Food and Agriculture Organization of the United Nations



Policy Brief: Investment case for anticipatory action through adaptive and shock responsive social protection in the Philippines

Background

Over the past decade, the Philippines has achieved substantial reductions in its poverty incidence due partly to the expansion of jobs outside agriculture; government transfers through the social protection system; and remittances from overseas Filipino workers. Nonetheless, poverty reduction remains fragile amid concerns over inclusive growth and, most recently, COVID-19.

Next to COVID-19, natural disasters render the country's population vulnerable to poverty. Ranked by the *World Risk Report 2022* as the most exposed and disaster-prone country in the world, the Philippines is exposed to a wide range of hazards and prone to recurring natural disasters, particularly typhoons, storm surges, floods, droughts, earthquakes and volcanic eruptions.

In response to poverty and natural disasters, the Philippines has developed and utilized an advanced social protection system. Having learned from past emergencies, the government, specifically the Department of Social Welfare and Development (DSWD), has adopted *Establishing an Adaptive and Shock Responsive Social Protection (ASRSP) System in the Philippines: A Roadmap*. The ultimate objective is to build an adaptive and shock responsive social protection system to ensure timely and effective responses to risks and shocks as well as build resilient households.

The government has also strategically shifted from responding to predictable shocks to anticipating them and mitigating their impact. This Anticipatory Action (AA) approach establishes risk monitoring

systems linked to flexible finance and standard operating procedures by delivering support ahead of forecast shocks to protect people's lives and livelihoods. Linking anticipatory action to social protection means making better use of existing infrastructure to reach and support vulnerable populations ahead of the shocks.

In support of FAO's three-year Pilot Programmatic Partnership (PPP) in the Philippines, this investment case seeks to provide evidence on the design and financing of AA through ASRSP in the country. Specifically, the investment case assessed the context for AA in the Philippines and simulated the potential impacts of various programming options on the well-being of affected households. It also reviewed current financing arrangements for social protection and disaster response and assessed the financial sustainability and viability of the different programming options.

Methodology



FAO and DSWD teams pilot anticipatory action interventions for floods in Mindanao in coordination with local governments. © FAO

The investment case was developed with a mixed-methods approach, combining primary and secondary data sources through qualitative and quantitative data collection and analysis methods.

Desk review: A comprehensive, structured review of available secondary sources was carried out. The review included documents and reports on anticipatory action and adaptive and shock responsive social protection in the Philippines, as well as its current financing. Moreover, historic evidence on the effects of different types of natural disasters in the Philippines was reviewed.

Key informant interviews (KIIs): Twenty-five key informants from government departments, agencies and partners were interviewed to get an in-depth understanding of ongoing activities and plans for AA in the country. Moreover, ideas for the modelling and financing of anticipatory action, specifically of cash transfers were discussed during the KIIs.

Quantitative modelling: The findings from the qualitative research enriched the quantitative analysis, which focused on estimating and projecting the impacts of different types of natural disasters in the Philippines, establishing the role of AA in alleviating these effects and determining the costs of and financing options for such programmes. Specifically, the quantitative analysis comprised the following:

1. Effects of natural disasters
2. Impact analysis of anticipatory cash transfers
3. Costing of anticipatory cash transfers
4. Financing analysis

To complete the analysis, a Stata- and Excel-based model was developed using existing household-level data; macro-level socioeconomic and demographic data; effects of natural disasters historic data; and government revenue and expenditure data. The analysis covers the next 20 years (2023–2043) and was disaggregated to the regional level.

Effects of natural disasters



Assisting the elderly in Bacuag, Surigao del Norte. © FAO

First, this analysis assessed the future effects of different types of natural disasters on the well-being of households in the Philippines. The analysis focused on four types of natural disasters in the country – storms,[1] droughts, earthquakes and volcanic eruptions – estimating the number of affected households and appraising the effects of the disasters on these households over the next 20 years, or until 2043.

