
Community Driven Development, Climate Change, and Resiliency: Lessons from Solomon Islands

BOBBY ANDERSON

Analysis from the East-West Center
No. 160
September 2023

About the Author

Bobby Anderson is a Research Fellow at Chiang Mai University's School of Public Policy.¹ He was previously a Senior Social Development Specialist with the World Bank, based in Solomon Islands, where he was RDP's Task Team Leader.

He can be reached at: rubashov@yahoo.com.

Papers in the AsiaPacific Issues series feature topics of broad interest and significant impact relevant to current and emerging policy debates. The views expressed are those of the author and not necessarily those of the Center.

ABSTRACT Between 2009 and 2022, the Rural Development Program (RDP) built 663 small scale infrastructure projects chosen by communities across Solomon Islands. As RDP closed, the author visited 68 projects to assess a) the utility of the Community Driven Development (CDD) methodology, and b) how CDD may have been used by communities to ameliorate climate and disaster impacts. He surprisingly found that communities used CDD to replace water sources damaged by logging. Overall, CDD proved robust and adaptable, and was used by communities to build needed climate- and disaster-resilient infrastructure. However, the ability for communities to respond to climate risk was limited due to the scale of sea level rise. This paper concludes with recommendations to make community-led interventions more resilient to climate and disaster risk.

The Rural Development Program in Solomon Islands, 2009–2022

Solomon Islands experienced significant civil unrest from 1998 to 2003. This era, referred to as the Tensions, was catalyzed by land disputes in Guadalcanal between indigenous Guale and Malaitan migrants and was exacerbated by inequitable local-center relations, unequal resource distribution, and poor or nonexistent infrastructure and service delivery. The Tensions added to the formidable challenges to rural development already posed by the country's geography.²

In the years following the Tensions, the World Bank assisted the Solomon Islands Government in planning a project to support both local governments and rural communities. This resulted in the Rural Development Program (RDP), a Community Driven Development³ (CDD) intervention that captured community needs and delivered small scale infrastructure, access to services, and livelihoods support in response. Across RDPI (2009-2014) and II (2014-2022),⁴ 663 sub-projects were built, including wells, classrooms, health posts, staff housing, solar electrification, and cyclone shelters.⁵ In Solomon Islands, such a project was no mean feat: the country consists of some 900 islands, including some of the more remote island communities in the world. Costs are high, shipping is irregular, and construction materials are unavailable in communities which lie a week's ocean voyage away from the nearest port.

We assessed RDP's progress, using random sampling methods to identify and visit 68 infrastructure projects and 20 agriculture partnerships⁶ in Guadalcanal, Isabel, Makira, Malaita, and Temotu provinces. We also examined if and how RDP may have provided an opportunity for vulnerable⁷ communities to make themselves resilient⁸ to climate- and disaster-related shocks through sub-project selection, even though, outside one component which responded to the 2014 Guadalcanal floods,⁹ the project was not meant specifically to do so. The sub-projects communities chose, and the way those sub-projects were built, might show, in-part, how climate change and environmental degradation was

impacting communities, as well as what CDD could help communities address, and what it could not.

Finding 1: Climate Change Is Not Theoretical

While Solomon Islands is exposed to a wide suite of possible challenges posed by climate change—increased storm activity, changes in rainfall, ocean acidification leading to reef degradation, and so on—interviewees described climate change in terms of sea level rise: other effects are not yet readily apparent. But “king tides” of increasing power are regularly flooding villages, and not only in low-lying atolls and artificial islands.¹⁰ Changes in coastal soil salinity are beginning to leave some food gardens barren. These king tide effects were apparent in project sites in Makira, Malaita, Isabel, and Temotu; in multiple sites in each of these provinces we saw ruined gardens, undrinkable wells, eroded home foundations, and trees downed by such tides. While some of this inundation is caused by other environmental factors, including destruction of mangrove forests and other changes in human land use, climate change appears to be a systemic factor.

Finding 2: Environmental Destruction Drove Sub-project Selection

We found that the driving force behind community selection of the most popular sub-project category was a driver of climate change, namely the impact of unregulated and unsustainable logging practices.

Water supply¹¹ was RDP's most popular sub-project, constituting 51% of sub-projects chosen in RDP's last two cycles. In RDP's disaster grants for flood-affected Guadalcanal communities,¹² 83% of sub-projects were water. Of the 68 sub-projects we visited, 34 (50%) were water supply. Eleven non-water sub-projects additionally had water components, namely rain catchments. Of these 34 water sub-projects,¹³ 21, or 62%, were chosen in response to damage to existing water supplies caused by logging.

Of 34 water sub-projects, 21, or 62%, were chosen in response to damage to existing water supplies caused by logging.

