Best investments for an economic recovery from Coronavirus:

An illustration based on the Fiji Climate Vulnerability Assessment to pinpoint stimulus options

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The COVID-19 crisis is causing massive suffering across the globe. In addition to the human consequences of the disease, containment measures to slow down and control the virus have deprived people of their livelihood and put many firms in a difficult financial situation. As a result, governments are planning massive stimulus packages to accelerate recovery once the health emergency is under control.

In recent blog posts, we have made the case that these stimulus packages can be improved by recognizing not only the short-term need for jobs and economic activity in the recovery phase, but also the actions needed to boost the potential, resilience, and sustainability of future development paths.[1]

To help governments think through investments for a green recovery, we proposed a sustainability checklist to screen potential projects and policies. The checklist looks both at the short term (e.g. how many jobs will be created?) and the long term (e.g. does the intervention improve the population skillset? Does it facilitate the transition to a zero-carbon economy?). The key objective being to maximize short-and long-term gains through a careful selection of interventions.

If stimulus packages simply get countries where they were before COVID, they will face the same problems tomorrow that they faced yesterday, with low productivity, high pollution, and lock-in of carbon-intensive economic structures. The most efficient stimulus packages will be the ones that are designed to create many jobs and support economic activity over the short term, but also get economies on track for rapid sustainable growth post-COVID. Countries can use this spending to become 21st-century-ready by investing in the skills and health of their population, and in modern, resilient, zero-carbon, infrastructure systems and a healthy environment.

Developing a checklist for a Fiji stimulus

To test how the sustainability checklist might work for a specific country, the checklist was applied to the Fiji Climate Vulnerability Assessment (CVA). The objective is to demonstrate how the checklist can be used as a screening, scoring, and prioritization tool to identify projects that create synergies between short-term needs and long-term objectives.[2]

Fiji is one of many nations on the frontlines of climate change. Its CVA, which was developed with the support of the World Bank in 2017, identifies investments needed to build resilience over the next decades in housing/land use, hazard management, transport, energy, water, health/education, environment, agriculture, fisheries, and social protection.

We started from a list of 124 interventions identified as part of the CVA plan and created through an in-depth multi-sectoral collaboration between the Government of Fiji and the World Bank. These interventions were based on an assessment of the threat that climate change and natural disasters posed to the country's development goals, as stated in Fiji's National Development Plan. Most of the measures and interventions in the plan combine development and resilience-building objectives, such as road renewal, drinking water safety and security,

and hazard mapping. Indeed, the CVA plan was designed to support Fiji's 5-and 20-year national development plan, and to achieve their objectives despite disaster and climate risks.

Identifying stimulus package measures

To identify good candidates for a stimulus package, we applied the criteria in our sustainability checklist to each intervention of the CVA and gave it a score based on expected performance across 35 categories covering issues such as short-term job creation, long-term productivity gains, resilience building, and avoidance of irreversible environmental impacts or lock-in in risky or carbon-intensive development patterns. Based on available information, international experience and expert judgment, each dimension was given a score in one of three possible values: '1' if the intervention performed well (for example, community-level investment in ecosystem resilience can generate many jobs over the short term); '0' if the indicator is not relevant or if information is not available; and '-1' if the intervention performed poorly (for example, risk mapping is useful but will not generate many short-term jobs).

A first screening removed the interventions that performed poorly with a subset of criteria that are considered absolutely critical for a stimulus plan, such as creating local jobs and activity or being designed to prevent irreversible environmental damages or disaster risks. This first phase removed 50% of the potential interventions. Since the CVA carefully considered long-term implications, this screening removed mostly measures that were not expected to generate many jobs over the short term and are therefore poor choices for a stimulus plan.

Then, we used a classical multi-criteria approach to identify the most promising interventions among the remaining ones. The scores were aggregated into four core categories:

- **Short-term stimulus —** How would the measure impact employment, economic activity, timeliness and risk? For example, does it create new jobs in the short term? Do the new jobs make use of skills that already exist in the local population? Does the intervention have a plan in place to manage a possible re-instatement of COVID containment measures?