Number of affected households: The number of households affected by a natural disaster will increase from roughly 2.2 million to 6.9 million over the next 20 years (TABLE 1). Of the total household population, 8.1 percent will be affected by a natural disaster in 2023, growing to 14.8 percent in 2043.

Thus, every tenth household in the Philippines could be affected by a natural disaster over the medium term, and every seventh household over the long term. Most households will be affected by storms, including floods, followed by droughts, earthquakes and volcanic eruptions.

The number of households affected by storms and droughts is estimated to increase substantially over the modelling period. This can be attributed to the assumed increase in frequency and intensity of these types of natural disasters due to climate change. For earthquakes and volcanic eruptions, the number of affected households will only increase slowly in line with population growth.

Table 1 Estimated number of affected households, by type of natural disaster

	2023	2028	2033	2038	2043
Storm	1 994 222	2 955 114	3 997 928	5 152 170	6 363 399
Drought	210 328	263 136	313 000	365 951	423 028
Earthquake	96 973	104 184	111 069	117 452	123 265
Volcanic eruption	2244	2411	2570	2718	2853
Total	**2 206 794**	**3 324 845**	**4 424 567**	**5 638 291**	**6 912 545**

Source: Authors' calculations.

[1] The modelled effects of storms also include the effects from potentially resulting floods.

A spatial disaggregation of affected households shows that there are stark variations in the number of affected households across regions. While Central Luzon (Region III) will likely see the highest number of households affected by storms, Northern Mindanao and Davao (Regions X and XI) will likely see the highest number of households affected by drought. Bicol (Region V) will likely have the most number of households affected by volcanic eruptions, while SOCCKSARGEN (Region XII) will likely have the highest number of households affected by earthquakes.

Effects on households: Evidence from previous natural disasters suggests that affected households experience substantial asset losses from disasters. Such losses include the destruction not only of housing and personal assets but also of sources of livelihood, including farms, shops or equipment. It is estimated that affected households will lose an average of PHP 22 611 worth of assets to natural disasters in 2023, increasing to an average of PHP 62 257 per affected household in 2043. Expressed as a share of anticipated average household income throughout the years, asset losses equal roughly 8 percent of total household income.

Asset losses are also expected to translate into reduced household income. The extent of asset losses translating into reduced income depends on the income-generating activities of the households. Households engaged in farming, for example, are expected to experience higher income reductions compared to households whose incomes are from salaries and wages in regular employment. The findings suggest that the average income losses of households affected by a natural disaster range from an average of PHP 30 494 per affected household in 2023 to an average of PHP 79 171 per affected household in 2043. Expressed as a share of average household income, the losses average 10.4 percent throughout the years.

Significant loss differences exist across the regions, which can be attributed to the different types of hazards, exposure and vulnerability of each part of the country. For example, affected households in regions along the eastern coast of the country – such as Cagayan Valley, Central Luzon, CALABARZON, and Eastern Visayas – incur some of the highest losses due to storms affecting these areas. Likewise, losses for households across Mindanao are found to be particularly high due to droughts.

Effects on poverty: Finally, losses of household assets and income also negatively affect poverty in the Philippines. That is, households that were not poor before a natural disaster will likely fall below the poverty line. It is estimated that an additional 174 351 households will fall into poverty in 2023, increasing to 327 618 households in 2043. This can be explained by the increasing frequency and intensity of natural disasters as well as continued population growth in the Philippines. The number of households living in poverty is expected to increase the national poverty rate by 0.9 percentage points on average.



The FAO team inspects the drought-affected farms in Echague, Isabela. © FAO

> Households engaged in farming, for example, are expected to experience higher income reductions compared to households whose incomes are from salaries and wages in regular employment.