Logging dominates the Solomon Islands economy.¹⁴ While some forestry operations work in a sustainable manner,¹⁵ most do not. The country exports an astonishing 19 times more timber than is sustainable.¹⁶ Despite this, the rate of logging is increasing. While unsustainable logging turns land from a carbon sink to a carbon emitter¹⁷ which in turn causes glacial ice to melt and sea levels to rise, its impact is still minimal on a global scale. But its impact on communities across Solomon Islands was more immediate. Communities described how water sub-projects were selected to replace water sources contaminated by logging operations: topsoil erosion followed the loss of trees, and this runoff and siltification rendered traditional water sources undrinkable. The erosion, in turn, impacted agriculture, damaging home gardens and select crops. Interviewees in some of the more denuded areas noted that the damage made their areas drier, hotter, and less productive. This has occurred in every part of Solomon Islands, except for the Reef Islands in Temotu Province, where logging is banned by traditional landowners.¹⁸ Logging damage is especially apparent on San Cristobal, the largest island in Makira-Ulawa province. Nearly every river runs turbid into a ring of muddy sea around much of the island, and nearly every natural harbor shelters a freighter picking up round logs.¹⁹ Every water sub-project visited in Makira and Isabel was chosen in response to logging. Communities worry that the sub-projects they chose to replace water lost to logging might also become useless over time, as secondary catchments and water piping from more distant/unimpacted water sources will also likely be rendered unusable as logging operations expand further into the interior. This is why rain catchments were popular. To understand the longer-term impacts of logging on these environments, we need look no further than the denuded landscapes of northern Guadalcanal, where deforested hills are now savannahs subject to wildfires in the dry season. And then there are the rains; these hills, lacking absorption capacity, generate deadly floods.²⁰

How, if land is 'owned' by traditional landowners, is this damage allowed to occur? The politi-

cal economy of logging in Solomon Islands has been written about extensively elsewhere,²¹ but it's worth summarizing the processes by which community leaders and politicians sell access to such resources. National and provincial parliamentarians are financially supported by logging companies; some are loggers themselves. This results in parliament having little interest in passing laws, or funding the enforcement of existing laws, which might curtail destructive logging practices. Politics, for its part, is understood in Solomon Islands to be serving the needs of a given constituency, not through services, but through petty redistribution of goods and cash, and so politicians run for office to access funds which can be redistributed. They sell access to logging and mining rights for a pittance, when one considers the damage caused. Indeed, logging is so central to the local political economy that it is generally considered by development actors to be too politically unpalatable an issue to address.

At the community level, loggers still need to purchase logging rights from local landowners. Land ownership tends to be communal, poorly defined, or complicated by competing claims. And so loggers easily find and pay off community leaders, or people claiming to be so, thereby gaining access to the land.

Meanwhile, the people most impacted by logging have the least voice. Those who have complained to the responsible politician or community leader are generally reminded to do what they are told;²² they often become wage laborers in the destruction of their own resources.²³ And there are too few examples of a less malign political trope to compare to the local MP who brokers the deal to turn their water to mud and hands them a little cash at election time. This has made Solomon Islanders uniformly cynical about politics and explains in part why votes are cast for short-term interests. This isn't all the harm logging has done: loggers tend to cohabit with local women on site, and then abandon the relationship—and their offspring—in exactly the degraded landscape they also leave behind.²⁴ And invasive species including coconut rhinoceros beetles

and giant African snails have spread throughout Solomon Islands on logging ships.

Finding 3: Communities Are Responding to Climate Change and the Impacts of Environmental Degradation, Both Within and Beyond the Project

We found resilience in design. The project’s Guadalcanal disaster recovery grants were meant to specifically provide climate- and disaster-resilient sub-projects,²⁵ but we found the same trends in other RDP sub-projects nationwide.

School buildings and staff housing were uniformly on stilts, with reinforced roofs, systematic use of cyclone bolts, and complementary water interventions.²⁶ Communities came up with their own resiliency innovations: a good example in Ta’aru, Southern Malaita (“Small Malaita”) is a sub-project consisting of a solar generator which pumps water from a spring to a hilltop polytank. Community members bent rebar lengthwise and set them in the tank’s foundation as lash points. It wasn’t called for in the design; they did it themselves.

These are exactly the small innovations we find when we look harder.

RDP generated other climate-linked and resilient interventions, including cyclone shelters, evacuation centers, and solar charging stations which lessen dependence on costly and unstable fuel supply chains. We also saw how communities themselves make sub-projects resilient, through operations and maintenance committees. Such committees were still servicing projects built twelve years ago.

It remains, however, that these sub-projects do not affect the most palpable climate changes communities experience, through rising tides and erosion. Theoretically this could have been done through two sub-project options: 1) sea walls, and 2) raising ground.

Sea walls would not have worked. Small-scale retaining walls inevitably erode not long after they are built,²⁷ and the budgetary parameters of CDD projects simply couldn’t create a durable sea wall.²⁸ Raising villages—houses as well as garden beds—

in the manner of artificial islands found in Malaita was not discussed, and likely couldn’t have been, but could be an option in a future intervention, so long as dead coral isn’t used.²⁹ In the meantime, communities are raising homes and gardens on their own initiative.

While sub-projects did not impact sea level rise, sea level rise is impacting sub-projects. Most communities, and most sub-projects, are on the coast. We found a few RDPI sub-projects ruined by erosion.