- **Long-term growth —** How would the measure impact human and social capital, technologies, natural, cultural, and physical capital? For example, does the intervention create decent jobs or promote skill-building? Will it improve agriculture and land productivity or help close the gap in delivering universal access to essential infrastructure?

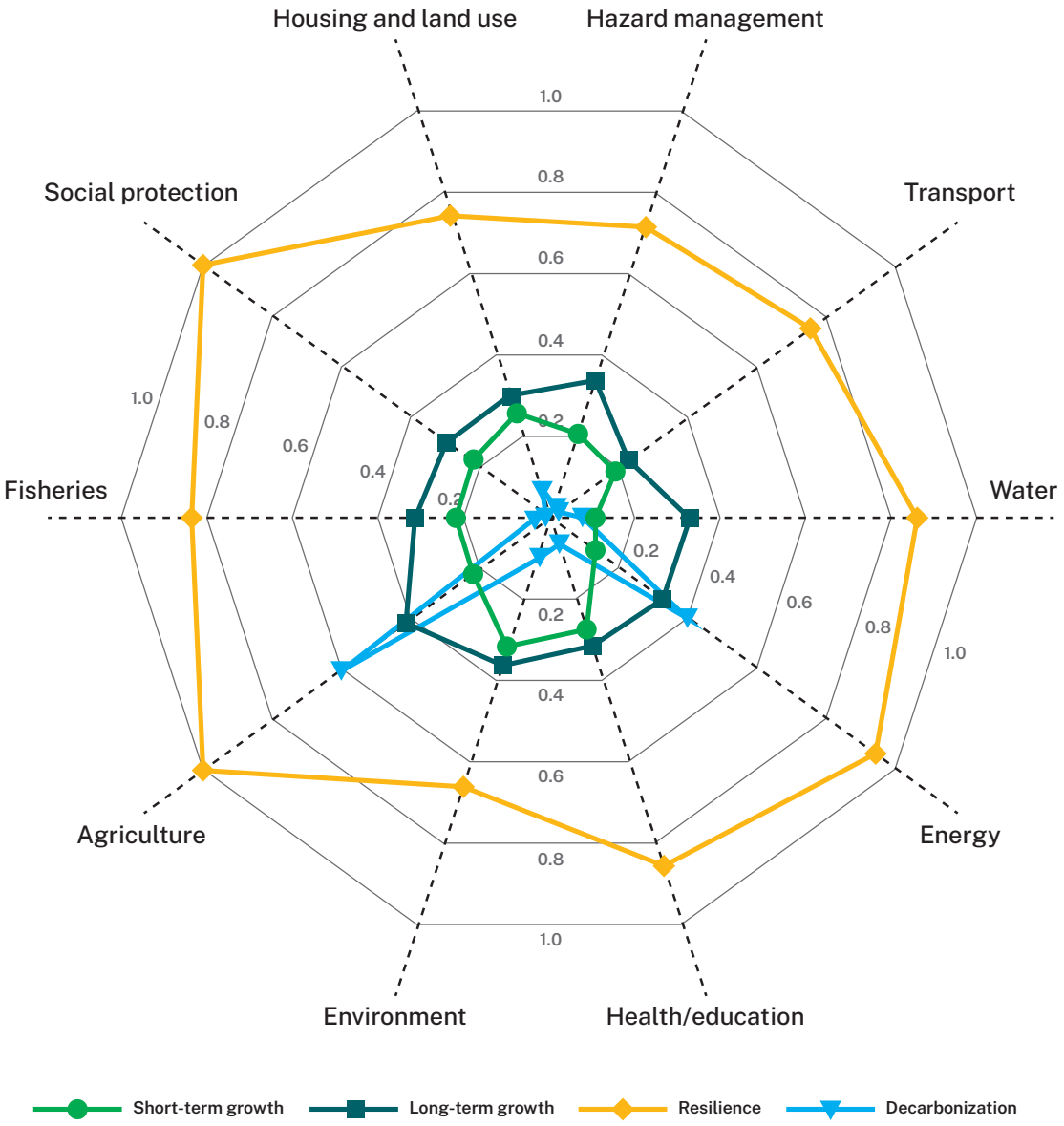
- **Resilience —** Would the measure boost resilience to natural disasters or improve the ability of the population to cope with and recover from shocks?