Potential impacts of anticipatory cash transfers



A woman claims cash assistance at a remittance center. © FAO

Recognising the increasing relevance of anticipatory action in the Philippines, the potential impacts of delivering cash transfers ahead of natural disasters were modelled as part of this analysis. The model selected three types of natural disasters – storms, droughts and volcanic eruptions – and estimated the effects of anticipatory cash transfers over the next 20 years, or until 2043.[2] Four anticipatory cash transfer variations were modelled as part of the analysis, each assuming a different target group (TABLE 2). As a result, the modelled target group sizes vary significantly, with variations 1 and 3 having a more narrowly defined target group.

Moreover, two benefit levels were modelled for each variation: a lower benefit level of PHP 3250 and a higher benefit level of PHP 9750. Both values were increased in line with inflation over the whole modelling period. Overall, it was assumed that the existing social protection system in the Philippines would be used for the delivery of the cash transfers, for example, Listahanan for poverty targeting and electronic payment mechanisms for cash delivery

Table 2 Target groups of anticipatory cash transfer variations

Cash transfer variation	Targeting criteria	Target households
Variation 1	All households that will likely be affected and are already living in poverty	2023: **298 386** 2043: **192 752**
Variation 2	All households that will likely be affected and are engaging in agricultural activities	2023: **606 021** 2043: **1 842 084**
Variation 3	All households that will likely be affected and are already living in poverty and engaging in agricultural activities	2023: **157 429** 2043: **11 933**
Variation 4	All households that will likely be affected	2023: **1 778 510** 2043: **5 466 889**

Source: Authors' calculations.

[2] Earthquakes were excluded from the impact analysis of anticipatory action because calculating the exact date, location and magnitude of an earthquake, as would be required for anticipatory action to be triggered, is not possible.

Averting losses: Substantially lower asset losses can be achieved in affected households, if anticipatory cash transfers are delivered on time and households use the cash to save assets. Using the low benefit level, total household asset losses at national level can be reduced by 0.9 to 22.2 percent in 2023, depending on the cash transfer variation. Using the high benefit level, the reduction in total asset losses ranges between 2.8 and 66.5 percent in 2023.

Furthermore, substantially lower income losses can be achieved by delivering anticipatory cash transfers to potentially affected households. First, the cash transfers directly increase the household income by the transfer value. Second, the reduced asset losses contribute to lower income losses that would otherwise be incurred. Using the low benefit value, the total household income losses at national level can be reduced by 2 percent to 22.1 percent, depending on the cash transfer variation. Using the high benefit level, the reduction in total income losses ranges between 6 percent and 66.2 percent. Hence, even though the anticipatory cash transfers cannot make up completely for the expected income losses, they can substantially reduce such losses.

The different reduction effects can be explained by the varying target group sizes of the cash transfer variations: variation 4 reaches more households than variation 3, while the higher benefit level saves more assets for households than the lower benefit level.

Poverty reduction effects: Finally, reductions in asset and income losses also affect poverty levels in the Philippines. Anticipating natural disasters with cash transfers delivered to different groups of likely affected households can prevent households from falling into poverty and lift additional households out of poverty (TABLE 3). Anticipatory cash transfers in the low benefit level can lift 67 312 households out of poverty in 2023 and 125 530 households in 2043. Using the high benefit level, the anticipatory cash transfers can lift 176 360 households out of poverty in 2023, increasing to 296 964 in 2043. The differences in poverty reduction effects are the result of the different target group sizes and the different benefit levels.

Last, cash transfers delivered after disaster positively affect the income of recipient households and, in turn, the poverty levels. An added value of anticipatory cash transfers is that asset losses are likely reduced, in turn reducing potential income losses. Thus, the poverty reduction effect is likely going to be stronger for anticipatory cash transfers than transfers delivered *ex post*. In addition, it is assumed that anticipatory cash transfers will help reduce any negative coping strategies – for example, reducing consumption – that households adopt in response to asset and income losses. This is not always the case with cash transfers delivered *ex post* as they tend to reach households days or months after the emergency when negative coping strategies have already been adopted.