We also saw traditions of resilience. Solomon Islanders have always prepared for food scarcity. Home gardens are cultivated for as large a surplus as possible, and ancient agroforestry practices make for robust stewardship of forest and water. Swamp taro, found everywhere in the archipelago, was purposely planted by communities for hard times. Temotu’s Reef islanders dry and store breadfruit or *nambo*.³⁰ Others pit-ferment *Masi*, which can keep for years. Non-commercial coconut has been planted across thousands of years for when sweet water runs dry in droughts.

One of the most impressive examples of stewardship we witnessed is on Lomlom, Reef Islands. This ancient high mound of raised coral and limestone acts as a giant water cistern. Logging is banned, and much of the island is an astounding agroforestry project of unknown age. And yet even in a place where water had never run low, communities still chose water projects, in addition to rain catchment add-ons to the health post, school, and solar charging station they built.

Finding 5: Communities Are Moving Inland

We also learned about how some communities are responding both to sea level rise and other changes by moving to higher ground. Such movements present wicked policy problems. Other Pacific Island Countries (PICs) in which low-lying atolls predominate are planning for large population transfers—for example, the Kiribati government purchasing land in Fiji. The British began settling Kiribati—

We visited villages that had already moved decades before, and we saw the remains of what they left behind, in barnacled beams emerging from waves.

then called Gilbertese—in Choiseul and Western Province, Solomon Islands, in the 1960s. These may have been some of the earliest climate change refugees. The British also relocated populations from Vanikoro, Tikopia and other Solomon Islands atolls to Makira and other islands due to drought and population pressures.

In Solomon Islands, while most communities are on the coast, nearly all have hills at their backs, although exceptions are found in atolls (Ontong Java, Sikaiana) and artificial islands (Langa Langa, Lau). Some communities are already relocating.

In Small Malaita, sea level rise led communities to successfully negotiate with inland communities for land to be allocated to them. We visited villages that had already moved decades before, and we saw the remains of what they left behind, in barnacled beams emerging from waves. We learned of other relevant examples in Western Province, where the April 3, 2007 tsunami led to communities negotiating with inland tribes and relocating. This occurred in Isabel Province as well. In the northern atoll of Ontong Java (nee Lord Howe), community members began buying land in Honiara years back, and now have the Lord Howe Settlement as a relocation site. Sikaiana islanders did the same in Tenu, Guadalcanal, starting in the 1980s.³¹

One of the ways community leaders are preparing for possible future resettlement is by securing farm plots to cultivate, implicitly understanding that communities might one day live there. But unlike other PICs, Solomon Islands has few people relative to land,³² and so the lessons we might draw from here won't carry easily elsewhere. And just as we found successful negotiation and movement in Solomon Islands, we found unsuccessful ones too. In Langa Langa, Malaita Province, some artificial islanders³³ are denied land and potable water access from mainland communities. This is tied to old conflicts that saw communities create such offshore refuges in the first place.

These examples may provide a way forward for some communities. One of the keys to these successes is that they happened organically, without being “led” by government or donors. They were not time-bound; arriving at consensus took years.

Community cohesiveness extends through diasporas, and wantok obligations include sheltering persons in need. Atoll marriages are encouraged with partners whose families have land in more climate-resilient locations. Other PICs arm their citizens with advanced degrees to ease their future, individual, movement: in Solomon Islands education is also seen by communities as fundamental to resilience.

Policy implications

RDP's Community Driven Development methodology proved to be a robust development model that communities used to address needs which superseded common economic measurements. It shows that a participatory approach, complemented by top-level actions, surely makes sense for longer term stability and goodwill. Communities seek to protect their own resources. Assisting them to do so supports both political and environmental stability and would help the United States and other partners accrue the political capital they need to advance their respective Pacific strategies. And these governments could provide support more quickly and less expensively than the contractor/consultant model which predominates development work at present: the United States, for example, could provide technical assistance and project support directly to communities through the military's Civic Action Teams.³⁴

But while logging continues, the project is over, and with it, the only ward-level development project in which communities decided on their own needs. Findings in Solomon Islands and worldwide show that what communities choose, they maintain.³⁵ But projects not chosen by communities are maintained only by local governments, if at all.

An irony exists in that donors and multilateral institutions don't wish to engage Solomon Islands authorities around the issue of logging, but both government and donors find themselves funding the response to its impacts. This trepidation must end. Solomon Islanders understand both the malign impact of current logging practices and their lack

RDP's Community Driven Development methodology proved to be a robust development model that communities used to address needs which superseded common economic measurements.

An irony exists in that donors and multilateral institutions don't wish to engage Solomon Islands authorities around the issue of logging, but both government and donors find themselves funding the response to its impacts.

of say in the matter, and the country hosts a broad civil society with which to engage.

