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Investment case for shock responsive social protection in the Bangsamoro Autonomous Region of Muslim Mindanao (BARMM)

MINISTRY OF SOCIAL SERVICES AND DEVELOPMENT
Uplifting Bangsamoro Lives

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Food and Agriculture Organization of the United Nations

Table of contents

List of tables, figures and boxes

List of abbreviations

4Ps	Pantawid Pamilyang Pilipino Program
BARMM	Bangsamoro Autonomous Region in Muslim Mindanao
BPDA	Bangsamoro Planning and Development Authority
BOL	Bangsamoro Organic Law
BSK	Bangsamoro Sagip Kabuhayan
COVID-19	Coronavirus Disease
DSWD	Department of Social Welfare and Development
GDP	Gross Domestic Product
GDRP	Gross Domestic Regional Product
ECT	Emergency Cash Transfer
EPRI	Economic Policy Research Institute
FAO	Food and Agriculture Organization
FIES	Family Incomes and Expenditure Survey
KII	Key Informant Interview
LGU	Local Government Unit
MAFAR	Ministry of Agriculture, Fisheries and Agrarian Reform
MFBM	Ministry of Finance, Budget and Management
MILG	Ministry of Interior and Local Government
MSSD	Ministry of Social Services and Development
NDDRMC	National Disaster Risk Reduction and Management Council
NEDA	National Economic and Development Authority
NGO	Non-Governmental Organization
ODA	Official Development Assistance
OVC	Orphans and other Vulnerable Children
PHP	Philippine Peso
PSA	Philippine Statistics Authority
SAP	Social Amelioration Program
SDGs	Sustainable Development Goals
SLP	Sustainable Livelihood Program
SRSP	Shock Responsive Social Protection
UNICEF	United Nations Children's Fund
UPBP	Unlad Pamilyang Bangsamoro Program
WB	World Bank

1. Executive summary

INTRODUCTION

The Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) is an autonomous region in the South of the Philippines established in 2019 following the ratification of the Bangsamoro Organic Law (BOL). BARMM is the Philippines' poorest region and has the country's worst human development index. One of the main contributing factors to BARMM's expressive poverty rates is the region's particularly high vulnerability to shocks. To address persistent poverty and vulnerability, several social protection programs are being implemented. While BARMM has mostly relied on the national government to fund most of its social protection programs during the first years since its establishment, the regional government has recently started to finance and roll out several cash transfer programs through its Ministry of Social Services and Development (MSSD).

To further strengthen the regional social protection system and render it responsive to the frequent emergencies in the region – particularly conflict and natural disasters – the newly formed BARMM government has received support from UNICEF and FAO under the UN Joint SDG Fund on Social Protection. As part of this support, UNICEF and FAO commissioned the Economic Policy Research Institute (EPRI) to formulate an investment case for shock responsive social protection (SRSP) in BARMM. This investment case assessed the potential future impacts of shock responsive social protection and shed light on the associated costs and ways to create the necessary fiscal space.

METHODOLOGY

The investment case for shock responsive social protection in BARMM was developed based on a combination of 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 (shock responsive) social protection in the Philippines and specifically BARMM and the financing of social protection and disaster risk reduction and management (DRRM). Moreover, national and international evidence on the impacts of different types of emergencies was reviewed.

Key informant interviews (KIIs): Primary data were gathered through KIIs with 26 participants from BARMM government ministries and agencies, as well as UNICEF and FAO. KIIs helped to scope and validate ideas for modeling of shock responsive social protection programs and potential avenues of fiscal space creation.

Quantitative modeling: The findings from the qualitative research fed into the quantitative analysis, which focused on estimating and projecting the impacts of emergencies on the well-being of the population in BARMM, the role of shock responsive social protection in alleviating these effects, and the cost of implementing such programs. Specifically, the following four analysis components were completed for the modeling period of 2021–2040:

1. Emergency simulations
2. Shock responsive social protection impact simulations
3. Shock responsive social protection cost simulations
4. Fiscal space analysis

To carry out the different parts of the analysis, an Excel model was developed on the basis of existing household-level data, macro-level socio-economic and demographic data, social protection program administrative data, and government revenue/expenditure data.

FINDINGS

Effects of emergencies

Firstly, the analysis assessed the future impacts of different emergencies on the well-being of households in BARMM. The analysis focused on the main types of emergencies BARMM households are affected by – conflict, natural disasters and health shocks, comparable to the COVID-19 pandemic.

Over a third of all households in the region will be affected by at least one type of emergency in any given year. It was estimated that in 2021, 221,789 households are affected, increasing to 309,050 by 2040. The majority of affected households are affected by conflict and natural disasters. In comparison, health-related emergencies were estimated to affect a substantially lower number of households. It was also estimated that, on average, 10 per cent of households are affected by more than one emergency throughout the modeling period of the next 20 years.

The income of households in BARMM affected by an emergency reduces by an average of 12.1 per cent in the year after the emergency. In 2021, for example, that means that the annual average household income of an affected household reduces from PHP 180,929 to PHP 157,242 in the year after the emergency, i.e., a reduction of PHP 23,687. Accounting for inflation and wage growth, in 2040, this income reduction amounts to PHP 41,083 per affected household in the year following the emergency.

In line with the reduction in household incomes, monetary poverty increases in BARMM after an emergency. In 2021, an additional 134,362 persons were estimated to fall into poverty due to the effects of emergencies. This number continually grows to an additional 201,711 people living in poverty post-emergency in 2040. The increased poverty headcount across the years also reflects in higher poverty rates post-emergency. Throughout the modeling period, post-emergency poverty rates constantly exceed pre-emergency rates by 2.9 to 3 percentage points.

Poverty measure	2021	2025	2030	2035	2040
Poverty rate (%)					
Pre-emergency	62.2%	59.5%	55.9%	51.8%	47.8%
Post-emergency	65.2%	62.4%	58.9%	54.8%	50.8%
Poverty headcount					
Pre-emergency	2,808,911	2,963,615	3,135,642	3,204,861	3,207,461
Post-emergency	2,943,272	3,106,911	3,300,192	3,393,478	3,409,172
Difference	134,362	143,296	164,549	188,617	201,711

In addition to income losses, affected households incur substantial human capital losses. These losses result from foregone investments in nutrition, education and health, as affected households cope with the income reduction. It was estimated that in 2021, affected households on average incur human capital losses of PHP 9,325 in the year following the emergency. Throughout the modeling period, the average human capital losses in affected households further increased. In 2040, affected households lose on average PHP 13,480 in human capital.

Consequently, the cost of inaction for emergencies is high, not only in terms of increases in monetary poverty, but also in terms of human capital losses. Hence, there is a significant opportunity for social protection to alleviate the negative effects that different types of emergencies have on households and enhance their opportunities to prepare for and recover from emergencies more quickly and sustainably.

Role of shock responsive social protection

To respond to emergencies and alleviate the effects thereof, six shock responsive social protection program options were modeled. The programmatic options are emergency cash transfers (ECT) to vulnerable groups and vertical expansions of existing national cash transfer programs.

Program	Modeling parameters
Regional programs	
ECT for poor households	Target group: Poor households not covered by 4Ps, affected by emergency Benefit level: Php 6,300 (value increased yearly with inflation)
ECT for persons with disabilities	Target group: Households with persons with disabilities, affected by emergency Benefit level: Php 6,300 (value increased yearly with inflation)
ECT for households with children and mothers	Target group: Households with children under 2, pregnant and lactating women, affected by emergency Benefit level: Php 6,300 (value increased yearly with inflation)
ECT for farmers	Target group: Households with farmers, affected by natural disasters Benefit level: Php 6,300 (value increased yearly with inflation)
National programs	
4Ps	Target group: Vertical expansion to all existing beneficiaries Benefit level: Php 6,300 (value increased yearly with inflation)
Social pension	Target group: Vertical expansion to all existing beneficiaries Benefit level: Php 6,300 (value increased yearly with inflation)

Throughout the modeling period, the various shock responsive social protection program options reduce post-emergency poverty rates, with poverty rate reductions ranging between 0.1 and 1.8 percentage points. In particular, the expansions of the 4Ps and social pension effectively reduce the poverty rate after an emergency. The other programs also achieve poverty reduction, albeit to a much smaller extent. The differences can be explained by the target group sizes of the modeled options, wherein the emergency expansions of the 4Ps and social pension have bigger target groups compared to the other emergency cash transfers.

In addition, shock responsive social protection programming can achieve substantial reductions in human capital losses of affected households. Assuming that affected households spend only 50 per cent of the emergency cash transfers they receive on nutrition, education and health, resulting human capital losses can be reduced from an average of PHP 9,325 to an average of PHP 2,793 in 2021 – a reduction of PHP 6,531 or 73.2 per cent. Similar reductions in human capital losses in affected households occur across the modeling period.

The timing of the emergency response is of the essence, as human capital losses accrue over time, and thus the earlier affected households receive income support, the lower the reduction in human capital investments is likely going to be. A comparison of different delivery times of emergency cash transfers shows that the biggest reductions in human capital losses can be achieved when cash transfers are delivered immediately after an emergency (i.e., within one month), or ideally, even before the emergency strikes, to prepare households that are likely going to be affected (for example, by a predictable natural disaster).

Financing of shock responsive social protection program options:

The costs of the six shock responsive social protection programming options range between 0.04 and 0.9 per cent of regional Gross Domestic Product (GDP) in 2021 and gradually reduce to 0.5 per cent of regional GDP and below in 2040. The program options with bigger target groups – vertical expansions of the 4Ps and social pension – are more expensive than the other programs with comparatively smaller target groups. The costs for all program options reduce as a share of Gross Domestic Regional Product (GDRP) over the years, stressing their affordability over the long-term. To fund these programs, options to create additional fiscal space for the shock responsive social protection were identified and modeled.

Potential option	Modeling parameters
Re-allocating public expenditures	Gradual increase from 4.1% to 4.5% of Bangsamoro Government budget by 2040
Making use of existing disaster risk financing	Accessing 5% of projected DRRMF Accessing 5% of projected QRF
Increasing grants	Using 10% of projected ODA for BARMM on shock responsive social protection (until 2029)

The analysis shows that substantial additional space can be generated through the four identified options. Tapping into existing DRRM funds and assuming that five per cent of the quick response fund and five per cent of the regular DRRM fund (DRRMF) could be accessed for a response through shock responsive social protection, would amount to an additional PHP 200 million in 2021 and grow to PHP 290 million in 2040. Moreover, gradually increasing the operating budget of the MSSD could yield substantial budgetary space for shock responsive social protection – steadily growing to PHP 1.2 billion in 2040. Finally, utilizing 10 per cent of the expected Official Development Assistance (ODA) for BARMM for shock responsive social protection in the region is projected to generate an additional PHP 576.5 million in 2021 to PHP 761.4 million in 2029.

The additional fiscal space that could be generated through these four options is sufficient to cover the costs of several shock responsive programs. The emergency cash transfers targeted at affected persons with disabilities, farmers affected by natural disasters, and poor households affected by an emergency and not receiving the 4Ps could be covered by the additional fiscal space. Only the costs of delivering emergency cash transfers to affected households with children under 2 and pregnant/lactating women surpass the additional fiscal space in some years of the modeling period. In the long-term, however, the additional fiscal space suffices to cover this type of emergency cash transfer.

CONCLUSIONS

Despite the economic growth and institutional changes achieved by the BARMM region in the last few years, the region still ranks as the poorest and most vulnerable in the Philippines. One of the main contributing factors to BARMM's high poverty rates is the region's particularly high vulnerability to shocks, with over a third of all households in BARMM affected by at least one emergency in any given year. With limited coping mechanisms at their disposal, most households in BARMM cannot deal with the impact of shocks, further aggravating their poverty status.

To lessen the impact that shocks can have on poverty indicators and contribute to poverty reduction, the BARMM Government is increasingly exploring the role and relevance of its social protection system and the implementation of shock responsive programs. Results from this investment case have indicated that shock responsive social protection programs can promote substantial reductions in monetary poverty and human capital losses of households affected by emergencies.

Building a more shock responsive social protection system also requires continued strengthening of the 'regular' social protection system in BARMM. To deliver emergency assistance effectively and efficiently to affected populations, the Bangsamoro Government will need to continue strengthening the underlying systems and processes of the 'regular' system. These include, for example, the poverty registry, linking beneficiaries to electronic payment mechanisms, and scaling up of existing social welfare programs, which currently reach a fraction of the vulnerable and poor population.