Table 3 Number of households lifted out of poverty through anticipatory cash transfers

	2023	2028	2033	2038	2043
Low benefit level					
Variation 1	6417	10 563	9179	7907	5588
Variation 2	51 903	69 896	89 763	112 372	110 397
Variation 3	2262	2606	2574	2642	1670
Variation 4	67 312	90 995	111 307	132 214	125 530
High benefit level					
Variation 1	41 432	45 997	43 844	48 132	42 380
Variation 2	130 484	181 456	216 129	249 839	248 429
Variation 3	14 607	11 350	12 293	16 080	12 665
Variation 4	176 360	236 581	268 963	304 083	296 964

Source: Authors' calculations, based on FIES 2021.

Costing of anticipatory cash transfers



Next to the potential impacts, the costs and financial viability of the anticipatory cash transfers were assessed. The costs were calculated in absolute terms as a share of the projected gross domestic product (GDP) – forecasted based on historical trends and existing projections – and the projected government expenditure. Cash transfer costs were calculated based on the projected number of beneficiaries, the cash transfer value, and the estimate for the administrative costs to deliver the cash transfer.

Expressed as a share of national GDP, the costs of the four cash transfer variations using the low benefit level range between 0.002 and 0.1 percent over the modelling period. Expressed as share of government expenditure, the costs range between 0.01 and 0.5 percent (TABLE 4).

The costs for the cash transfer variations with the high benefit level are substantially higher, ranging between 0.01 and 0.3 percent of GDP and 0.03 and 1.4 percent of government expenditure over the modelling period. The differences in the costs can be explained by the different numbers of cash transfer recipients per target group as well as the different benefit levels.

Table 4 Costs of anticipatory cash transfer variations, % of GDP

	2023	2028	2033	2038	2043
Low benefit level					
Variation 1	0.004%	0.005%	0.005%	0.004%	0.004%
Variation 2	0.01%	0.01%	0.02%	0.03%	0.04%
Variation 3	0.002%	0.003%	0.003%	0.002%	0.002%
Variation 4	0.03%	0.04%	0.06%	0.08%	0.11%
High benefit level					
Variation 1	0.013%	0.015%	0.014%	0.013%	0.011%
Variation 2	0.03%	0.04%	0.06%	0.08%	0.11%
Variation 3	0.007%	0.008%	0.008%	0.007%	0.007%
Variation 4	0.08%	0.13%	0.18%	0.25%	0.32%

Source: Authors' calculations.

Financing of anticipatory cash transfers



Checking text advisory in Cotabato province. © FAO

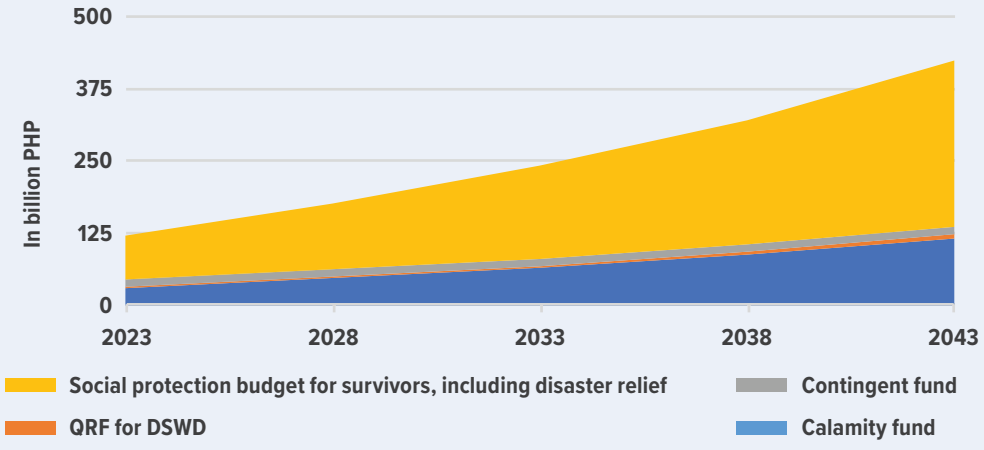
In the Philippines, the National Disaster Risk Reduction and Management Fund (NDRRMF) is at the heart of disaster risk financing and can also be used to finance *ex ante* activities. However, to date, most disaster risk financing is used for *ex post* activities and only a small share is spent pre-emergency. Even if funding is used *ex ante*, it is typically for the development of preparedness plans, forecasts, and early warning systems. Thus far, funding from the NDRRMF has not been used to finance anticipatory cash transfers, because pre-positioning of funds is only allowed for supplies. However, under Resolution No. 07-2022, the National Disaster Risk Reduction and Management Council has recommended the institutionalization of the declaration of imminent disaster. This would allow all relevant agencies in areas declared under a state of imminent disasters to use the quick response fund and other emergency funds as part of preparedness, including funding anticipatory cash transfers.