China faces its own constraints and opportunities regarding logging: the vast majority of logs harvested in Solomon Islands are destined for China, and Chinese citizens and companies dominate the trade. China engages with the local political economy in Solomon Islands as many states have done: by ensuring that elites are on-side and not being particularly concerned about communities. Global Witness (2018) and others have highlighted the opportunities China has to ensure that logs reaching their market are harvested sustainably, and that China's private sector does not abuse the power it wields in local politics. Any reduction in the impacts of logging would contribute to China's public relations efforts.

Changes in political economy, however, take time. The arc of Indonesia's experience with logging, from the rapacity of the late New Order era to currently reduced rates of deforestation, are a case in point. The continued troubles around both local politics and the private sector in West Papua and elsewhere in Indonesia suggest that unsustainable logging practices may ebb and flow, but never quite go away.

Applying RDP Lessons to Other Projects

RDP shows that CDD and other community-led models work. What communities taught us through their interaction with RDP can be used to adjust CDD and other community-led projects elsewhere, by applying climate change/resilience parameters on sub-projects, and incentivizing communities.

First, we need more research into what communities have already done to make themselves resilient. The World Bank has begun this work, through the Social Dimensions of Climate Change research series.³⁶ Amongst other recommendations, the series urges stakeholders to attain a deep understanding of informal networks and social capital already in place before contemplating climate-relevant interventions, especially around relocation. That may be the most important recommendation of all: "Do

No Harm" resonates for a reason, and relocation processes that are not community-led are rife with unintended consequences.

When we look for community innovation in resiliency, we tend to find it. CDD and agriculture projects in Indonesia, Laos, Myanmar, Philippines, Vietnam, and other countries, are known anecdotally to contain local innovations in response to climate resilience/adaptability. I've seen such innovation in Afghanistan, Indonesia, and Myanmar. I still remember being dazzled by the way communities integrated Mirab or traditional water expert knowledge in CDD irrigation works in Badakhshan, Afghanistan, in 2006. In agriculture, we see local adaptations relevant to drought management, secure dry-season irrigation, rainy season water catchments, smart crop diversification, erosion reduction, and so on. We must continue to study how local knowledge shaped past projects, and how future projects might better integrate community knowledge and values.

Other parameters and incentives include:

Local and sustainable materials and design to reduce the carbon footprint of sub-projects. A key material of nearly all CDD sub-projects is concrete, and a key ingredient of concrete is cement. Cement is the source of about 8% of the world's carbon dioxide emissions; if cement production were a country, it would be the third largest emitter in the world, behind China and the United States.³⁷ While at this stage in developing countries there is little alternative to cement for key aspects of infrastructure such as foundations and well rings, other materials for walls and roofs can be incentivized, including bamboo. Wood can be incentivized; most RDP buildings used locally milled timber for external walling, and then used manufactured cladding like plywood for interiors.³⁸ But sustainably harvested wood can be costly. CDD projects should provide budget top-ups for sub-projects that use more sustainable and climate-friendly materials. CDD projects can also incentivize the construction of wastewater gardens as an adjunct to any sub-

project where a toilet is built: for example, a school or clinic. Energy efficiency standards can also be added to CDD procurement guidelines. While this only might only initially apply to the fuel efficiency of a proposed generator purchase, it's a start.

Solar power. Projects can discourage fuel generators and stipulate that power sources for relevant sub-projects are off-grid through either a) solar panels, or b) small-scale hydropower. An important aspect of both would be a more robust post-project operations and maintenance scheme in which local volunteers are enrolled in residential trainings to learn how to maintain such equipment. The development world is littered with dead solar panels, hydro units, and batteries. Training volunteers in maintenance of such systems would be lengthier and more comprehensive than standard O&M training, but is worth the cost, and plays a part in increasing human capital as well as sub-project sustainability.

Solar power successes. The solar charging station sub-projects visited were undoubtedly the most successful and sustainable ones. These stations consist of a house, rooftop solar panels, an inverter, battery units, and associated training. Nearly every one of these stations grew into a community-owned and maintained business, offering not only fee-based charging, but also, refrigeration services, with fishers storing catch prior to sale. Some stations also refrigerate vaccines. This livelihoods-infrastructure hybrid has great potential.

Rainwater collection. CDD projects can encourage that health, education, and other sub-projects not falling into the "water" category have robust water collection systems in their design. Possible changes in seasonal water availability due to climate change make this important. While we see this thinking in Solomon Islands, in other countries hosting CDD projects, these systems are usually an afterthought, and it shows in how quickly accompanying water systems fall into disrepair, or were not thought of at all. In Pacific atolls which are already water-scarce, water sub-projects provided to

individual households in the form of polytanks and roof gutters should be considered public goods, and therefore, eligible for sub-project selection. Governments pursuing a broader Pacific strategy should note that providing and installing such systems at household levels would earn high levels of community goodwill. As long as those systems are of decent quality: cheap materials will have the opposite effect. Which brings us to the next point:

Better Standards. Resiliency is conservation of resources, but too many sub-projects leak. CDD projects can better apply standards³⁹ including well aprons and rings raised higher than anticipated floodwaters, and well-covers to prevent material impacts from floods and tides; minimum standards for quality of piping and spigots, ensuring water tanks are secured to foundations, etc. Regarding other infrastructure, the use of cyclone bolts, reinforced roofing, elevated structures and deeper foundations can be specified. While this will increase costs, it will pay for itself when less replacement infrastructure is needed after the next flood or cyclone.