Finally, fiscal space could be created to cover several shock responsive social protection programming options; however, the Bangsamoro Government will need to invest in its ministries' capacities to request and manage additional resources. While the region has a larger budget compared to previous years, ministries and staff therein have not yet gotten used to the newly established government bureaucracy and procedures. Building the required capacity of ministries to draft program proposals and to access funding will thus play a substantial role in creating fiscal space for regular and shock responsive social protection.

RECOMMENDATIONS

Utilize pilot emergency cash transfer program options: The regular social protection programs in BARMM currently reach a relatively small share of poor and vulnerable populations, particularly when compared to the scale of national programs. Hence, it is recommended that first responder agencies, such as the MSSD and the Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR), continue to pilot emergency cash transfer program options and in the future utilize such options in response to emergencies.

Design options for emergency cash transfers: The investment case has highlighted the relevance of a timely response to emergencies, particularly reducing household-level human capital development losses. Therefore, it is advised that the MSSD prepares design documents and standard operating procedures for potential emergency cash transfers targeted at vulnerable population groups in case of emergencies, facilitating rapid responses.

Clarify linkages between disaster risk management and shock responsive social protection at policy level: Currently, the Bangsamoro Development Plan (BDP) does not outline a clear link between disaster risk management and shock responsive social protection, nor between conflict, peacebuilding, and the role of social protection. Hence, to clarify the relevance of social protection in disaster response, the evidence presented in this investment case could be used as advocacy material and be utilized to design programs and budget proposals that align with the priority areas of the BDP.

Continue to build the regional poverty registry: An updated and comprehensive social registry is instrumental to rapidly implementing shock responsive social protection. It helps identify in advance households that may need assistance at the onset of crises. Thus, it is recommended to continue and fast-track efforts to build a regional poverty registry reflective of the needs and vulnerabilities of the Bangsamoro population.

Scale up existing regional social welfare programs: Considering the uncertainties regarding the sustainability of financing for the national flagship programs in BARMM, it is recommended to scale up existing regional social welfare programs to meet the needs of vulnerable and poor populations and ultimately create regional flagship programs.

Further strengthen the capacities of the MSSD: To ensure that sufficient fiscal space can be generated for social protection in the region, MSSD staff must be well-equipped to complete necessary procedures. And while this recommendation focuses specifically on the capacity of MSSD due to its relevance in shock responsive social protection, this recommendation is relevant for most ministries in BARMM.

2. Introduction

The Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) is an autonomous region in the South of the Philippines established in 2019 by the Bangsamoro Organic Law (BOL). BARMM is the Philippines' poorest region and has the country's worst human development index.[1] One of the main contributing factors to BARMM's high poverty rates is the region's particularly high vulnerability to shocks. Accordingly, with limited coping mechanisms at their disposal, shocks – man-made, natural or health-related – typically mean that most households in BARMM cannot deal with the impact of these shocks, further aggravating their poverty status. To alleviate the negative impacts of shocks on poverty, the government in BARMM is increasingly exploring the role and relevance of its recently started social protection programs to reduce vulnerability to shocks and poverty.

While the region is autonomous in its governance structures and operations, it mostly relies on the national Government to fund most of its social protection programs during the first years since its establishment. However, the situation is slowly changing with the BARMM government recently starting to finance and roll out several cash transfer programs, also referred to as financial assistance programs, through its Ministry of Social Services and Development (MSSD). Among others, the government in BARMM has set up programs for orphaned children, individuals living with disabilities and vulnerable households in emergencies, allocating 85 per cent of the MSSD's total budget of PHP 3.3 billion to these interventions.

In strengthening social protection in the region, the Government has been receiving support from the United Nations International Children's Fund (UNICEF) and the Food and Agriculture Organization (FAO), which have been providing technical support on shock responsive social protection to the BARMM government under the UN Joint SDG Fund on Social Protection and with support from the Australian Government. Anchored in the principle of leaving no one behind, UNICEF and FAO's support focuses on catalytic activities in shock responsive social protection programming that aim to accelerate results and inclusion for the most vulnerable and marginalized groups of families and their children. As part of this project, UNICEF and FAO support the BARMM government, through the Bangsamoro Planning and Development Authority (BPDA), to formulate and mainstream a risk-informed and shock responsive social protection policy in its medium-term development plan. To inform this policy, a series of analyses is needed to build the argument and justification for why it is important to invest in these programs in this context. One of these is an investment case that explores the potential cost of shock responsive interventions, their benefits, and their fiscal and financial feasibility.

UNICEF and FAO, in partnership with the BPDA, commissioned the Economic Policy Research Institute (EPRI) to formulate this investment case for shock responsive social protection in BARMM. The investment case was developed on the basis of qualitative data collection activities with key stakeholders at national level and in BARMM, and quantitative modeling of shock responsive social protection impacts and costs over the next 20 years. This report presents the findings of the analysis and speaks to the impacts of emergencies on poverty and human capital development in BARMM and the potential of implementing shock responsive social protection programs to alleviate the impact. Moreover, the report presents the associated costs of implementing various shock responsive social protection program options and assesses the potentially available and required fiscal space. The report concludes with recommendations on how to render the social protection system in BARMM more shock responsive in order to adequately prepare for, and respond to, future shocks that the region will encounter.

[1] The human development index (HDI) value for the Philippines constantly increased over the past years, rising from 0.609 in 1995, to 0.701 in 2015, and 0.718 in 2019. A provincial disaggregation of the HDI for 2015 shows, however, that the HDI value for provinces in BARMM is substantially lower than the national average; with 0.454 for Basilan, 0.248 for Lanao del Sur, 0.377 for Maguindanao, 0.325 for Sulu, and 0.471 for Tawi-Tawi. (Human Development Network [HDN] Foundation Inc., 2021)

3. Objectives and scope

3.1. OBJECTIVES

The objective of this assignment was to develop an investment case for child-sensitive and risk-informed shock responsive social protection in BARMM, in support of the three components of the UN Joint Programme. To achieve this objective, various quantitative analyses were carried out, focused on showcasing the gains of investments in shock responsive social protection, including an analysis of the future impacts of shock responsive social protection programs on the development of the BARMM region; a simulation of the cost of investments; and a fiscal space analysis, serving to identify potential financing strategies. The different parts of the quantitative analysis were informed by qualitative research.

Specifically, the objectives of the assignment were as follows:

- Assess the shock responsive social protection context in BARMM and simulate the potential impacts of various shock responsive social protection programming options on the well-being of the population in BARMM
- Review the current financing arrangements for social protection and disaster response in the Philippines, specifically in BARMM, and assess the financial sustainability and viability of the different shock responsive social protection programming options
- Identify financing options for shock responsive social protection programs in BARMM
- On the basis of the analysis, provide policy recommendations on the design of shock responsive social protection programming and financing thereof

3.2. SCOPE

Informed by, and building on, the existing social protection framework in the Philippines and its articulation in the Bangsamoro Regional Development Plan of BARMM, the analysis identified the effects of emergencies in BARMM and different program options for potential investments in shock responsive social protection in BARMM – specifically emergency cash transfers (ECTs) – to alleviate these effects. Moreover, the analysis compared the costs of various program options with potential avenues to create fiscal space to assess the financial viability and sustainability of the various options.

The findings and evidence created through this investment case serve to support the Bangsamoro Government in informing its shock responsive social protection programming over the coming years. Moreover, the findings can help development partners, such as UNICEF, FAO and World Bank, in identifying relevant areas in which to provide support to the Bangsamoro Government to render it social protection system more shock responsive.

4. Methodology

The investment case for shock responsive social protection in BARMM was developed based on a combination of qualitative and quantitative data collection and analysis methods. As part of the qualitative analysis, secondary data and information were obtained through a structured desk research, and primary data were gathered through key informant interviews (KIIs) with relevant stakeholders at national level and in BARMM. For the quantitative analysis, different sub-analyses were carried out in an Excel model, drawing on existing household-level data, macro-level socio-economic and demographic data, social protection program administrative data, and government revenue/expenditure data.

4.1. QUALITATIVE DATA COLLECTION AND ANALYSIS

Structured desk research

In a first step, a comprehensive, structured review of available secondary data and information was carried out. The desk research primarily served to provide background for the key informant interviews; inform the development of the quantitative model, particularly its underlying assumptions; contextualize the main findings; and enhance the recommendations. The review included documents and studies related to social protection and its financing in the Philippines, as well as emergency assistance, disaster risk management, and financing thereof, particularly in the BARMM region. The reviewed documents include, among others, the UNICEF 2019 Landscape Analysis on Shock Responsive Social Protection in BARMM, the Rapid Assessment of the Effects of COVID-19 on Child Poverty in BARMM, the Socio-Economic Impact Assessment of COVID-19 in BARMM, the Regional Landscape Analysis on Disaster Risk Finance for Shock Responsive Social Protection in Southeast Asia, Philippine Case Study, the Review of Philippine Government Disaster Financing for Recovery and Reconstruction, and the Road Map for Establishing an Adaptive and Shock Responsive Social Protection System in the Philippines. Moreover, the literature review covered relevant policy documents and plans, such as the Philippine Development Plan (PDP) 2017–22, the Bangsamoro Development Plan (BDP) 2020–22, and the Bangsamoro Organic Law (BOL); programmatic guidelines of the different financial assistance programs implemented by the MSSD in BARMM; as well as documentation on government budgets in BARMM. Next to relevant documentation from the Philippines and BARMM, global evidence on shock responsive social protection, financing thereof, and existing evidence on cost-benefit arguments for investment in shock responsive social protection, were covered by the review to refine the methodology of the quantitative simulations and help with the definition of modeling assumptions.

Key informant interviews

In addition to the literature reviews, key informant interviews were conducted to create a more in-depth understanding of BARMM's social protection and emergency response programming and to gather interviewees' views on different policy options on the design of new emergency programs and the expansion of existing social protection programs to be more risk-informed and shock responsive. In total, 26 key informants were consulted; these were selected through an expert sampling technique – a type of purposive sampling that selects individuals with expertise on the subject matter. Eligible individuals for the key informant interviews were selected based on their knowledge of and experience with social protection and its financing, as well as disaster risk management mechanisms in the Philippines and especially in BARMM. To ensure that all relevant informants are consulted, a chain referral system was also adopted, wherein identified stakeholders are asked to refer others that should also be consulted. Due to the prevailing public health situation, interviews were carried out remotely, via Zoom.

Table 1. Overview of key informant interviews

Agency	Number of participants
Bangsamoro Planning and Development Authority (BPDA)	3
Ministry of Agriculture, Fisheries and Agrarian Reform (MAFAR)	2
BARMM-Rapid Emergency Action on Disaster Incidence (READI)	1
Ministry of Social Services and Development (MSSD)	3
Ministry of Interior and Local Government (MILG)	2
National Disaster Risk Reduction and Management Council (NDDRMC)	6
Ministry of Finance, Budget and Management (MFBM)	1
UNICEF	4
FAO	4
Total	**26**

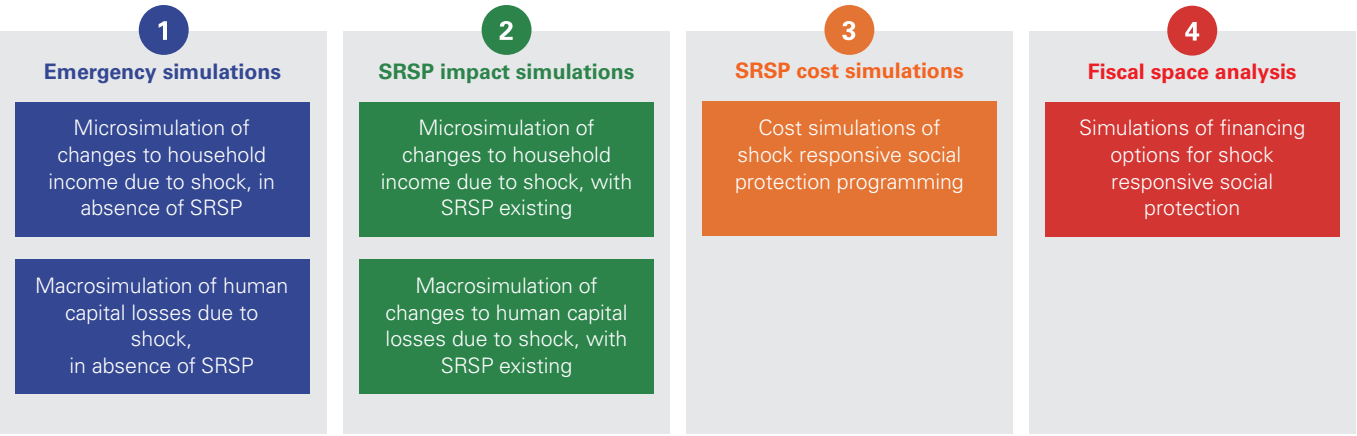
4.2. QUANTITATIVE DATA ANALYSIS

Informed by the qualitative data collection and analysis, the quantitative analysis was conducted to showcase the potential effects and benefits of investments in shock responsive social protection in BARMM. The quantitative analysis comprised four sub-analyses, as illustrated in Figure 1 and further elaborated upon below.