Anticipating the institutionalization of Resolution No. 07, the analysis assessed four options to finance the anticipatory cash transfer variations:

1. using the existing calamity fund under the NDRRMF;
2. using the quick response fund allocated to DSWD under the NDRRMF;
3. relying on the contingent fund; and
4. making allocations for anticipatory action under Disaster Relief Assistance in the existing social protection budget.

The results from the analysis show that the four identified financing options from the national government's budget offer substantial fiscal space. In total, the budgetary space is estimated to increase from PHP 122 billion to PHP 423 billion over the whole modelling period (FIGURE 1). Expressed as a share of GDP, this equates to an average of 0.5 percent. A share of this projected budgetary space could be used to finance anticipatory action.

Figure 1 Additional fiscal space for shock responsive social protection



Source: Authors' calculations, based on FIES 2021.

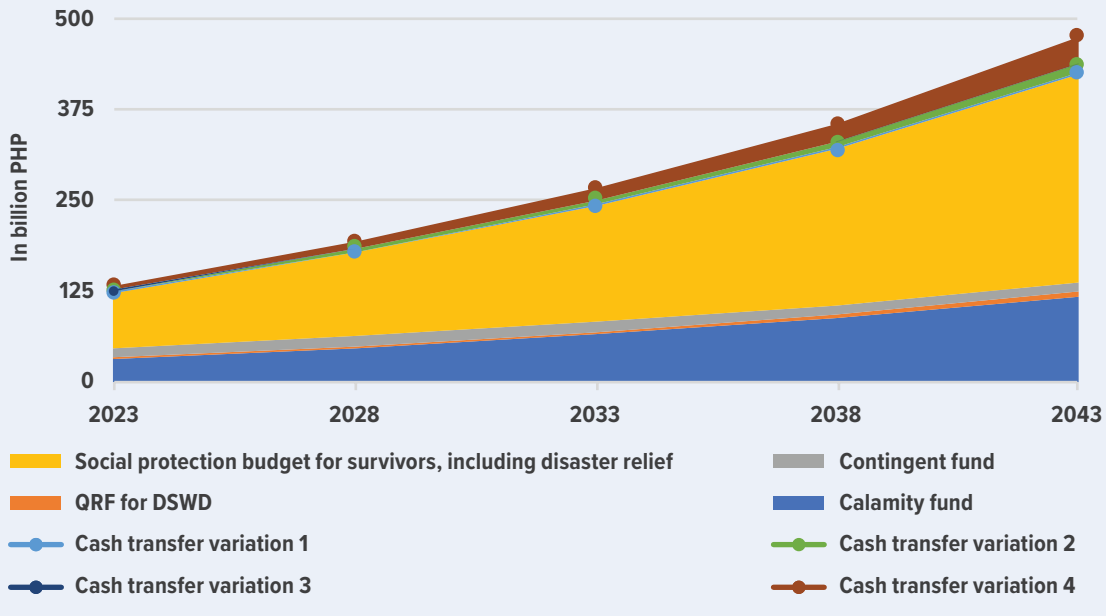


Distribution of containers in Bacuag, Surigao del Norte. © FAO

Using the low benefit level, all four variations fall well within the budgetary space (FIGURE 2). The most expansive cash transfer, variation 4 targeting all most likely to be affected households, takes up more budgetary space than variations 2 and 3 targeting only most likely to be affected poor households, including those in agriculture. While the costs of variations 2 and 4 continue to increase, variations 1 and 3 become increasingly affordable over the medium to long term as the government budget grows faster than the programme cost. This can be explained by the growing target group size, which outperforms estimated budget growth.