Climate vulnerability in village planning. CDD projects can include climate vulnerability assessments within village etc. development plans, with assessments integrated into sub-project O&M. This would include slope stability assessments, community-wide drainage plans/assessments in flood- and landslide-prone areas, etc.

Smarter livelihoods interventions. CDD projects with rural livelihoods/agriculture components often emphasize cash crops for export to increase earnings, and because cash crops are easy to tax. Development actors, for their part, implicitly link cash to sustenance, believing one is dependent upon the other, as it is in most parts of the world which are people-rich and land/resource poor, and where nutrition is determinate on earnings. This confirmation bias leads us to take interventions designed for, for example, South Asia, and apply them to the Pacific. However, in rural Solomon Islands and

elsewhere in the Pacific, home gardens provide most of the calories consumed by rural households. The importance of these gardens was amply demonstrated at the onset of Covid-19 in Solomon Islands when many migrants left Honiara and returned to their home villages; hunger was predicted, but home gardens fed these returnees as well.

In some projects, cash crops have been planted at the expense of sustenance crops. This can lead to insecurity. While cash crops are important, and are needed to pay for medical care, school fees, etc., they pale in importance to sustenance. And reducing community reliance on cash-based markets for sustenance is probably one of the more climate-friendly things development actors can encourage. Agriculture projects focusing on cash crops should therefore contain relevant food security and nutrition components. This means support to home gardens and other agroforestry interventions that encourage soil health through, for example, polycropping, local manufacture and use of organic fertilizer and pesticide (including plant-derived pesticides), more efficient (and covered) irrigation, etc. Such activities could branch into forestry, with CDD agriculture activities focusing on shaded

crops in community-owned forests and a monitoring mechanism to protect such investments from logging operations, for example.

Restorative community contributions. CDD projects can have communities reforest/renovate land, plant gardens, trees (mangroves in particular), etc., instead of contributing labor directly to a given CDD sub-project. Work on home gardens can be a community contribution, as can local governments allocating land for such purposes. In built-up areas hosting CDD interventions, this can include urban gardens.

Climate criteria in public works. Going beyond CDD, the public works and youth employment projects the World Bank funds in urban Solomon Islands and Papua New Guinea already contain climate change adaptation, resilience and DRR elements. In future projects these elements can take precedence, to include climate adaptive public works focused specifically on flood control and riverbank management, watershed and mangrove restoration, harbor breakwaters, etc.

Endnotes

¹ The author wishes to thank RDP team members and friends including Gabriel Hiele, Mark Johnston, Flora Lasi, Alistair Lemoba, David Luza, Annie Rafeasi, Moses Rouhana, Andrew Sale, Gilroy Silvae, Freda Siwainao, Susan Sulu, Lottie Vaisekavea, Barnabas Vote, and Jacob Zikuli. The author also thanks Rebekah Ramsey, Ryan Edwards, Micah Fisher, Scott Guggenheim, Stephen Howes, Adrian Morel, Abidah Billah Setyowati, Susan Shen, Sonya Woo, and Rob Wrobel for their review of earlier drafts.

² For additional information on the Tensions, refer to Allen, Matthew G. 2013. *Greed and Grievance: Ex-Militants' Perspectives on the Conflict in Solomon Islands, 1998–2003*. Honolulu: University of Hawaii Press; Bennett, Judith. 2000. *Roots of Conflict in Solomon Islands*. Canberra: ANU State, Society and Governance in Melanesia Program Discussion Paper 2002/5; Braithwaite, John, Sinclair Dinnen, Matthew Allen, Valerie Braithwaite and Hilary Charlesworth. 2010. *Pillars and Shadows: Statebuilding as*

peacebuilding in Solomon Islands. Canberra: ANU Press; Dinnen, Sinclair, and Stewart Firth (eds.) 2008. *Politics and State Building in Solomon Islands*. Canberra: ANU Press.

³ For an overview of CDD see <https://www.worldbank.org/en/topic/communitydrivendevelopment>. For a discussion of the utility of CDD and criticisms directed at the model, see Anderson, Bobby (2019). "Community Driven Development: a Field Perspective on Possibilities and Limitations," ANU Development Policy Centre Paper 82, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3406722, last accessed on February 1, 2023.

⁴ RDPI was judged by the Solomon Islands Government and donors to have been a success and so Government requested an additional project to continue the CDD model. The infrastructure sub-project component remained the same methodologically, but RDPII expanded to new areas. The agriculture component was adjusted to have more private sector involvement through partnerships with smallholder farmers, and more value-added processes.