The different sub-analyses draw on various macro-level data and projections thereof, including economic data, such as inflation rate, national and regional GDP, and GDP growth rate; socio-demographic data, such as national and regional population figures, population growth rates, life expectancy, number of pregnant and lactating women, school enrollment rates, and labor market indicators; as well as household-level data, including household income, household size, and composition. The required data were retrieved from the Philippine Statistics Authority (PSA), specifically the Family Incomes and Expenditure Survey (FIES) 2018, the Labour Force Survey (LFS), the Philippine Census (2010) and the Demographic Health Survey (DHS) 2017, as well as the United Nations World Population Prospects, the International Monetary Fund (IMF) World Economic Outlook, and World Bank databases. Additionally, information on BARMM's budget composition was retrieved from the Bangsamoro Organic Law and the Expenditure Program for financial year 2022.

As the simulations cover the next 20 years (i.e., 2021–2040), the baseline indicators and data listed above were projected into the future based on their historical trends and with the help of existing projection models and underlying assumptions. Throughout the report, findings from the quantitative analysis are presented for five points across the 20-year modeling period: 2021, 2025, 2030, 2035 and 2040.

Figure 1. Different components of the quantitative analysis



Emergency simulations

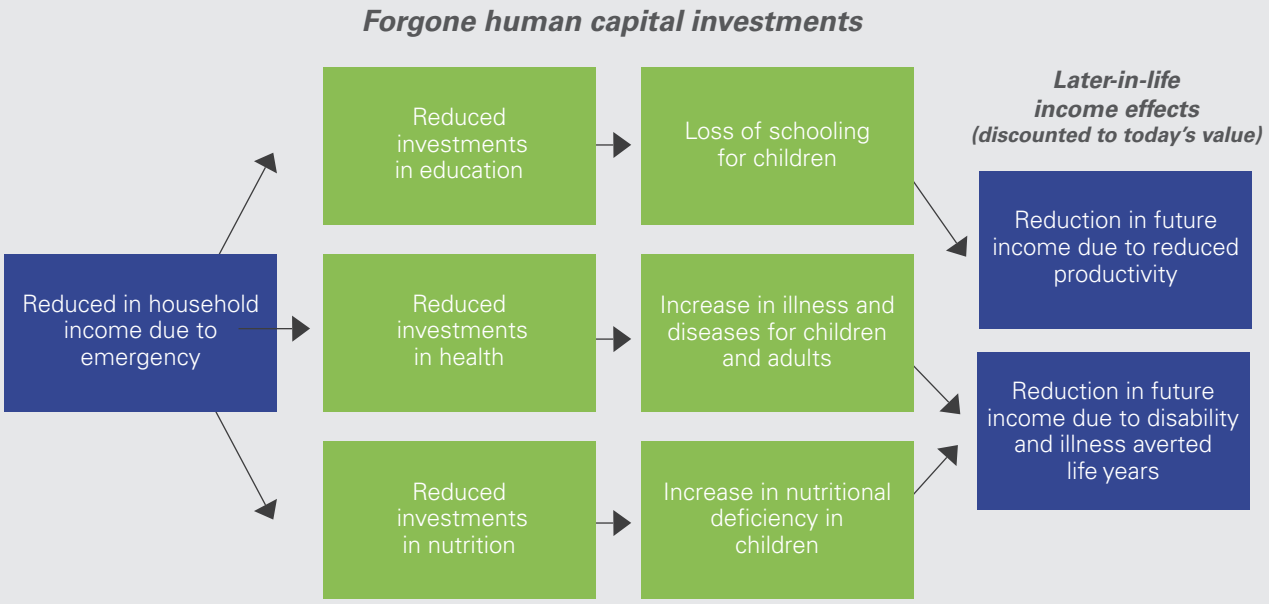
In a first step, the impacts of three types of covariate shocks typically faced by the population in BARMM – natural disasters, conflict, and health-related shocks – were modeled. Specifically, the effects of these shocks on household income, and by extension poverty in the region, were assessed. In addition, the model estimates the effects of these emergencies on human capital development in the region, assuming that emergencies not only reduce household income, but also affect investments in human capital, particularly education, health and nutrition. The emergencies' effects were simulated in the absence of social protection programs that could alleviate the effects.

The emergency simulations draw on historical data of individuals and households in BARMM that were affected by natural disasters, conflict, and health-related shocks, and on the basis thereof, estimate the probability of a household being affected by one, or multiple, emergencies in any year. To model the effects of the different types of emergencies on household income and human capital investments, evidence from studies of these effects in the Philippines and from comparable international examples was used. Below, ***Box 1*** further elaborates on the methodology and assumptions that were employed to model human capital losses, while Annex A. speaks to the overall modeling assumptions.

Box 1. Modeling losses in human capital development

In line with existing evidence on the longer-term effects of emergencies, human capital losses that will likely be incurred in affected households were modeled. The basic assumption is that the reduction in household income as a result of the emergency – which is often of a temporary nature – has longer lasting effects on human capital development in these households, as the necessary investments in human capital are not made because affected households have to cope with the lower income. Evidence suggests that in particular, investments in the areas of nutrition, education and health are not made, or at least substantially reduced, in affected households. These foregone investments will likely result in later-in-life losses and materialize in a reduction in future income in affected households – and particularly children therein – due to lower productivity as a result of foregone investments in education and due to effects of disease and illness, which are more likely to occur due to foregone investments in health and nutrition.

The flow chart below visualizes the impact pathways that were modeled to estimate the losses in human capital that affected households will likely incur due to lower investments in education, health and nutrition.



Shock responsive social protection impact simulations

In a next step, the potential impacts of shock responsive social protection programs to alleviate the effects of emergencies on household income, poverty and human capital investments in BARMM were simulated. For the simulation, six shock responsive social protection program options in the form of emergency cash transfers were modeled. The programmatic options are emergency cash transfer programs targeted at different population groups that might be particularly vulnerable when affected by an emergency. The various programmatic options align with the existing national and regional social protection system and after their activation, would utilize the existing social protection system for delivery. This means using existing data on poor and vulnerable households and beneficiary data from existing programs, existing payment mechanisms, and the existing capacity within the MSSD and MAFAD – the main implementer of social welfare programs and first responder agencies in BARMM – or responsible national agencies.

These six program options were developed on the basis of the information and insights retrieved during the key informant interviews. The benefit levels of the program expansions and emergency cash transfers were aligned with the benefits provided during past emergency responses and were assumed to grow with inflation over the next 20 years (see ***Table 6*** for more detailed information on the modeling parameters).

The simulations estimated the impacts of the six programming options on household income, poverty and human capital investments. The programs' impacts on household income and poverty indicators were modeled at household level, while impacts on human capital investments were modeled at macro level. The simulations on how social protection programs affect human capital investments are based on existing evidence and studies in the field.

Shock responsive social protection cost simulations

In addition to the program impact, the quantitative model also projected the cost of the shock responsive social protection program options over the next 20 years. The costing model is based on the key parameters of program coverage, benefit level and administrative cost. The latter was defined according to the type of program, wherein it is assumed that the cost of implementing a vertical program expansion differs from the cost of a horizontal program expansion or the implementation of a separate emergency cash transfer.

Fiscal space analysis

Finally, on the basis of the cost simulations, a fiscal space analysis was conducted to determine the financial viability and sustainability of implementing the different shock responsive social protection program options. The analysis assessed program costs as a share of the projected budget of the BARMM government and specifically the projected budget of the MSSD over the next 20 years. Considering the possibility of limited fiscal capacity of the BARMM government and/or the MSSD to fund the selected programs, the fiscal space model explores options of accessing additional funds from the Official Development Assistance (ODA) and Quick Response Funds (QRFs) to finance shock responsive social protection programming in BARMM.
Estimates on the projected BARMM and MSSD budget are based on the budgetary provisions made in the BOL and current data. Moreover, estimates on the potential revenue from the ODA were derived from historical data on the ODA to the Philippines and BARMM.

5. Poverty and vulnerability in BARMM

The Philippines has made considerable headway in the reduction of poverty over the past couple of years. Despite a sharp rebound following the 2019 COVID-19 pandemic, the national poverty rate stood close to 20 per cent in 2020.[2] However, this positive trend contrasts sharply with the situation in BARMM. In the past decades, the region has been beset by continuing episodes of armed conflict, which resulted in huge humanitarian and economic losses, bloodshed, and displacement of families, which only aggravated the region's dire situation. Thus, while the incidence of poverty reduced in the Philippines over the last two decades, it doubled in BARMM.[3] Recorded to be the Philippines' poorest and most marginalized region, 61.8 per cent of BARMM's population was living below the poverty line in 2018.[4] Moreover, the levels of food poverty in BARMM are also relatively high vis-à-vis the national level, with 29.6 per cent of BARMM's population unable to meet their basic food needs in 2018.[5]

The situation remains considerably worse for children living in BARMM, as years of conflict have impacted their ability to develop and reach their full potential. Child poverty in the region is the highest in the Philippines, reaching 68 per cent in 2018, with almost 1.3 million children in BARMM living in poverty.[6] When considering multidimensional measures of poverty and well-being, children in BARMM experience below-average health, nutritional and educational outcomes. The region faces high degrees of infant mortality and in 2018, around 40 per cent of children under 5 were stunted.[7] Moreover, in 2017, net enrollment rates in BARMM fell below the national average by about 20 percentage points at the elementary level and 45 percentage points at the junior high school level.[8] The regional school completion rates are equally concerning, particularly for indigenous children: while 48.5 per cent of indigenous children in BARMM attend elementary school, only 11.2 per cent complete basic education.[9] Accordantly, these low outcomes on several key indicators for child development hurt not only children's prospects but also the prospects of the region to catch up to national development levels and contribute to the country's overall socio-economic success.

Most recently, the COVID-19 pandemic has driven many families in BARMM into even deeper poverty and worsened the region's already worrying levels of deprivation. According to estimates, post COVID-19 poverty rates in BARMM could reach as high as reach 82.1 per cent.[10] The pandemic has further exacerbated the challenges children face, with child poverty rates estimated to surpass 80 per cent.[11] Furthermore, the extensive school closures and the shift to distance learning likely affect children's short- and long-term well-being. A study showed that children's education was interrupted by the pandemic not only due to school closures but also due to lack of access to required gadgets and the high level of adult illiteracy that hinders parents' ability to teach their children. The same study revealed that 40 per cent of the households have children dropping out of school due to lack of funds, gadgets and internet connection, as well as fear of infection.[12]

[2] (Guzman, 2021)
[3] (Rowe, 2020)
[4] (PSA, 2021)
[5] (PSA, 2021)
[6] (UNICEF, 2020)
[7] (Ordinario, 2021)
[8] (World Bank, 2019)
[9] (UNICEF, 2019)
[10] (UNICEF; & EPRI, 2020)
[11] (UNICEF; & EPRI, 2020)
[12] (UNDP, 2021)

5.1. SIMULATION OF POVERTY IN BARMM

As part of the quantitative analysis for this investment case, poverty trends for BARMM over the next 20 years were simulated. Specifically, the poverty rate and poverty headcount were projected on the basis of the projected changes in household income in comparison to the projected regional poverty line. Household income was projected in line with past growth rates in relation to inflation, in which the regional poverty rate was grown in line with projected inflation.

The model projects a steady and gradual decline of poverty in the region over the next 20 years, from 62.2 per cent in 2021 to 47.8 per cent in 2040 (Table 2). Even though this is a substantial reduction in poverty, the poverty headcount, i.e., the number of persons projected to live in poverty, increased from 2.8 million in 2021 to 3.2 million in 2040. The reason behind this increase is that the population in BARMM is expected to continue growing at a relatively high rate (albeit projected to gradually decrease over the long-term), which in absolute terms increases the number of people living in poverty, even though the share of poor persons within the total population of BARMM decreases notably.