Overall, the cash transfer variations using the low benefit level is more affordable than the cash transfer variations using the high benefit level. However, it must be stressed that the impacts of averting asset and income losses are substantially lower for the low benefit level compared to the high benefit level. Furthermore, the affordability of the cash transfer variations should be assessed considering the available resources and funding needs of other activities in anticipation of and response to a natural disaster. These include, for example, conducting risk assessments, developing early warning systems, and prepositioning relief goods and equipment as well as disaster response activities.

Figure 2 Budget allocations vis-à-vis projected costs of anticipatory cash transfers (low benefit)



Source: Authors' calculations, based on FIES 2021.

Conclusions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Despite the Philippines' substantial efforts in reducing poverty over the past decade, poverty reduction remains fragile amid inclusive growth concerns and the country's exposure to natural disasters. The Philippines is the most disaster-prone country in the world, exposed to a wide range of hazards. Vulnerability to poverty remains high in the country, with many households in disaster-prone areas living close to the poverty line. The analysis from this investment case has shown that, for affected households, the impacts of a disaster on productive assets, income and overall well-being can be devastating. Furthermore, exposure to recurrent and frequent disasters will continue to affect the country's poverty incidence as households that live close to the poverty line are at risk of falling into poverty when affected by a natural disaster. Ultimately, poverty, vulnerability and disasters are intertwined in the Philippines.

To lessen the effects that natural disasters can have on affected households and to reduce household losses, the Government of the Philippines, together with its development partners, is exploring the role and relevance of ASRSP, particularly Anticipatory Action. Results from the investment case indicate that investments in AA, specifically anticipatory cash transfers, hold the potential to substantially reduce losses in terms of assets and income that likely affected households would otherwise incur.