⁵ Of the 317 subprojects completed in RDPII, water supply subprojects were the most popular, constituting 51 percent of all subprojects, with 162 constructed. All water supply projects provided communal tap stands where generally none had existed before, reducing travel times. RDPII's Disaster Recovery Grants were primarily utilized for water supply: 84 percent (33 of 39 subprojects) addressed this need through improved and disaster-resilient boreholes, raised storage tanks, and so on. The next most popular subprojects focused on education service infrastructure (21 percent of subprojects), including primary/secondary school classrooms, dormitories, early childhood education centers, and staff housing. These education subprojects generally replaced decrepit infrastructure, added classrooms to alleviate overcrowding, and improved staff accommodation conditions. The education subprojects directly improved access to services as measured by increased enrolment rates: the end-of-project EFA noted an average increase in primary school enrolment from 61 children pre-project to 95 children post-project, while kindergarten enrolment in communities where education facilities were built increased from 22 to 52. Community infrastructure subprojects accounted for 17 percent of subprojects, building community halls, evacuation centers, and foot bridges/paths. Economic subprojects included the construction of solar charging stations, electrification of villages, and installation of communication equipment. The solar charging stations in particular reduced community reliance on unstable fuel supply chains for generators. Health services subprojects constituted 5 percent of subprojects and built/renovated rural health clinics, staff housing, and nurse aid posts, improving community access and the condition of such facilities overall. Construction in all subprojects was according to more robust designs (refer to details above). The following table summarizes subprojects and beneficiary numbers:

| RDPII Subprojects | # of Subprojects | # of Beneficiaries | # of Female Beneficiaries |
|-------------------|------------------|--------------------|---------------------------|
| Water/sanitation | 162 | 84,070 | 41,418 |
| Economic affairs | 18 | 8,155 | 3,953 |
| Education | 66 | 40,096 | 20,054 |
| Health | 17 | 13,576 | 6,703 |
| Community | 54 | 25,423 | 12,545 |
| Total | 317 | 171,320 | 84,673 |

⁶ Solomon Islands was free of the Novel Coronavirus 19 (Covid-19) until January 19, 2022—three weeks before the end of RDP—so we were lucky to continue with regular field missions over the two years when on-the-ground missions in most other countries ended.

⁷ According to the World Bank's *Social Dimensions of Climate Change in Indonesia* (forthcoming), "The Intergovernmental Panel on Climate Change defines vulnerability to climate change as a function of exposure, sensitivity, and adaptive capacity. The impact of climate change experienced by communities depends not only their exposure to climate risks but also on the sensitivity of their livelihoods and cultures to climatic changes, and their capacity to adapt and respond to

these changes. This three-part definition encompasses a contextualized understanding of localized risks and mitigating conditions that local populations face."

⁸ "Resilience" is defined by the Stockholm Resilience Centre (2015) as "the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop. It is about how humans and nature can use shocks and disturbances like a financial crisis or climate change to spur renewal and innovative thinking." Brand and Jax (2007) note that this definition draws on biological concepts, where ecosystems overcome disturbances and increase complexity. "Climate resilience", according to the World Bank's Social Dimensions of Climate Change research, is defined as "actions that seek to reduce sensitivity to or increase adaptive capacity in the face of extreme weather events (drought, storm surges, cyclone-induced flooding, etc.) or longer-term climate changes (e.g., changing means of temperature or precipitation)."

⁹ The World Bank's Climate Resilience in Solomon Islands Project (CRISP) was invited to undertake a quality review of RDP sub-projects built through disaster recovery grants in Guadalcanal in 2016. CRISP engineers looked at a sample of plans and offered recommendations to make them more climate resilient, and found that overall, resilience measures were already included. CRISP also co-funded 13 Guadalcanal sub-projects.

¹⁰ An overview of such artificial islands in Malaita Province is found at <https://reliefweb.int/report/solomon-islands/where-sea-has-risen-too-high-already>, last accessed October 11, 2022.

¹¹ The most popular water interventions were rain catchment systems constituting gutters, pipes, and polytanks connected to anywhere between 4 and 30 public tap stands per community. The average tank size for such interventions was 10,000 liters per tank. Other water systems chosen in RDP include wells/boreholes, and local piped water systems – either gravity-fed, or powered by solar/diesel pumps. Some of the more complex systems were chosen by communities on the artificial islands in northern Malaita's lagoons. In Funaafou, for example, kilometers of flex piping connected the island to a mainland water source. Note that the state, via Solomon Water, doesn't provide piped water outside of Honiara and a few towns like Auki and Gizo. Communities voice suspicions that such systems will break down over time.

¹² RDP included disaster recovery grants specifically targeting communities impacted by the April 2014 Guadalcanal floods, which killed 22, temporarily displaced 12,000, and damaged roads, bridges, water supplies, etc. Farms were ruined and livestock killed. The floods caused damage estimated at SBD 787.3 million (US\$107.8 million), equivalent to 9.2% of GDP. See *Government of Solomon Islands; Global Facility for Disaster Reduction and Recovery. 2014. Solomon Islands: Rapid Assessment of the Macro and Sectoral Impacts of Flash Floods in the Solomon Islands, April 2014. World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/21818*, last accessed September 1, 2022.