Table 2. Estimates of poverty measures for BARMM

Poverty measure	2021	2025	2030	2035	2040
Poverty rate (%)	62.2%	59.5%	55.9%	51.8%	47.8%
Poverty headcount	2,808,911	2,963,615	3,135,642	3,204,861	3,207,461

6. Impacts of emergencies on poverty and vulnerability

Evidence suggests that one of the main factors contributing to the challenges faced by BARMM's population has been the region's vulnerability to shocks and crises. In BARMM, communities are affected by recurrent displacement due to ongoing armed conflict, clan feuds and natural disasters that impact over a million people each year. Due to shocks, households and whole communities often face extended periods of displacement, away from their homes and livelihoods. Currently, BARMM hosts the biggest number of displaced persons in Mindanao at 60 per cent of the total population.[13]

The BARMM region is particularly vulnerable to climate change, which is expected to increase the frequency and severity of extreme weather events. All five provinces in BARMM are either 'vulnerable' or 'highly vulnerable' to El Niño induced drought, temperature increases and rising sea levels brought about by climate change.[14] The regions poorest and most vulnerable households are highly exposed to naturally occurring hazards and have the least capacity to cope with or adapt to the changing climate. Moreover, vulnerable groups such as women, children, the elderly and those with disabilities face a range of pre-existing constraints and challenges that are often compounded by disasters. For example, natural disasters often negatively impact access to basic services and render children more vulnerable to deprivation of their basic rights.

In addition to climate change, man-made conflict continues to be a main driver of poverty and under-development in the region. Areas with higher levels of conflict experience the highest poverty incidence and the lowest economic growth and human development levels.[15] Moreover, families who are forced to flee their homes and communities because of conflict are exposed to heightened vulnerabilities and often become subject to additional emergencies and shocks, making a return to normal pre-emergency life challenging.[16]

More importantly, studies show that disasters do not affect people equally. There is a high degree of heterogeneity in size – but not in the direction – of the impacts on different socio-economic groups. Inequalities in risk exposure and sensitivity to risk and access to resources, opportunities and capabilities put specific segments of the population at a disadvantage.[17] For instance, in BARMM, the livelihoods among agricultural households, and those in the informal urban labor market, are particularly vulnerable and at risk from the effects of natural disasters and climate change. Moreover, around 45 per cent of BARMM's urban population live in informal settlements, making them extremely vulnerable to hazards.[18] In the face of poverty, affected households typically have few coping strategies at their disposal, often resorting to coping mechanisms with inherent consequences on their ability to recover and rebuild or sustain their children's educational or nutritional outcomes.[19]

[13] (UNHCR, 2020)
[14] (Rowe, 2020)
[15] (Rowe, 2020)
[16] (Building a shock-responsive social protection system in Viet Nam 2019)
[17] (Baez, Fuente, & Santos, 2010)
[18] (World Bank, 2020)
[19] (Rowe, 2020)

Consequently, emergencies also have severe consequences on human development because investments in health, education and nutrition that would be made in the absence of an emergency are foregone. This seriously jeopardizes the recovery of human assets and results in long-lasting consequences on overall well-being and many income-generating processes.[20] While emergencies can have lifelong effects on a person's human capital, it is at the early stages in life when any such impacts matter most if not addressed properly and in a timely manner. Temporary poor health and child malnutrition can have persistent effects, reverberating into the different processes of human capital accumulation, such as school performance, cognitive development, and then earnings and productivity.[21]

6.1. SIMULATION OF FUTURE IMPACTS OF EMERGENCIES ON HOUSEHOLDS IN BARMM

In the first step of the quantitative analysis carried out for this investment case, the future effects of different types of emergencies on households in BARMM were simulated. The simulations were informed by evidence on past effects of emergencies in terms of number of households/individuals affected and the resulting income reduction effects in affected households. The analysis focused on the main types of emergencies BARMM households are affected by – conflict, natural disasters and health shocks – and simulated their effects over the coming 20 years.

Affected households

Firstly, the total number of households at risk of being affected by emergencies in the next 20 years was estimated. The number of affected households was estimated on the basis of historical data of displaced populations in BARMM due to conflict and different types of natural disasters. Moreover, to estimate the number of households affected by a large-scale health shock, numbers of households affected by the COVID-19 pandemic were employed. The model further assumes an increased probability of households being affected by natural disasters in the future due to an increased scope and severity of natural disasters, which also increases the probability of pandemics. By contrast, multiple scenarios were modeled for the probability of households being affected by conflicts, assuming a decrease, increase or stable probability over the next 20 years. The reason behind the possibility for multiple conflict scenarios is that – unlike natural disasters and pandemics – projections for conflicts are less clear cut, as multiple factors influence the probability of conflict in BARMM.

For the analysis on future impacts of emergencies in BARMM, three scenarios were modeled – assuming a decreasing probability, a stable probability and an increasing probability of households being affected by conflict over the next 20 years ***(Box 2)***. For the narrative of this report, the scenario of a decreasing probability was chosen as a default, however, ***Box 3*** outlines the analysis results for the scenarios of a stable and increasing probability of conflict affecting households in BARMM.

[20] (Baez, Fuente, & Santos, 2010)
[21] (Ibid.)

Box 2. Alternative scenarios for the modeling of the effects of conflict

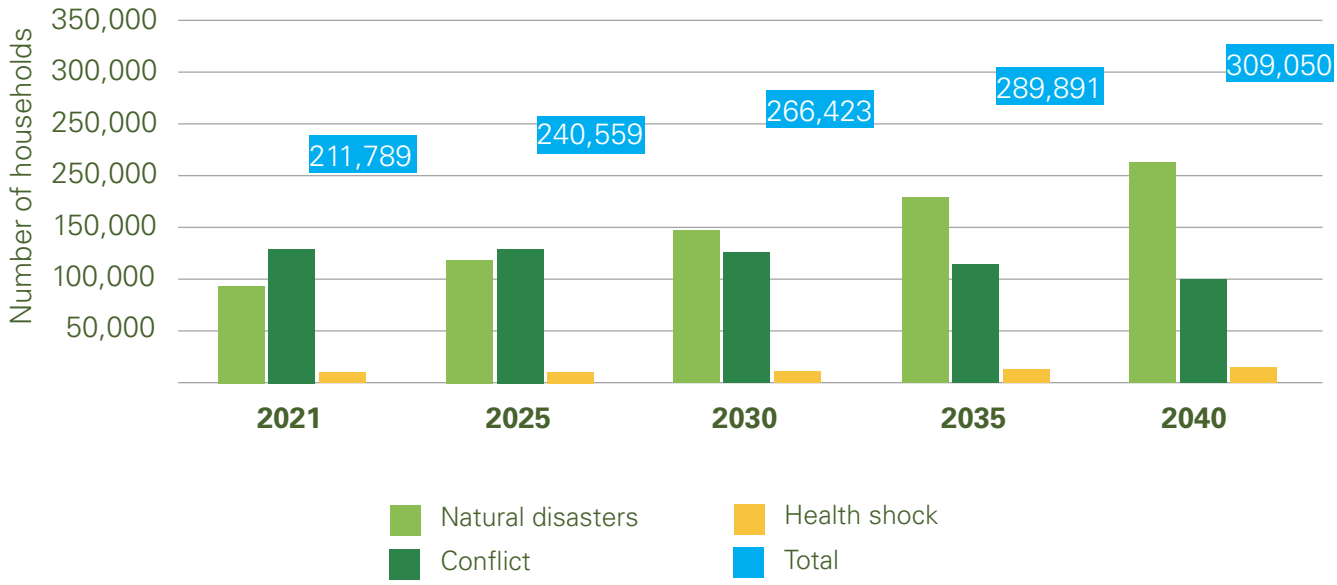
To model the effects of conflict, three different scenarios on the probability of a household in BARMM being affected by conflict were modeled. Firstly, a **decrease** in the probability of a household being affected by conflict over the next decades was modeled. It could be assumed that due to the Bangsamoro peace process, which culminated in the establishment of the autonomous region of Bangsamoro, conflict in the region would decrease. Anticipating that the creation of BARMM and the efforts from the Bangsamoro Government to foster the development of the region will bear fruit, in such a scenario, the grounds for conflict will be reduced and hence the probability of households in the region being affected by it. While a complete eradication of conflict over the next 20 years was deemed unlikely, a reduction thereof was considered a realistic scenario. This scenario was chosen as the default scenario for this report.

However, anticipating that the peace process may not bear fruit, a second scenario was modeled, which assumes that the probability of households in the region being affected by conflict remains **stable** over the next two decades. Lastly, and in the worst case, the probability of households being affected by conflict even **increasing** over the next 20 years due to the interplay of conflict with natural disasters was modeled. The clear links between climate change and conflict have been evidenced by global research and hence this scenario of increased probability was included in the analysis, too. The analysis results for these two scenarios are outlined in **Box 3.**

The analysis found that over a third of all households in BARMM will be affected by any type of emergency in any given year *(Figure 2).* In 2021, 221,789 households were estimated to be affected, increasing to 309,050 by 2040 (illustrated in green). The number of households affected increases due to population growth, but also due to an increased likelihood of natural disasters and health-related shocks occurring over the next 20 years.

Zooming in on the type of emergency that affects most households shows that throughout the years, most households are affected by natural disasters and conflict. In 2021, for example, 130,618 households were estimated to be affected by conflict (illustrated in orange), and 98,689 households by any sort of natural disaster (illustrated in blue). In comparison, health-related emergencies are estimated to affect a substantially lower number of households, with an average of 14,096 households being impacted each year during the 20 years projected by the model (illustrated in yellow). Finally, it should be noted that households can be affected by multiple emergencies during a year. It was estimated that on average, 10 per cent of households are affected by more than one emergency throughout the modeling period of the next 20 years.

Figure 2. Estimates of households affected by emergencies in BARMM



Box 3. Effects of conflict using alternative scenarios

The analysis contains three scenarios for the simulations of the effects of conflict. The first scenario assumes that the probability of conflict is going to decrease in the future (default scenario in this report) and the two alternative scenarios that were modeled assume that the probability of a household being affected by conflict either remains stable or increases in the future, in line with an increase in the severity of climate change. These three different scenarios result in different numbers of households being affected by conflict over the next 20 years.

Comparing the number of households affected by conflict across the three different scenarios reveals that in the alternative scenarios (i.e., stable or increasing probability of conflict) more households will be affected by conflict across the modeling period vis-à-vis the default scenario in which the probability of conflict decreases. Assuming that the probability of conflicts in BARMM will decrease, the number of households affected by such conflicts also decreases – from an estimated 130,618 affected households in 2021 to 101,178 affected households in 2040. However, assuming a stable probability of households being impacted by conflicts, the number of affected households increases throughout the years, from 133,333 households in 2021, to 198,376 in 2040. This increase is in line with the projected population growth for BARMM. Lastly, assuming a worsening of conflicts in the region, the number of households affected thereby is estimated to increase substantially, from 134,868 in 2021 to 245,669 in 2040.

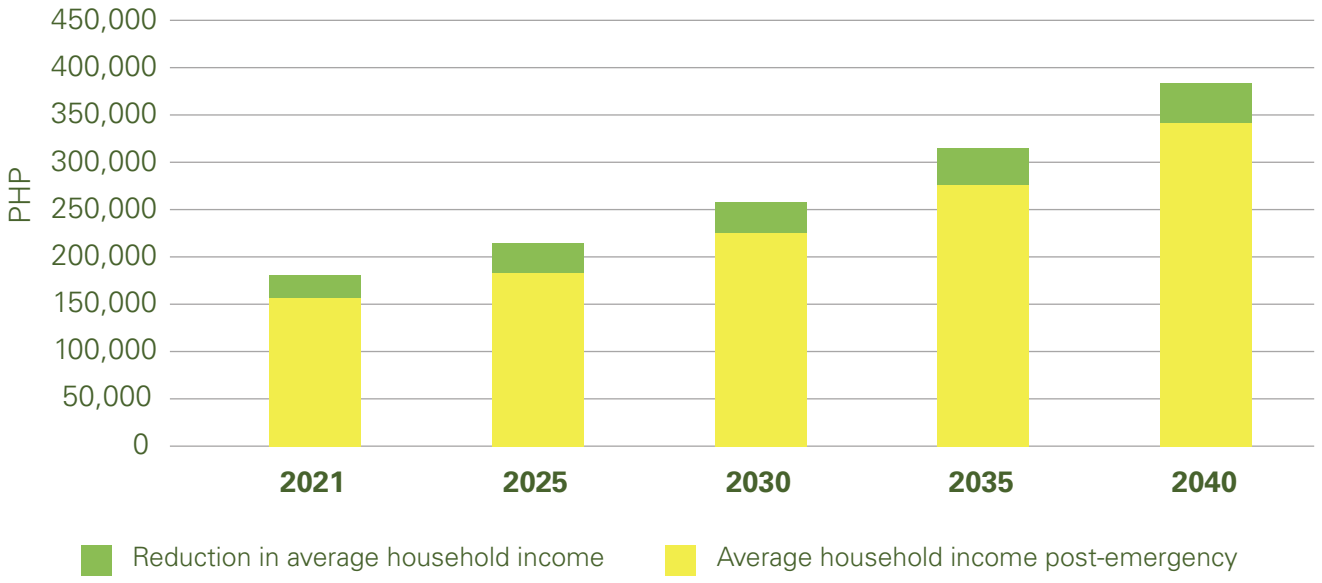
Number of households affected by conflict	2021	2025	2030	2035	2040
Scenario 1: decreasing probability (default)	130,618	129,679	125,756	115,628	101,178
Scenario 2: stable probability	133,333	147,136	165,571	182,802	198,376
Scenario 3: increasing probability	134,868	156,456	184,009	214,930	245,669

Effects of emergencies on household income

In a next step, the effects of the different types of emergencies on household income in the year after the emergency were estimated. All three types of emergencies included in this model have negative effects on incomes – meaning they reduce the household income of affected households – with the extent of the reduction depending on the type of the emergency.