- **Decarbonization —** Would the measure support long-term decarbonization targets or climate targets under the Paris Agreement? Would it remove or reduce market, tax, or regulatory obstacles to energy efficiency or low-carbon technology?

To illustrate the approach, we selected in an ad-hoc manner a set of weights: 1.0 for short-term growth, and 0.5 for each of the three long-term considerations (long-term growth, resilience, decarbonization). The Excel tool that comes with this analysis makes it easy to look at how choosing different weights to prioritize different goals would change the selection of interventions. Finally, a budget of 3% of Fiji's GDP (approximately F$360m) was applied as a cut-off to capture an affordable package of interventions that had the largest combined scores against the four criteria.

(Of course, each government using this methodology would need to select the weights that best represent their priorities and policy goals. And the right choice in terms of budget would depend on the government's willingness and ability to mobilize resources for the stimulus package.)

How different categories of interventions perform along different dimensions.



Results of our analysis

The radar chart above shows how well Fiji's investment needs would be met in each of the specific sectoral categories [short-term stimulus, long-term growth, resilience, and decarbonization]. As expected, all 63 interventions remaining after the screening process are strong on resilience (it's a resilience plan we are starting from), but they also perform well on long-term growth. This is to be expected since the plan was developed to support long-term sustainable growth. Short-term growth is more selective, but since the worst measures have been removed during the initial screening, the 63 remaining actions provide some short-term stimulus benefits. The decarbonization dimension is the most different across sectors, since only the energy-sector and agriculture interventions generate significant benefits in this domain.

To package these measures into a suitable stimulus plan and meet the budget cut-off of 3% GDP, the list of interventions was reduced to 10 core interventions. The resulting package is presented in the table below. As expected for measures extracted from a resilience plan, they all perform well in that regard. But they are also expected to boost long-term productivity and growth, either by improving agricultural productivity, the reliability of infrastructure, or by reducing energy use or wastewater. Some, but not all, of them also contribute to decarbonization.

BUDGET CUT-OFF ANALYSIS

[score weight: short-term (1), long-term (0.5), resilience (0.5), decarbonization (0.5)]

INTERVENTION TITLE	CATEGORY	COST (F$M)	ST	LT	R	D
Improving resilience of rural mini-grids and solar home systems.	Energy	4				
Sustainable agricultural practices.	Agriculture	2				
Housing micro-finance (5-year loans) to retrofit existing houses and construct new houses to approved designs and standards.	Housing and Land Use	2				
Community level investments for improved ecosystem resilience – Phase I.	Environment	30				
Diversification of renewable energy generation.	Energy	30				
Expansion of underground distribution lines.	Energy	90				
Progressive structural upgrades of all remaining schools and health facilities not affected by TC Winston - Phase I.	Health/ Education	60*				
Expansion of solar generation.	Energy	79.2				
Promotion of alternative income-sources not dependent on fisheries.	Social Protection	10				
Reduction of physical water losses.	Water	50				

■ TOP 10%, ■ MIDDLE (10%-90%), ■ BOTTOM 10%, ■ DECARBONIZATION INVERVENTIONS WITH 0%

ST = short term, LT = long term, R = resilience, D = decarbonization, * represents 20% of total intervention costs

Alternative approach: Screening only for short-term potential

As a comparison, we proposed an alternative, simpler approach to the selection of stimulus interventions. The plan proposed in the Fiji CVA plan was designed not only to boost resilience, but also to accelerate long-term development and growth and help the country achieve the objectives it gave itself in its 5-and 20-year national development plan. It can thus be assumed that all measures in the plan perform well on two of the three long-term dimensions (growth

and resilience). What if the interventions in the plan are screened only for short-term stimulus potential? We also did this selection, leading to the 10 measures listed in the table below.