¹³ We visited water sub-projects in Isabel (Sakalena, Toelegu, Kolopakisa, Baolo, Zuto, Tubi; Guadalcanal (Naro, Komubeti, Komuniboli); Temotu (Nemu, Nru/Uta/Utanou, Noipe, Banie/Nonia, Noole, Baimawa, Maleu, Banape); Malaita (Small- Ta'aru, O'o, Tawairoi); Malaita (East- Uatae); Malaita (North- Siwai, Radesifolamae, Ailau, Bio, New Delhi, Faumamoto, Funafou, Foueda); and Makira (Hada, Heraniau/Huraha, Arohane, Mwaniwiniwiri, Bwaunasigu).

¹⁴ See, for example, Global Witness (2018). *Paradise Lost- How China can help the Solomon Islands Protect its Forests*, <https://www.globalwitness.org/en/campaigns/forests/paradise-lost/>, last accessed September 4, 2022- the logging road maps this report contains are particularly valuable; Katovai, Eric, Will Edwards and William F. Laurance (2015), and “Dynamics of Logging in Solomon Islands: the Need for Restoration and Conservation Alternatives,” in *Tropical Conservation Science*, vol 8 (718-731), https://tropicalconservationscience.mongabay.com/content/v8/tcs_v8i3_718-731_Katovai.pdf, last accessed August 11, 2022; Messick, Rick (2016). *Fighting Natural Resource Corruption: The Solomon Islands' Challenge*, 7 September, <https://globalanticorruptionblog.com/2016/09/07/fighting-natural-resource-corruption-the-solomon-islands-challenge/>, last accessed August 1, 2022; Porter, Doug, and Matthew Allen (2015). *The Political Economy from Logging to Mining in Solomon Islands*. Australian National University, http://dpa.bellschool.anu.edu.au/sites/default/files/publications/attachments/201607/dp_2015_12_porterallen.pdf, last accessed November 2, 2022.

¹⁵ An example of a sustainable operation is Kolombangara Forest Products Limited, in Kolombangara, Western Province. See <https://www.kfpl.com.sb/>, last accessed July 22, 2023.

¹⁶ Global Witness (2018).

¹⁷ 77% of the Solomon Islands' greenhouse gas emissions come from forestry and land-use changes. See International Monetary Fund (2018). *Solomon Islands 2017 Article IV Consultation*, March, <https://www.imf.org/-/media/Files/Publications/CR/2018/cr1857.aspx>, last accessed August 14, 2022.

¹⁸ Tetepare, in Western Province, is the last completely unlogged island in the Pacific, but it has no permanent human settlement. The traditional landowners in Rendova and other nearby islands continue to resist logging initiatives there through the Tetepare Descendants Association.

¹⁹ An animist group called the “Platform Movement” in Makira began killing loggers in response.

²⁰ The April 2014 Guadalcanal floods were exacerbated by such landscapes: three days of heavy rain in North-Central Guadalcanal caused the Mataniko and Lungga Rivers to burst their banks. Twenty-two people were killed and 12,000 initially displaced, with extensive damage to roads, bridges, and water supplies. Farms were ruined and livestock killed. The floods caused damages estimated at SBD 787.3

million (US\$107.8 million), equivalent to 9.2 percent of GDP For more information refer to Government of Solomon Islands and Global Facility for Disaster Reduction and Recovery. 2014. *Solomon Islands: Rapid Assessment of the Macro and Sectoral Impacts of Flash Floods in the Solomon Islands, April 2014*. Washington, DC: World Bank. <https://openknowledge.worldbank.org/handle/10986/21818>.

²¹ Global Witness 2016; Katovai et al 2015; Messick 2016; Porter et al 2015.

²² Discussions with hundreds of community members in Central, Guadalcanal, Isabel, Malaita, Makira, Renell, and Western all reveal the same complaints and the same responses.

²³ Ibid.

²⁴ The author witnessed this in dozens of logging areas in provinces across Solomon Islands, and was often asked for help in contacting absconded partners/fathers.

²⁵ In Guadalcanal's disaster affected communities, flood-resistant wells were built with borehole rings extending up to three meters above the ground to prevent them from being contaminated by future floods which are increasing in frequency as the hills and mountains to the south are logged.

²⁶ Even sub-projects not in the water category had water aspects: nearly every sub-project with a roof had associated guttering and polytanks to capture rainwater. If these secondary water projects were additionally measured, water aspects of RDP would increase to an estimated 75%.

²⁷ For more on the limitations of seawalls in dealing with long-term challenges of climate adaptation, see Nunn, P.D., C. Klöck, and V. Duvat. 2021. “Seawalls as Maladaptations Along Island Coasts.” *Ocean and Coastal Management* 205: 1–11.

²⁸ I've seen many such collapsed walls. In some parts of Eastern Indonesia I saw the ruins of even earlier retaining walls, built in the mid-1990s, hundreds of feet beyond the current coastline.