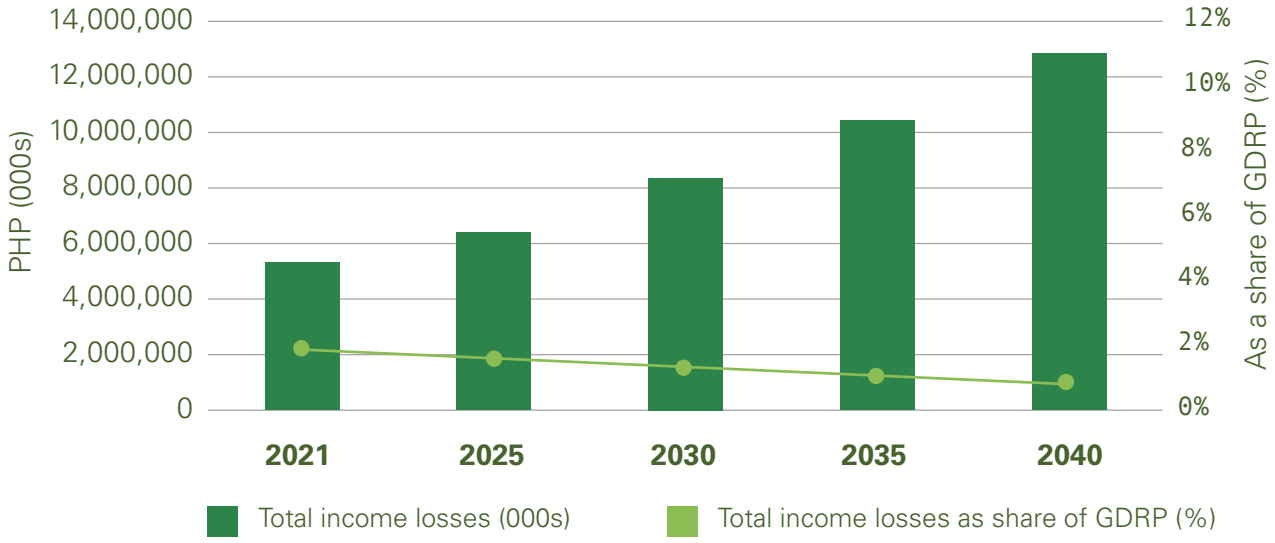
The simulations suggest that on average, the income of households in BARMM affected by an emergency reduce by 12.1 per cent in the year after the emergency *(Figure 3).* In 2021, for example, that means that the annual average household income of an affected household reduces from PHP 180,929 (illustrated by full bar) to PHP 157,242 (illustrated in dark green), i.e., a reduction of PHP 23,687 (illustrated in light green). Accounting for inflation and wage growth, as well as an increased probability of being affected by an emergency, in 2040, this income reduction amounts to PHP 41,083 per affected household in the year after the emergency.

Figure 3. Income reduction in households affected by emergencies



Taken together for the whole region of BARMM, income losses in affected households amount to PHP 5.4 billion in 2021, increasing steadily throughout the modeling period to PHP 12.9 billion in 2040 (illustrated in blue, ***Figure 4***). Expressed as a share of the forecasted regional GDP for BARMM, these income losses amount to 1.9 per cent of Gross Domestic Regional Product (GDRP) in 2021 and 0.9 per cent in 2040 (illustrated in orange). Even though the total forecasted income losses reduce slightly as a share of GDRP – because the GDRP is forecasted to grow faster than the income losses – the absolute losses reveal the substantial income losses that will be incurred due to emergencies over the coming 20 years.

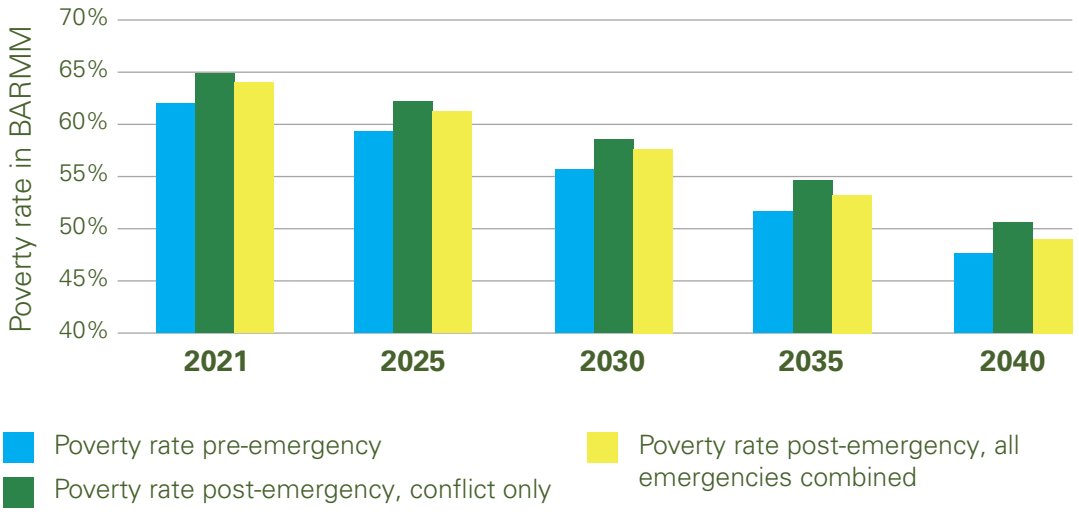
Figure 4. Total income losses due to emergencies in BARMM, in PHP and as a share of GDRP



Impacts of emergencies on monetary poverty

In line with the reduction in household incomes as a result of emergencies, monetary poverty increases in BARMM as a result of these emergencies. In 2021, the poverty rate is estimated to be 3 percentage points higher post-emergency (65.2 per cent), compared to pre-emergency (62.2 per cent) (grey and green bars, ***Figure 5***). This means that in 2021, an additional 134,362 individuals fall into poverty because they are affected by an emergency ***(Table 3)***. These negative effects of emergencies on monetary poverty are projected to continue throughout the modeling period, with post-emergency poverty rates constantly exceeding pre-emergency rates by 2.9 to 3 percentage points (illustrated in green), meaning an additional 143,296 individuals live in poverty in 2025 and an additional 201,711 individuals in 2040. Despite a downward trend in the poverty rates for pre-emergency and post-emergency projections, the model indicates an overall increase in the poverty headcount for BARMM given the projected population growth rates for the region ***(Table 3)***.

Figure 5. Comparison of poverty rate estimates pre- and post-emergencies in BARMM



Zooming in specifically on the effects of conflicts on monetary poverty in BARMM shows that on average, conflicts in the region increase poverty rates by 1.8 percentage points over the next 20 years (yellow bars, ***Figure 5***). Even though the default scenario for this study assumes a decreasing probability of conflicts in the region, even in 2040, conflicts will likely increase poverty rates by 1.4 per cent. This implies that on average, an additional 99,500 individuals will be living in poverty due to conflicts over the coming 20 years (***Table 3***).

Table 3. Comparison of poverty headcount estimates pre- and post-emergencies in BARMM

Poverty headcount	2021	2025	2030	2035	2040
All emergencies combined					
Pre-emergency	2,808,911	2,963,615	3,135,642	3,204,861	3,207,461
Post-emergency	2,946,518	3,128,841	3,347,129	3,474,562	3,541,404
Difference	137,608	165,226	211,487	269,701	333,943
Conflict only					
Pre-conflict	2,808,911	2,963,615	3,135,642	3,204,861	3,207,461
Post-conflict	2,904,547	3,062,927	3,243,427	3,307,646	3,299,846
Difference	95,636	99,312	107,785	102,785	92,386

Beyond income: Effects of emergencies on human capital development in BARMM

In line with the existing evidence on the effects of emergencies on human capital investments and the resulting longer-term losses for affected households that go beyond income reduction effects, the quantitative analysis for this investment case also estimated the losses in human capital caused by emergencies in BARMM. The model defined human capital losses as foregone investments in the areas of education, health and nutrition as a result of natural disasters, conflicts and health emergencies.

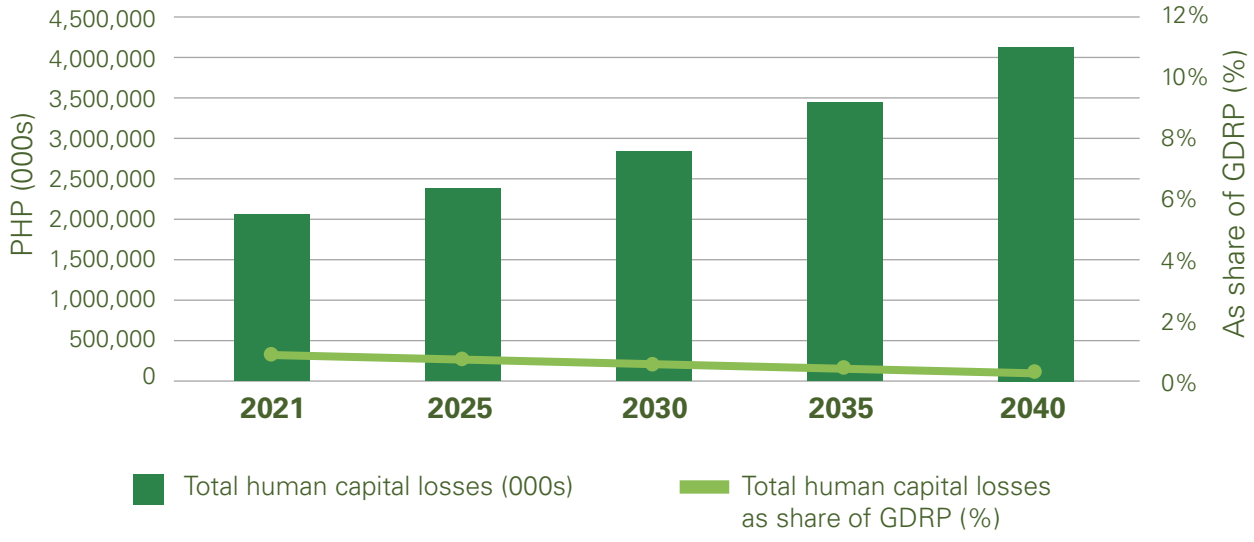
Results from the model indicate that, in addition to income losses, affected households also incur substantial human capital losses (illustrated in light blue, ***Figure 6***). In 2021, the average human capital loss incurred by an affected household amounts to PHP 9,325 in the year preceding the emergency. Throughout the years, the average human capital losses increase in line with the increased impacts of emergencies on household income, so that in 2040, affected households lose on average PHP 13,480 in human capital.

Consequently, results from the modeling of emergencies' impacts on human capital development stress once more that emergencies can have lifelong impacts on a person's well-being and productivity. Hence, there is a need to look beyond the short-term income losses that individuals and households incur and also assess the longer-term losses incurred due to foregone investments in human capital development.