COMPARATIVE ANALYSIS, SHORT-TERM INTERVENTIONS
[score weight: short-term (1), long-term (0), resilience (0), decarbonization (0)]

INTERVENTION TITLE	CATEGORY	COST (F$M)	ST	LT	R	D
Community level investments for improved ecosystem resilience – Phase I.	Environment	30				
Housing micro-finance (5-year loans) to retrofit existing houses and construct new houses to approved designs and standards.	Housing and Land Use	2				
Expansion of underground distribution lines.	Energy	90				
Progressive structural upgrades of all remaining schools and health facilities not affected by TC Winston - Phase I.	Health/ Education	60*				
Strengthened management of ecosystems.	Environment	12				
Promotion of alternative income sources not dependent on fisheries.	Fisheries	10				
Sustainable agricultural practices.	Agriculture	2				
Improving resilience of rural mini-grids and solar home systems.	Energy	4				
Awareness campaigns and incentives for water conservation.	Water	1				
Extension of sewerage systems in flood-prone areas.	Water	200				

■ TOP 10%, ■ MIDDLE (10%-90%), ■ BOTTOM 10%, ■ DECARBONIZATION INVERVENTIONS WITH 0%
ST = short term, LT = long term, R = resilience, D = decarbonization, * represents 20% of total intervention costs

The comparison shows that the inclusion of energy and agriculture interventions in our initial list is driven at least partly by their benefits in terms of decarbonization. In contrast, housing, environment, and social protection remain priorities even if only the short term is considered. In addition to their ability to quickly create jobs, these interventions can contribute to the long-term growth, resilience, and often the decarbonization objectives of the country.

Existing plans are a good place to start

This exercise does not pretend to identify the best stimulus package for Fiji. Designing a stimulus package would require further exploration of options and interventions that are not part of the CVA resilience plan. For instance, the tourism sector is heavily affected by COVID and it will be critical to identify measures targeting this sector. Also, direct cash transfers or public work programs targeting the unemployed and the poorest is a cornerstone of a stimulus program. And the weights we have used to prioritize interventions need to reflect the priorities of the government and the population, instead of being fixed arbitrarily as we did here for illustrative purposes.

But the exercise presented here shows how existing investment plans can be used as an input into the design of a stimulus program, if screened to make sure selected interventions are appropriate in the current context. It also demonstrates how a simple tool – able to discard measures that are inappropriate today and to prioritize the others based on simple weights – can support the design of a recovery plan.

Using existing development plans as an initial menu of options that can be screened has many advantages. First, the screening would ensure that the selected interventions are meeting short-term needs in terms of immediate and appropriate job creation. Second, the fact that the considered measures were included in long-term plans (either national development plans, Nationally Determined Contributions, or a resilience plan like Fiji's) would ensure that the stimulus package generate benefits over the long term and beyond the immediate needs.

Endnotes

1. See for instance 'Thinking ahead: For a sustainable recovery from COVID-19 (Coronavirus)', published on *Development and a Changing Climate*, Mar 30, 2020, available at: https://blogs.worldbank.org/climatechange/thinking-ahead-sustainable-recovery-covid-19-coronavirus; and 'Planning for the economic recovery from COVID-19: A sustainability checklist for policymakers', published on *Development and a Changing Climate*, Apr 14, 2020, available at: https://blogs.worldbank.org/climatechange/planning-economic-recovery-covid-19-coronavirus-sustainability-checklist-policymakers
2. World Bank. 2017. Climate vulnerability assessment : making Fiji climate resilient (English). Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/163081509454340771/Climate-vulnerability-assessment-making-Fiji-climate-resilient