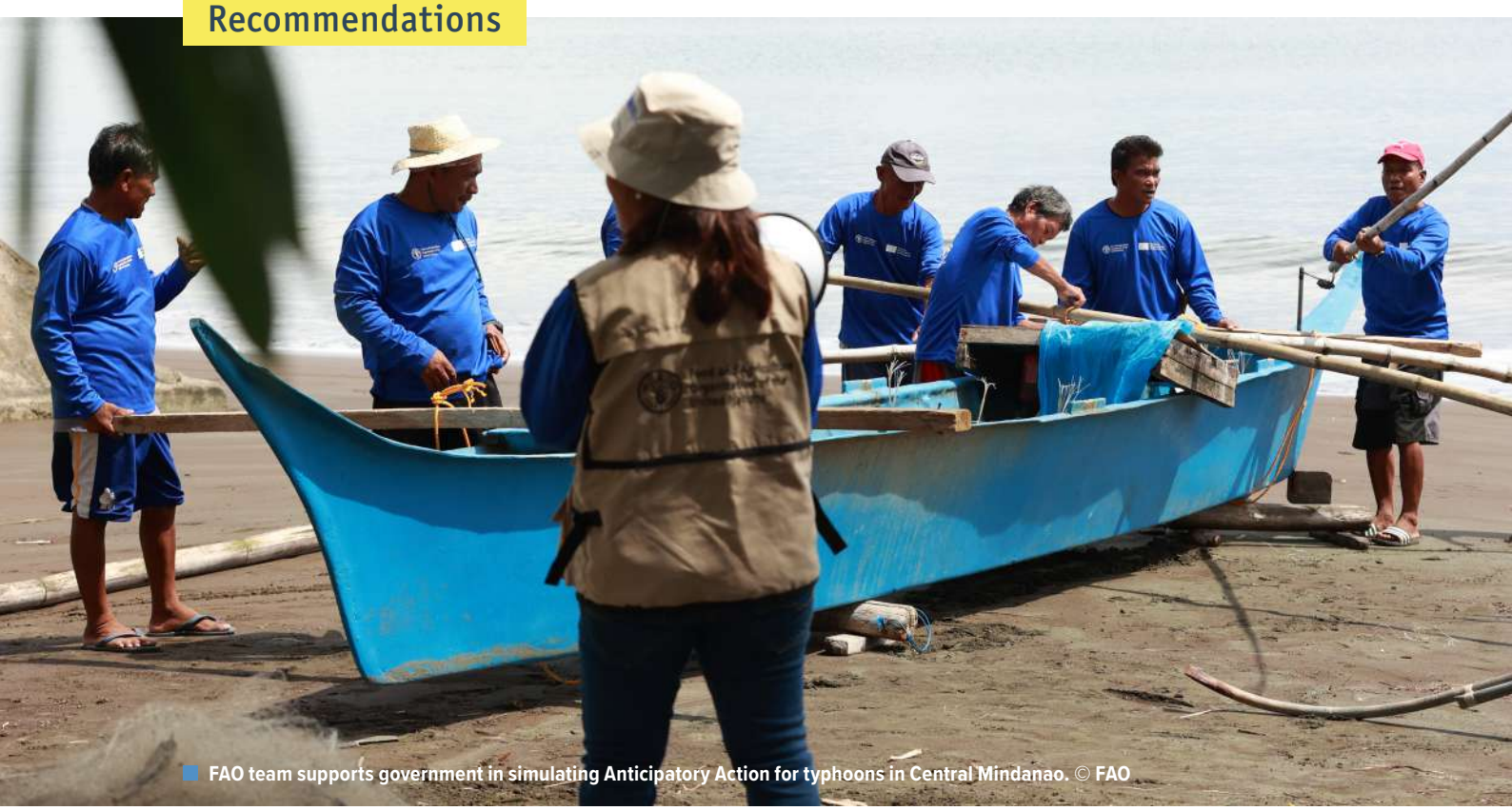
The analysis assumes that anticipatory cash transfers can be delivered through the existing national social protection system by relying on existing delivery mechanisms and scaling up existing social protection programmes. However, to deliver anticipatory cash transfers in a timely manner – particularly to households that do not yet receive social assistance from the government – the underlying social protection system must be strengthened. Efforts must be placed into collecting and periodically updating data on households' vulnerability and linking such data to other databases, such as the Listahanan. Moreover, electronic payment delivery must be expanded to households that are not yet part of the national social assistance system and coordination between actors across different levels must be further strengthened.

The analysis has also shown that sufficient budgetary space is available to finance different variations of AA through social protection at the national and regional levels. However, the absence of an enabling policy to allow *ex ante* disaster risk financing for AA means that emergency response

remains *ex post* and reactive, instead of proactive and reparatory. The forthcoming institutionalization of the declaration of imminent disaster is expected to ease the financing of *ex ante* activities for relevant agencies in areas declared under a state of imminent disaster. Still, other environmental factors, such as the absence of clear cost-sharing rules between the national government and local government units (LGUs), as well as concerns about LGUs' financial and technical capacity to absorb re-devolved mandates from the so-called Mandanas Ruling may continue to hamper effective use of disaster risk management funds for Anticipatory Action.

While the choice of which option(s) will be implemented in response to future emergencies lies with the government and the responding agencies, effective and timely response will depend on the preparations and strengthening activities that will be carried out at policy, programme, and administrative levels. Finally, while *ex ante* activities undoubtedly hold the potential to reduce losses, it will not be able to replace *ex post* response programming.