Figure 6. Average income and human capital losses in affected households

Taken together, in the whole region of BARMM, human capital losses are estimated to amount to PHP 2.1 billion in 2021, steadily increasing to PHP 4.2 billion in 2040 (illustrated in light blue, ***Figure 7***). Expressed as a share of BARMM's projected regional GDP, the total human capital losses are estimated to amount to 0.7 per cent of GDRP in 2021, slightly reducing to 0.3 per cent of GDRP in 2040 (illustrated in yellow). Again, the decrease as a share of GDRP can be explained by a higher growth rate of GDRP compared to human capital losses, however the absolute value of losses per year showcases the detrimental effect that emergencies will likely have on human capital development in the region.

Figure 7. Total human capital losses due to emergencies in BARMM, in PHP and as a share of GDRP



Cost of inaction

Taken together, the cost of inaction for emergencies is high for BARMM, not only in terms of increases in monetary poverty as a result of losses in household income, but also in terms of foregone human capital investments *(Figure 8)*. As such, there is a significant opportunity for social protection, particularly shock responsive social protection, to alleviate the negative effects that different types of emergencies have on households and enhance their opportunities for preparing for, and recovering from, emergencies more quickly and sustainably. Anchored within the principles of leaving no one behind, shock responsive social protection should focus on reducing the inequalities and vulnerabilities that leave people behind and undermine the potential of individuals and of populations as a whole.

Figure 8. Summary of cost of inaction for emergencies in BARMM

	2021	2025	2030	2035	2040
Total income losses (PHP)	5.4 billion	6.6 billion	8.4 billion	10.5 billion	12.9 billion
Total human capital losses (PHP)	2.1 billion	2.4 billion	2.8 billion	3.5 billion	4.2 billion
Poverty rate increase (% points)	3.0	2.9	2.9	3.0	3.0
Poverty headcount increase	134,362	143,296	164,549	188,617	201,711

7. Social protection and its role during emergencies in BARMM

7.1. SOCIAL PROTECTION IN BARMM

Social protection, as defined by the Philippines' Social Protection Operational Framework and Strategy, is composed of "policies and programs that seek to reduce poverty and vulnerability to risks and enhance the social status and rights of the marginalized by promoting and protecting livelihood and employment, protecting against hazards and sudden loss of income, and improving people's capacity to manage risks."[22] Hence, the definition places a strong focus on the management of individual and covariate risks, stressing the relevance and importance of social protection therein.

Also in BARMM, social protection is currently structured in accordance with national and former ARMM-specific policies, while displaying an array of programs that impact various stages of an individual's lifecycle. In the following, the main social protection programs in BARMM are briefly introduced and summarized in ***Table 4.*** Particular focus was placed on the main social welfare programs – most of which are cash transfer programs, which were considered as a basis for emergency programming expansions in this analysis.

Social welfare programs

Social welfare programs in BARMM are composed of both national and regional programs, each of which is targeted at particularly vulnerable groups, including orphaned children, individuals living with disabilities, and poor and vulnerable households. The national programs are designed, financed and overseen by the national Government, and include national flagship social protection programs such as the *Pantawid Pamilyang Pilipino Program* (4Ps), the Sustainable Livelihood Program (SLP), and the social pension. While the 4Ps provides monetary support to poor households with children in order to improve their overall health, nutrition and education, the SLP supplements this program by providing cash to microenterprises while also promoting access to the formal labor market. Furthermore, the social pension is aimed at providing poor elderly with the financial means to live a decent life. Combined, these programs already cover an array of stages across a poor individual's lifecycle.

In addition, in BARMM, a second set of programs – the regional social welfare programs – are implemented and financed by the newly formed Ministry of Social Services and Development (MSSD), with the objective to ensure that further vulnerable sub-groups of the population are protected. These programs are specifically geared to stem social vulnerabilities that arise from personal characteristics such as age, disability and familial circumstances. These regional programs include the *Unlad Pamilyang Bangsamoro Program*, the *Kupkop Program* (orphans' assistance), *Kalinga sa May Kapansanan Program* (assistance for persons with disabilities), Angat Bangsamoro: *Kabataan Tungo sa Karunungan Program* (educational assistance), and assistance to individuals in need through Bangsamoro CARES.

[22] (Villar, 2013)

Social insurance programs

In addition to the social welfare programs, the residents in BARMM also benefit from national social insurance programs, specifically the Philippine Health Insurance Corporation (PhilHealth), the Social Security System (SSS), as well as the Government Service Insurance System (GSIS). These insurances pool the economic risks across the life course of an individual and in the event of shocks or unexpected life events (i.e., loss of job, death, illness, etc.), they can help to prevent families and their children from falling into poverty. The insurances are contributory, i.e., individuals must regularly pay a premium to be able to receive benefits in case of an unexpected life event.

Labor market interventions

Labor market interventions include programs and services that support the livelihoods of families and promote their employment. This ensures that the poor and vulnerable households receive sufficient income in order to not only provide for themselves, but also for their children through quality access to social services. The programs can be characterized from broader labor market interventions to ones that are specifically focused on children and their families (e.g., provision of childcare services, integration of women into the labor market, etc.). In the Philippines, the Department of Labor and Employment (DOLE) has established an array of cooperative livelihood programs and skills development programs, including ones especially aimed towards the employment of students at the national level.[23]

In BARMM, the national programs are complemented by a range of regional labor market interventions, implemented by the regional Ministry of Labor and Employment (MOLE). These include, for example, the Employment Promotion and Welfare Program – including job fairs, special recruitment activities, employment assistance for youths, community emergency employment program, and a job portal, among others – and the Labor Education and Workers' Welfare Program – providing career guidance and employment coaching for graduating students and supporting employment through entrepreneurial development in rural areas.[24]

[23] (ADB, n.d.)
[24] (Bangsamoro Government, 2021

Table 4. Overview of the main social protection programs in BARMM[25]

Program	Description	Implementation	Coverage	Benefit level
Main national social welfare programs				
4Ps	Conditional cash grants targeted at poor households with children aged 0–18 and/or a pregnant woman at the time of assessment	National DSWD, implemented through regional 4Ps offices	400,000 households	Up to PHP 2,000 every two months
Social Pension for Indigent Senior Citizens	Monthly transfers targeted at poor individuals aged 65+	National DSWD, implemented through MSSD in BARMM	170,000 individuals	PHP 500 per month
Sustainable Livelihoods Program	Cash assistance targeted at supporting micro-enterprise and promoting access to formal jobs. Mostly targeted at 4Ps beneficiaries	National DSWD, implemented through MSSD in BARMM	21,000 households	Seed capital fund: maximum of PHP 15,000; Employment assistance fund: maximum of PHP 5,000
Supplementary Feeding Program	120 days provision of food to children enrolled in day care centers plus parent effectiveness sessions and backyard gardening.	National DSWD, implemented through MSSD in BARMM	35,000 households	In-kind assistance

[25] (ADB, n.d.); (Bangsamoro Government, 2021); (DOLE, n.d.); (DOLE, 2021); (DOLE, n.d.); (Rowe, 2020); (NHA, 2016); (PhilHealth, 2014); (TESDA, 2010); (PCCI, n.d.); (Socialprotection.org, 2021)

Program	Description	Implementation	Coverage	Benefit level
Main regional social welfare programs				
Unlad Pamilyang Bangsamoro Program (UPBP)	Assistance targeted at the poorest 5%, who are not receiving the 4Ps	MSSD	23,829 households	PHP 15,000 livelihood seed capital (under UPBP or SLP); monthly rice subsidy of 25 kg; educational assistance (under ABK)
Bangsamoro Sagip Kabuhayan (BSK)	Assistance to low-income households, workers in the informal sector, or subsistence economy workers who have been severely affected by the COVID-19 pandemic, to support economic recovery and rehabilitation of their livelihoods.	MSSD		PHP 15,000 livelihood seed capital (once off)
Kupkop Program (Orphans' assistance)	Cash assistance targeted at vulnerable orphan children	MSSD	1,013 orphans	PHP 5,000 per month
Kalinga sa May Kapansanan Program (Assistance for persons with disabilities)	Monthly transfers targeted at poor individuals with disabilities under 60 years of age	MSSD	33,000 persons with disabilities	PHP 500 per month
Bangsamoro CARES	Targeted at individuals and/ or families who are indigent, vulnerable, disadvantaged or are otherwise in crisis situations based on the assessment of the ministry's social worker	MSSD		Cash and in-kind assistance based on assessment of social worker

Program	Description	Implementation	Coverage	Benefit level
Angat Bangsamoro: Kabataan Tungo sa Karunungan Program (ABK)	Educational assistance for children from low-income, poor and disadvantaged households to cover school-related expenses such as school fees, supplies, books, school projects and internet/data load.	MSSD	20,000 children	PHP 1,000 elementary school, PHP 1,500 junior and senior high school, PHP 5,000 vocational-technical training and college (per school year)
Social insurance				
PhilHealth	National health insurance scheme	Department of Health	90% of poor households nationwide	Access to services
Social Security System	Insurance against old age, disability and death, and for women includes sickness and maternity benefits. Compulsory coverage for employers, employees, self-employed, house helpers, Overseas Filipino Workers (OFWs)	Republic of the Philippines Social Security System		
Government Service Insurance System	Insurance against old age, disability and death, and for women includes sickness and maternity benefits. Targeted at government employees	Government Service Insurance System Agency		
Main regional labor market interventions				
Employment Promotion and Welfare Program	Recruitment activities, job portal, employment assistance, community emergency employment, etc.	MOLE		
Labor Education and Workers' Welfare Program	Career guidance and coaching for students, entrepreneurial development in rural areas, etc.	MOLE		
Labor Standard Program		MOLE		

Adequacy of coverage and benefits

Overall, the coverage of the main regional social protection programs – i.e., the social welfare programs – is low in comparison to the national programs. The coverage of the national flagship 4Ps is more than 16 times higher than the coverage of the MSSD's *Unlad Pamilyang Bangsamoro Program*. Similarly, the other main social protection programs implemented by the MSSD have a relatively small coverage, being targeted to particularly vulnerable groups, such as orphans and persons living with disabilities. In addition, there are big discrepancies in the benefit values of the different programs. While the national social pension and the regional disability assistance deliver PHP 500 per person per month, the orphans' assistance delivers PHP 5,000 per month and the *Unlad Pamilyang Bangsamoro Program* provides beneficiary households with a lump sum of PHP 15,000 plus in-kind assistance.

Delivery systems of programs

In terms of delivery mechanisms, social protection in BARMM uses multiple payment channels, from electronic means of cash disbursement to cash in hand. While manual cash distribution causes challenges when beneficiaries are displaced and contributes to unauthorized deductions at pay-out points, region-wide alternatives to manual distribution are currently challenged by the limited infrastructure, few financial services providers and technological inexperience of some beneficiaries. For instance, whereas around 52 per cent of 4Ps beneficiaries nationwide receive cash disbursements via a cash card, in BARMM, this figure is less than 7 per cent.[26] Moreover, even though there have been advances in electronic payment delivery from NGOs and development partners, these have been on a small scale with payment providers and mechanisms outside the government system.[27]

Moreover, targeting social protection programs in BARMM mostly relies on 4Ps databases and the *national Listahanan*.[28] Although the *Listahanan* is considered one of the most effective social registries worldwide, concerns have been raised regarding the delays in updating the database. With the *Listahanan* only being updated every four to five years, the data becomes increasingly inaccurate at predicting poverty and vulnerability over time. Furthermore, the unique context in BARMM raises questions about its suitability as a basis for targeting in the region and challenges with data accuracy limit the Government's ability to deliver adequate social protection. The isolation of many communities, insecurity, limited staff capacities and beneficiary knowledge of program processes undermine the collection, use and accuracy of data at all levels of government. Also, the existence of multiple independent databases in BARMM, which hold information on social protection beneficiaries or the broader population, limits the comprehensive and centralized access to data necessary for program implementation and coordination.[29]

[26] (Ibid.)
[27] (Ibid.)
[28] *Listahanan*, also known as the National Household Targeting System for Poverty Reduction (NHTS-PR), is an information management system that identifies who and where the poor are nationwide.
[29] (Rowe, 2020)

Further challenges

The challenges of establishing an organizational bureaucracy as a newly formed governing authority and other contextual challenges inherent to BARMM also constrain the implementation of social protection programs. All ministries, departments and agencies have been reorganized, with new, and partially unclear, lines of accountability between the national Government, BARMM and Local Government Units (LGUs). Furthermore, substantial staff turnover between the ARMM government and the new Bangsamoro Government means that many newly hired civil servants are working in the ministries now.

