the region to promote better data collection and its use for guiding disaster and climate risk reduction interventions, but also social protection programs targeting.
- ***Community involvement*****:** Both in the social protection sector and the disaster risk management, there is a need to involve communities in disaster risk reduction and to understand traditional forms of coping (traditional social protection) to design adequate complementary interventions.

The potential entry points for social protection policy makers and practitioners in the region to start incorporating features and principles for disaster response and climate resilience are presented below.

***Recommendations for improving Climate- and Disaster-aware Planning:***

- *Establishing partnerships for data and information gathering* with relevant agencies. Social protection agencies should establish stronger partnerships with disaster risk management, meteorology and climate change adaptation actors at the national level, especially for coordinating around hazard and risk mapping and early warning systems ahead of disasters, as well as for rapid response when a disaster hits.

- *Promoting better data collection and use* for not only guiding disaster and climate risk reduction interventions, but also targeting social protection programs.
- *Assessing targeting mechanisms* to identify potential features that can allow identifying and reaching those with highest climate and natural hazard risk or those affected by a disaster.
- *Promoting better integration of the SP/DRM/CCA with the urban development agenda,* with a focus on exploring what can work in urban areas to support and enhance social protection links to the CCA and DRM agendas;
- *Developing country-specific diagnostics and assessments* to identify entry points where capacity and systems can be enhanced, and identifying potential mechanisms for the scale-up of social protection systems in the face of disasters and shocks.

***Recommendations for enhancing Interventions Centered on Livelihoods and Assets:***

- *Identifying relevant actors at the local level*, while considering traditional coping practices and promoting the use of culturally-appropriate community-based and civil society mechanisms to identify households' and community vulnerability to climate shocks and natural disasters and assess the appropriate interventions based on communities' inputs.
- *Assessing the relevance of cash-based interventions* for social protection and disaster response based on each country's context and policy objectives.
- *Exploring and developing linkages between conditional cash transfers (CCTs) and disaster response;* for example, CCTs focusing on nutrition issues could be used as an entry point to build interventions that require household registries with coverage of the population that could represent an adequate base for comprehensive disaster response.
- *Assessing the potential for public works programs* at the country level, both as a mechanism to provide income and employment to vulnerable populations, and a mechanism to build physical assets for climate and disaster risk reduction at the community level.

***Recommendations for building Adaptive and Response Capacity at System Level:***

- *Ensuring coordination between social protection, disaster risk management and environment agencies*, including participation in bodies for disaster response coordination as well as mainstreaming of disaster and climate risk relevant principles and features in social protection policies, plans and programs.
- *Finding synergies* and collaboration between the disaster risk management, climate change adaptation and social protection sectors to ensure that resources, knowledge and skills are used as efficiently as possible.

The specific actions in each country context should be based on country-specific diagnostics (i.e., detailed country case studies similar to those undertaken recently in Fiji and Tonga) and emerge, ideally, from a national and local level dialogue on the role of these mechanisms. Context-specific social protection instruments/interventions might have an important role for disaster response and long-term resilience, and should continue to be explored, both in terms of design and implementation arrangements, in more depth.

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## Abstract

The Pacific island countries (PICs) are some of the most exposed to frequent natural disasters and climate shocks, and their vulnerability is increasing due to mounting effects of climate change as well as demographic and economic forces. Natural disasters hit the poorest hardest and have long-term consequences for human development. Social protection programs and systems have an important role in helping poor and vulnerable populations cope with the impacts of shocks as well as build long-term resilience. This paper discusses the potential role of social protection for disaster and climate risk reduction and management in PICs. It presents evidence and lessons from other regions, providing examples of tools and entry points for the development of climate- and disaster-responsive social protection interventions and context-specific recommendations for PICs.

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