Recommendations



FAO team supports government in simulating Anticipatory Action for typhoons in Central Mindanao. © FAO

Finally, this investment case presents a range of recommendations to foster AA through ASRSP in the country. These recommendations include activities at the policy, programme, and administrative levels geared towards strengthening and financing AA as well as the overall ASRSP system.

Facilitating access to disaster risk funding: Beyond the adoption of NDRRMC resolution No. 07-2022, it is recommended that amendments be made on either one of or both the Bill on the Declaration of Imminent Disaster and Republic Act No. 10121, otherwise known as the Philippine Disaster Risk Reduction and Management Act to include provisions on AA, specifically anticipatory cash transfers. Furthermore, it is recommended that the process of accessing the Calamity Fund under the NDRRMF be reformed, specifically that its approval process be expedited to ensure that funds are released upon declaration of an imminent disaster.
Timeline: Short term

Streamline funding arrangements between the national government and LGUs: It is advised that funding arrangements be clarified between the national government and LGUs to streamline the financing of AA and ASRSP. There is a lack of clear cost-sharing guidelines between the national government and LGUs, that specify roles and responsibilities for both. Such guidelines could foster a more accountable and streamlined financial system for initiating adaptive and shock responsive actions.
Timeline: Short term

Continue to build the capacities of LGUs: As part of re-devolved mandates and financing to LGUs, it is advised that LGU officials' financial and technical capacity be strengthened to absorb the additional responsibilities. While broader capacity building might be required, particularly in the areas of AA and ASRSP, it is important to ensure that relevant concepts and responsibilities are well understood. These include pre-identifying vulnerable households, targeting households, horizontally and vertically expanding existing programmes, and managing data on households and vulnerabilities. Institutionalizing capacity building of LGU officials on concepts of social protection and scheduling yearly refresher trainings and activities could substantially enhance the operational efficiency of social protection systems.
Timeline: Short to medium term

Pre-design and pilot programming options for anticipatory cash transfers: It is recommended that the government, particularly DSWD, review its existing social protection programmes to explore the possibility of integrating and mainstreaming anticipatory action into the programmes. These include not only the 4Ps but also the Sustainable Livelihood Program (SLP), Supplementary Feeding Program (SFP), Protective Services for Individuals and Families in Difficult Circumstances (PSIFDC), Modified Conditional Cash Transfer, and Cash for Work Program among others. Required preparatory activities to deliver AA to existing beneficiaries and non-beneficiaries must also be considered. Design documents or guidelines for the most feasible options should be prepared and standard operating procedures (SOPs) clearly outlining processes and responsibilities should be developed as well.
Timeline: Short to medium term

Couple anticipatory actions with response programmes: It is recommended that *ex ante* activities be coupled with relevant *ex post* activities, many of which are already being implemented. Response programmes may include in-kind transfers to affected households and communities, activities promoting access to credit to buy agricultural inputs, and provision of free seeds to farmers.
Timeline: Short to medium term

Link data on households' vulnerability status to the social registry: To swiftly deliver anticipatory cash transfers to households in likely affected areas, it is recommended that data on households' vulnerability be collected and periodically updated to subsequently pre-list households as potential beneficiaries. Moreover, such vulnerability data should be linked to other databases, such as the Listahanan, to improve targeting of beneficiaries. Due to the fluidity of households' poverty status and their exposure to shocks, officials from LGUs should continually update and validate data. Hence, a dynamic approach to the social registry shall be adopted.
Timeline: Short to medium term

Include households in electronic payment delivery processes: To deliver cash transfers to households that are not part of the national social assistance system, it is advised that pre-listed households that are highly vulnerable to natural disasters be linked to electronic payment mechanisms. The government should also consider working with private financial service providers to complement the government's system. Over the short term, the government could also seek to foster digital financial inclusion, for example through advocacy campaigns focusing on opening bank accounts for vulnerable populations.
Timeline: Short, medium, long term

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