Furthermore, the future management and financing of the national programs – including the 4Ps, social pension, Supplementary Feeding Program and Sustainable Livelihoods Program – remain unclear. While the national DSWD confirmed the commitment to support the government of BARMM to deliver the national programs during the transition period, there is little clarity around the sustainability of these programs beyond 2022.[30] This level of uncertainty also has implications for the potential shape of the social protection system in BARMM and options for its adjustments and expansions during emergencies.

7.2. SHOCK RESPONSIVE SOCIAL PROTECTION IN BARMM

What is shock responsive social protection?

The social protection system, and its underlying programs and policies, are often designed to address common risks that are faced by poor and vulnerable households throughout their lifecycle. Shock responsive social protection takes this a step further and aims to extend coverage to risks that commonly affect numerous households or communities at once (i.e., covariate shocks). This includes economic crises, conflicts, epidemics/pandemics, as well as natural hazards.[31] This is of importance given the rising number, severity and complexity of crises that various parts of the globe are faced with.

In the event of such covariate shocks, governments have increasingly turned to social protection programs, and particularly cash transfers to deliver support to affected populations. This social protection support can be delivered through three main channels: 1) established national social protection systems, 2) a parallel response, and 3) a mixed system that combines aspects of both aforementioned channels. When doing so, international experience with the design and implementation of cash transfers in emergencies has, over the past decade, helped to define six priority actions that countries can use to better adapt their response to covariate shocks (see ***Figure 9***).[32]

a. **Design tweaks** ensure that routine social protection programming is established on a comprehensive understanding of the risks, shocks and stressors that a country commonly experiences. This encompasses three main actions: explicitly focusing social protection programming on enhancing the resilience of individuals, families and communities to future shocks; explicitly focusing social protection programming on vulnerability to shocks by incorporating vulnerability criteria into targeting or expanding the routine coverage to areas that are frequently affected by shocks; and ensuring the continuity of service delivery to shock-affected areas.

[30] (Ibid.)
[31] (Barca, 2017)
[32] (UNICEF, 2019)

b. **Vertical expansion** ensures that an existing social protection program is expanded in scope. This includes temporarily increasing the benefit value or the duration of payments to all or only some of the existing beneficiaries of the program. Furthermore, this approach allows for new components to be added to the existing program.

c. **Horizontal expansion** ensures that an existing social protection program is expanded in coverage. This comprises the temporary increase in the number of beneficiaries receiving cash or in-kind support from the program.

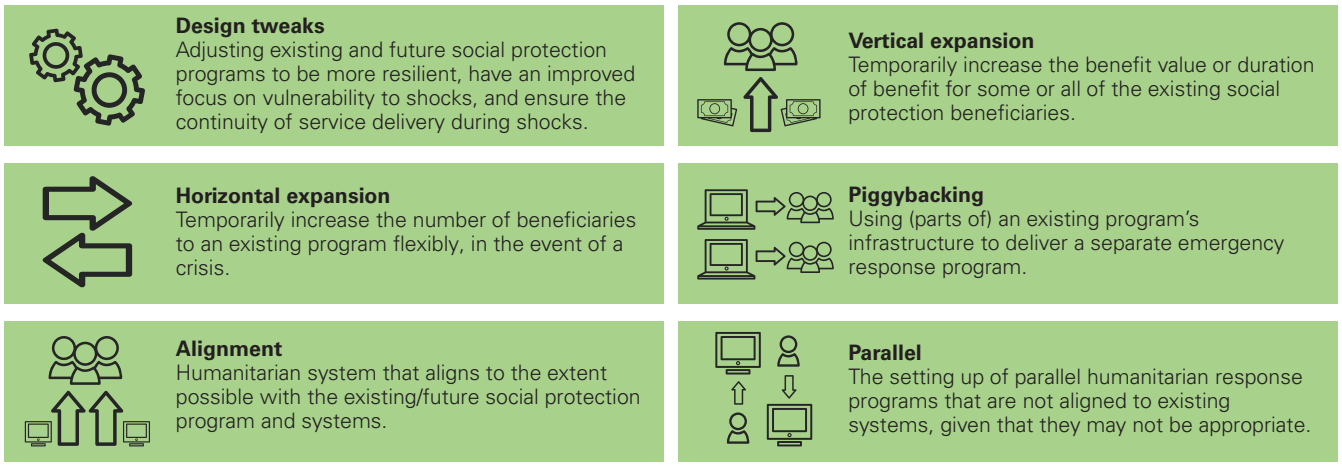
d. **Piggybacking** encompasses the activation of a new emergency program that utilizes the existing social protection system. This could include the use of existing beneficiary data, capacity, or delivery mechanisms. While this approach can be driven by the social protection sector, it may also be undertaken by external humanitarian actors in coordination with the social protection actors.

e. **Alignment** refers to the situation where humanitarian cash transfers are aligned with external parallel responses to emergencies (e.g., through aligning the objectives, targeting method, transfer value or delivery mechanism of the programs). This creates a foundation for future expansion of the response or the further strengthening of the existing social protection system.

f. **Parallel** humanitarian responses may be implemented in the instances where the country does not have a functioning social protection system or where the existing system is not deemed appropriate to implement humanitarian responses. The latter includes circumstances where humanitarian principles cannot be upheld or where the government is party to a conflict.

Consequently, it can be noted that shock responsive social protection is about analyzing the context and using available resources to address the needs of families and children in crises. Yet, it must also be noted that there is increasing evidence that points to the cost-effectiveness of early action through established systems rather than post-emergency responses. As such, social protection systems that are better designed to anticipate and respond to crises are essential and play an important role for families and children to be able to cope with the aftermath of the shocks. Only through such preparedness can vulnerable members of the society quickly return to normality.

Figure 9. Different SRSP implementation strategies[33]



[33] Figure created by author based on information found in UNICEF's Guidance on Strengthening Shock Responsive Social Protection (UNICEF, 2019).

Shock responsive social protection in the Philippines

The Philippines is particularly vulnerable to recurring natural disasters such as earthquakes, floods, typhoons and storms. Globally, the country is situated among the top five nations affected by disasters, given that 74 per cent of its population and 60 per cent of its land area are susceptible to shocks.[34] This is likely to increase due to the impact of climate change, which has already resulted in the heightened susceptibility of the country to disasters over the past three decades. Combined, these recurrent shocks have resulted in a rather slow reduction in poverty over the past two decades.

In order to alleviate the impacts of these recurrent shocks, the Government of the Philippines has, over the last decade, developed comprehensive legislation and institutional arrangements governing Disaster Risk Management (DRM) and the delivery of shock responsive social protection. Since 2010, the coordination of DRM has been governed through a multidisciplinary structure termed the National Disaster Risk Reduction and Management Council. Under this structure, there are four main thematic areas of focus, each with a lead agency: disaster prevention and mitigation led by the Department of Interior and Local Government; disaster preparedness led by the Department of Science and Technology; disaster response led by the Department of Social Welfare and Development; and disaster rehabilitation and recovery led by the National Economic and Development Authority. Especially given that DSWD leads both the coordination of social protection and of disaster response, this institutional set-up offers the potential for the Philippines to utilize social protection systems effectively in response to shocks.[35]

The first such experience in doing so was in 2013 in response to typhoon Haiyan – the worst disaster in the history of the Philippines as it affected 16 million Filipinos across 171 municipalities. Over 5.9 million workers lost their source of income and 1.1 million their houses.[36] In response, the World Food Programme (WFP) in collaboration with the DSWD piloted an emergency cash transfer through the administrative systems of the national 4Ps program. The rationale behind this was attributed to the fact that the 4Ps program already had an existing database of beneficiaries that resided in the affected areas. Thereby, this ensured that the emergency cash transfer would be targeted towards affected poor individuals across a large geographical area. Resultingly, PHP 550.5 million in unconditional 4Ps cash transfers were provided to the affected beneficiaries between November 2013 and February 2014 – just three months after the disaster struck.[37] These were distributed as a USD 30 per month top-up on the regular social protection cash transfer provided, resulting in what is known as the vertical expansion of the 4Ps program in light of the disaster.[38]

Studies and evaluations conducted after the response have shown that the vertical expansion of the 4Ps program was an efficient and effective way of reaching a significant portion of households affected.[39] This was enabled through a number of factors including, among other aspects, 1) that DSWD has the mandate for disaster response; 2) that the 4Ps program was well-established with good administrative systems; 3) that there was a high political willingness to use the program along with good relationships with external humanitarian and development agencies; 4) that the 4Ps program has flexible payment systems; and 5) that the 4Ps program had existing regulatory documents that allowed for the removal of payment conditionality in light of disasters.[40]

[34] (Goozee, 2017)
[35] (Goozee, 2017)
[36] (Ibid.)
[37] (Bowen, 2016)
[38] (Goozee, 2017)
[39] (Bowen, 2016)
[40] (Goozee, 2017)

Ever since this positive experience, there has been an increase in the use of cash in emergency responses, particularly focusing on expanding existing national social protection programs or piggybacking on their existing administrative systems. One of the most recent examples is the implementation of the Social Amelioration Program (SAP) by the DSWD in response to the COVID-19 pandemic. As part of the Government's emergency response, the SAP provided two rounds of cash assistance to low-income households, including existing beneficiaries of the 4Ps, in addition to newly affected households targeted through local government units (LGUs), including informal workers and other vulnerable populations. The first round of transfers consisted of manual payments equivalent to USD 100 (PHP 5,000) to USD 160 (PHP 8,000) made to approximately 18 million households between April and June 2020. The second round of transfers consisted of the same amount paid to 14.1 million households residing in areas under strict lockdown between July and November 2020.[41] This round did not only add to the program waitlisted households that did not receive the cash transfer during the first round of payment, but also introduced digital payments. In order for these payments to be undertaken, DSWD partnered with six financial service providers and, to each of them, assigned beneficiaries who received the transfer through temporarily established digital financial accounts. Thereby, many Filipinos received the assistance needed to lessen the socio-economic impacts of the COVID-19 pandemic.

Disaster risk reduction and management in BARMM

In BARMM, Disaster Risk Reduction and Management (DRRM) is structured according to the national government policy and legislative context, as well as former ARMM-specific policies. Within this legislative framework, a number of laws should be taken note of, including 1) the 2001 Act to Strengthen and Expand the Organic Act for the Autonomous Region in Muslim Mindanao, 2) the 2010 Philippines Disaster Risk Reduction and Management Act, 3) the 2016 Children's Emergency Relief and Protection Act, and 4) the 2018 Bangsamoro Organic Law. Combined, these laws do not only require the Bangsamoro Government to undertake preparedness, early recovery and rehabilitation actions in light of emergencies, but to also immediately provide assistance to children and pregnant and lactating mothers that are affected by a disaster. Furthermore, the 2018 Bangsamoro Organic Law also allowed for the establishment of the Bangsamoro Disaster Risk Reduction and Management Council, which, among other tasks, also formulates the region's Disaster Risk Reduction and Management Plan.

In line with the legislation outlined, the region has established relevant government DRRM structures that align to that described for the Philippines as a whole. Therefore, the Regional Disaster Risk Reduction and Management Council (RDRRMC), with funding and resources provided by the national Government, coordinates the efforts of the four regional ministries in charge of disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery, as well as the assistance provided by NGOs and international partners.

The responsibilities for DRM are further developed to the Local Disaster Risk Reduction and Management Offices (LDRRMOs) at LGU level and the Barangay DRRM Committees (BDRRMCs). Ultimately, the scale of a disaster determines the administrative level at which the response is coordinated. Whereas in the case of local emergencies, local DRRM Councils take the lead in preparing for, responding to, and recovering from the effects of any disaster, in case of bigger emergencies, LGUs can request national agencies to support the response and provide additional funds.[42] With combined efforts, this has allowed for the establishment of several disaster response programs over the past decade as seen under ***Table 5.***

[41] (IPA, 2021a); (IPA, 2021b)
[42] (Farhat & Borja, 2021)

Table 5. Overview of disaster response programs in BARMM[43]

Program	Description	Implementation	Coverage	Benefit level
ARMM-HEART	Established in 2013, it focuses on assessments of disasters and the provision of relief, while providing capacity building (training of rescuers and medical responders) and rescue operations. It is a coordinated action by all regional line agencies.	BARMM Government	363,000 households between 2014 and 2018. Conflict-related relief was provided to 227,000 households, and relief in light of natural disasters to 137,000 households.	No data.
ARMM-BRIDGE	Provides food, shelter, electricity and water to disaster-affected areas and includes community-managed projects such as vegetable gardening.	BARMM Government	12,600 households between 2015 and 2018.	PHP 2.6 billion in 2019. PHP 6 billion from 2015 to 2018.
ARMM-HELPS	Focused on the community/ barangay to establish small-scale infrastructure (day care centers, community halls, etc.) and supplies medicine, provides livelihood assistance, and promotes education and peace.	BARMM Government	1.187 million households in 2019. 553 households in barangays.	PHP 1.5 billion in 2019. PHP 6.4 billion from 2014 to 2018.
ARMM-HADP	Established in 2015 to cover 15 municipalities affected by intense law enforcement operations with the aim to tackle poverty through the provision of livelihood support and programs that strengthen the sense of community.	BARMM Government	No data.	PHP 2.395 billion for 2016 to 2017.