²⁹ Villagers traditionally use dead coral to raise islands and create new islands. This would raise serious environmental safeguard issues, even with dead coral.

³⁰ Brown, Susan, and Edward Mayer. “Saving it for Hard Times: Indigenous Food Preservation in Solomon Islands”. *Ileia Newsletter* 93, Netherlands Ministry of Foreign Affairs.

³¹ Donner, W. W. 2002. “Rice and Tea, Fish and Taro: Sikaiana Migration to Honiara”. *Pacific Studies* 25, 22.

³² This doesn't mean land available or empty: every square meter of land in Solomon Islands is traditionally ‘owned’ by wantok groups comprised of extended families/clans.

³³ An overview of such artificial islands in Malaita Province is found at <https://reliefweb.int/report/solomon-islands/where-sea-has-risen-too-high-already>, last accessed October 11, 2022.

³⁴ Peake, Gordon, and Camilla Pohle. 2023. Six Months in, Where Does the U.S.' Pacific Islands Strategy Stand? United States Institute of Peace, <https://www.usip.org/publications/2023/04/six-months-where-does-us-pacific-islands-strategy-stand>, last accessed on September 7, 2023.

³⁵ A sample of such research includes: Anderson 2019; Guggenheim, Scott. 2004. "Crises and contradictions: understanding the origins of a community development project in Indonesia", in Bebbington, A., S. Guggenheim, E. Olson, and M. Woolcock. Eds. *The search for empowerment: social capital as idea and practice at the World Bank*, 111–44. Hartford (CT): Kumarian; Mansuri, Ghazala, and Vijayendra Rao. 2013. *Localising Development: does participation work?* Washington DC: the World Bank; Sosa, Naomi. 2014. *Gender inclusion, Marginalisation, and community-driven development in Papua's Highlands*. Jakarta: World Bank; Wilson, Iain. 2016. Evaluation of Yasumat and mobilising for change in Yahukimo, Papua. Wamena: Yasumat, July; Wong, Susan. 2012. *What have been the impacts of World Bank community-driven development programs?* Washington DC: World Bank; Wong, Susan, and Scott Guggenheim. 2018. *Community Driven Development: Myths and Realities*. Policy Research Working Paper 8435. Washington DC: the World Bank.

³⁶ Cox, John, Lachlan McDonald, John Clemo, Rebekah Ramsey, Ruth Maetala, Darian Naidoo and Sonya Woo. Forthcoming. "Local Insights into Social Resilience and Climate Change in Solomon Islands." *Social Dimensions of Climate Change: Pacific Series. Research Paper 1*. Washington, DC: World Bank; Ramsay, Rebekah, John Cox, Lachlan McDonald, Ruth Maetala, John Clemo, Darian Naidoo and Sonya Woo. 2022. "Local Responses to Climate Change and Disaster-Related Migration in Solomon Islands." *Social Dimensions of Climate Change: Pacific Series. Research Paper 2*. Washington, DC: World Bank.

³⁷ Chatham House. 2018. Making Concrete Change: Innovation in Low-carbon Cement and Concrete. <https://www.chathamhouse.org/2018/06/making-concrete-change-innovation-low-carbon-cement-and-concrete>, last accessed August 10, 2023.

³⁸ Communities also used macrinite, which the project strenuously discouraged, because termites devour it.

³⁹ For example, *Sphere Humanitarian Charter and Minimum Standards in Disaster Response* (<https://spherestandards.org/>).

About this Publication

The AsiaPacific Issues series reports on topics of regional concern.

Series Editor: Denny Roy

The contents of this paper may be downloaded and reproduced from the Center's website. For information about the series, please see the Center's website or contact:

East-West Center
1601 East-West Road
Honolulu, Hawai'i 96848-1601

Publications@EastWestCenter.org
<http://eastwestcenter.org/publications/series/asia-pacific-issues>
ISSN: 1522-0966

© 2023 East-West Center

Recent AsiaPacific Issues

No. 159 "China's 5G Mobile Technology in Asia: US Security Concerns and Regional Economic Priorities" by Eric Harwit. May 2023.

No. 158 "Valuing Longer, Healthier Lives: Assessing the Productivity of Health Spending in South Korea" by Karen Eggleston. March 2023.

No. 157 "Economic Sanctions During Humanitarian Emergencies: The Case of North Korea" by Stephan Haggard and Marcus Noland. January 2023.

No. 156 "Asia's Push For Monetary Alternatives" by Marcus Noland. December 2022.

No. 155 "The Indian Farmer Makes Her Voice Heard" by Sandeep Kandikuppa and Pallavi Gupta. December 2022.

About the East-West Center

The East-West Center promotes better relations and understanding among the people and nations of the United States, Asia, and the Pacific through cooperative study, research, and dialogue. Established by the US Congress in 1960, the Center serves as a resource for information and analysis on critical issues of common concern, bringing people together to exchange views, build expertise, and develop policy options. The Center is an independent, public, nonprofit organization with funding from the US government, and additional support provided by private agencies, individuals, foundations, corporations, and governments in the region.

EastWestCenter.org