[43] (Rowe, 2020)

Shock responsive social protection in BARMM

Given this extensive experience in DRM, and in line with national and global thinking, discussions surrounding the use of shock responsive social protection systems to respond to disasters have commenced in the BARMM region. This is of special importance given that the region, unlike the whole of the Philippines, is also subjected to socio-political hazards due to the ongoing and long-term conflict resulting from insurgency.[44]

The need for shock responsive social protection programs and their preparation prior to emergencies has also been underlined by the recent COVID-19 pandemic – a disaster with impacts felt across a number of sectors including education, health and nutrition. In BARMM, the Government implemented a 'whole-of-government' approach to combat the rise in numbers. This included creating its own Bangsamoro Inter-Agency Task Force on COVID-19, activating the health emergency response teams, instituting quarantine and social distancing measures, as well as drafting a COVID-19 Response and Recovery Plan.[45]

In addition to this, the Government, in partnership with FAO and UNICEF, has developed the Joint Programme on Shock Responsive Social Protection (JPSRSP) in order to strengthen social protection in the region by making it more inclusive and able to forecast risks and quickly address needs in emergencies. To achieve this, the program focuses on three main interventions: "mainstreaming risk informed shock responsive social protection in the Bangsamoro Development Plan (BRDP); building capacity of BARMM institutions to analyze and monitor both natural and human-induced risks and improve synergy; and improving the poverty registry system to include risk and hazard vulnerability assessments, predictive analytics, inclusive targeting and effective monitoring".[46]

As part of the JPSRSP, the agencies, in collaboration with the regional government, have devised two emergency cash transfer programs. The first is forthcoming and includes emergency cash transfer to farmers in the region that are not supported by the 4Ps or the SAP programs. The second consists of an emergency cash transfer program that aims to address the exclusion of poor families with added vulnerabilities from the national SAP and 4Ps programs, while additionally safeguarding the nutrition requirements of vulnerable children during their first 1,000 days. The MSSD-led program delivered a cash grant of PHP 5,000 to 1,000 poor households with pregnant/lactating mothers or children under 2 who were excluded from the national Government's SAP and 4Ps programs. The program made use of the SAP delivery strategy, while using WFP's Scope database in order to avoid beneficiaries collecting emergency assistance from various programs. Combined, these factors have led to positive impacts. In fact, according to evaluations of the program, the cash assistance was mostly used to purchase child-related items, such as milk and diapers, and facilitated the uptake of essential health services for pregnant/lactating mothers or children under 2 years of age.[47] Furthermore, it has led to an average poverty reduction of 6.3 percentage points vis-à-vis post-COVID-19 levels.[48]

[44] (Goozee, 2017)
[45] (UNDP, 2021)
[46] (FAO, 2021)
[47] (UNICEF, 2020)
[48] (EPRI, 2020)

Challenges in the implementation

Nonetheless, the implementation of emergency response programs in BARMM still faces several challenges. Their identification is of importance as they will help advance the JPSRSP in creating an efficient and effective shock responsive social protection system in the future. Particular importance needs to be placed on the timeliness, relevance and adequacy of emergency response as evaluations from the past couple of years have shown these to be sub-optimal. Ideally, an emergency requires multiple departments and organizations to be involved in a single, comprehensive response. Yet, emergency support in the region is often fragmented, with different agencies conducting their own targeting processes and stand-alone projects with limited alignment to each other or with government programs or systems.[49] Furthermore, most emergency assistance is still being implemented by non-government organizations through relatively short-term, modest-sized programs.[50] Thereby, little has been done to improve the comprehensiveness and sustainability of the region's shock responsive social protection system.

Moreover, regarding transfer modalities, most emergency transfers are still delivered in-kind. For instance, between 2018 and 2019, fewer than 28,000 beneficiaries received cash-based emergency assistance from NGOs, spread across 162 activities. Also, the response to the Marawi armed conflict has, to date, included only 291 cash-based programs out of more than 10,000 activities in total. This suggests that the use of cash-based programming by NGOs, for emergencies at least, is relatively modest.[51] This may not only slow down the speed of response, but also does not allow affected beneficiaries to make their own decisions regarding their most pressing needs. Lastly, there is a heavy reliance on ex-post emergency response rather than systematized, pre-planned actions. Evaluations show the need to raise awareness and capacity around prevention, mitigation and preparedness.[52] Conclusively, it can be stated that while several obstacles still remain to be overcome in order to have a comprehensive and far-reaching shock responsive social protection system that is prepared for crises, BARMM is taking steps towards strengthening the overall system and rendering it more shock responsive.

[49] (Rowe, 2020)
[50] (Ibid.)
[51] (Rowe,2020)
[52] (Ibid.)

Box 4. Setting benefit levels for emergency cash transfers

Transfer values for emergency assistance are set differently from transfer values for regular social protection cash transfers. Core differences include the objective that emergency transfers are meant to achieve, the methodology through which they are calculated and the timing of calculation, as well as the constraints faced in the process. From the humanitarian perspective, transfers should be adequate to meet the basic needs of affected individuals and households. These needs are typically identified in multi-sectoral assessments conducted immediately after the emergency and based on the pre-defined Minimum Expenditure Basket (MEB). A rapid, multi-sectoral assessment of the affected populations' needs is crucial to identify the adequate support – cash and/or in-kind. Since different types and severities of emergencies affect households differently, the benefit level should be tailored accordingly.

The MEB defines what a household requires to meet basic needs – on a regular or seasonal basis – and the cost attributed to these according to the local market. The calculation of the MEB naturally varies according to the context, with availability of items in markets and cultural preferences of populations affecting what is actually included in an MEB. Moreover, market prices of the identified items in the MEB vary between countries and regions, and for additional reasons such as the seasonal variations in supply. The MEB should be re-calculated regularly, depending on price fluctuations.

For the impact modeling of shock responsive social protection in BARMM (discussed in the following), transfer values were set at PHP 6,300 per household. The transfer value was defined as the difference between the household income of affected households and the MEB. As the Bangsamoro Government, with support from FAO and UNICEF, is currently in the process of updating the MEB, this study used the information from the HCT Cash Working Group Philippines collated in 2016, and grew its value in line with inflation. The transfer value of PHP 6,300 roughly covers the unmet needs of affected households for two months. In order to account for changing costs of living – and hence the MEB – throughout the modeling period, the transfer values were increased in line with the projected inflation for BARMM.

Sources: (McLean, Carraro, Barca, & Alfers, 2021), (HCT Cash Working Group Philippines, 2016)

7.3. IMPACT ANALYSIS OF SHOCK RESPONSIVE SOCIAL PROTECTION

To make the case for investments in shock responsive social protection, as part of the quantitative analysis for this investment case, the potential impacts of various shock responsive social protection programs to alleviate the effects of emergencies were modeled. Based on the poverty and emergency simulations for BARMM elaborated upon above, various shock responsive social protection options were modeled to assess the potential impact on the losses in household income and human capital development.

Modeling parameters

In total, six different programmatic options were modeled. The programmatic options are emergency cash transfer programs targeted at different population groups that might be particularly vulnerable when affected by an emergency. The various programmatic options align with the existing national and regional social protection

system and after their activation would utilize the existing social protection system for delivery. This means using existing data on poor and vulnerable households and beneficiary data from existing programs, existing payment mechanisms, and the existing capacity within the MSSD and MAFAD – the main implementer of social welfare programs and first responder agencies in BARMM.

All emergency cash transfer programs included in the model target vulnerable population groups. In addition to these, vertical expansions of the national 4Ps and social pension were modeled. A vertical expansion implies the delivery of a top-up transfer to households currently benefiting from the program, in order to help these households cope with the effects of the emergency. Below, **Table 6** provides an overview of the various programs and expansions modeled, as well as the main modeling parameters per program and **Box 4** above explains the process of setting the transfer values for this modeling exercise in more detail.

Table 6. Modeling parameters per program

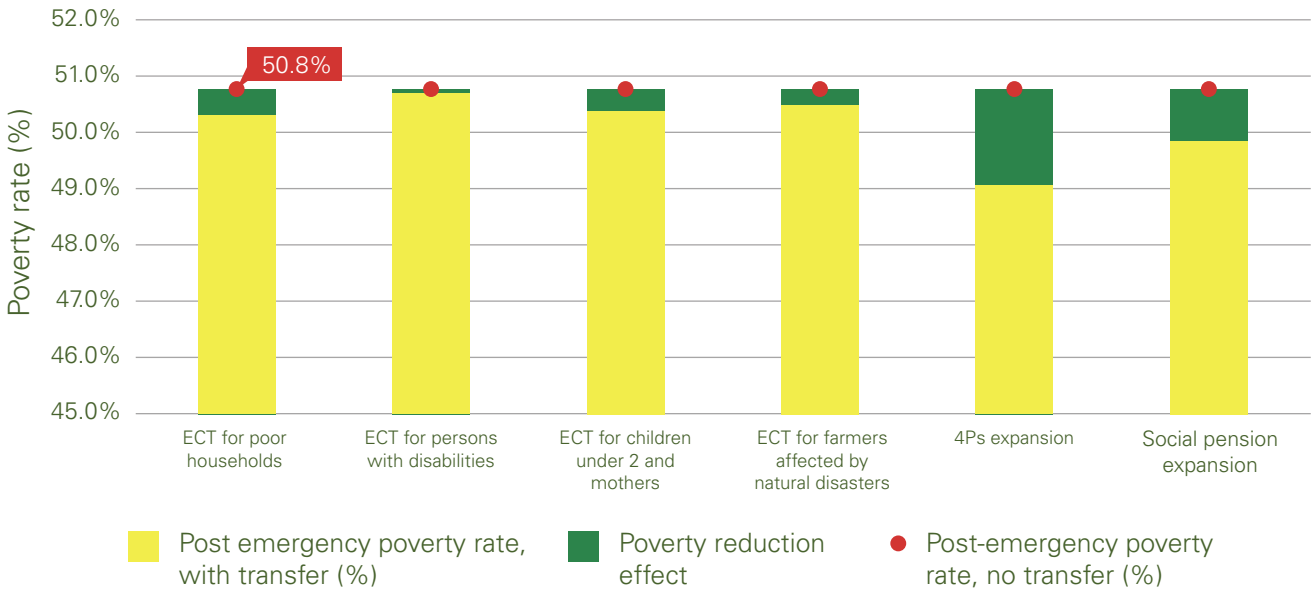
Program	Modeling parameters
Regional programs	
ECT for the poorest households	Target group: Poor households not covered by the 4Ps, affected by an emergency Benefit level: One-off transfer of PHP 6,300 (value increased yearly with inflation)
ECT for persons with disabilities	Target group: Households with persons with disabilities, affected by an emergency Benefit level: One-off transfer of PHP 6,300 (value increased yearly with inflation)
ECT for households with children under 2, pregnant/ lactating women	Target group: Households with children under 2, pregnant and lactating women, affected by an emergency Benefit level: One-off transfer of PHP 6,300 (value increased yearly with inflation)
ECT for farmers affected by natural disasters	Target group: Households with farmers, affected by natural disasters Benefit level: One-off transfer of PHP 6,300 (value increased yearly with inflation)
National programs	
Expansion of the 4Ps	Target group: Vertical expansion to existing beneficiaries Benefit level: One-off transfer of PHP 6,300 (value increased yearly with inflation)
Expansion of the social pension	Target group: Vertical expansion to existing beneficiaries Benefit level: One-off transfer of PHP 6,300 (value increased yearly with inflation)

Alleviating the effects of emergencies: Poverty

Firstly, the effects of the different program options in alleviating the impacts of emergencies on poverty were simulated. **The results suggest that all program options included in the model reduce post-emergency poverty rates, albeit to different extents.** ***Figure 10*** compares the poverty reduction effects of the program options in 2040 by illustrating the post-emergency poverty rate in the absence of an emergency cash transfer (illustrated in red) with the post-emergency poverty rate with a transfer (illustrated in dark orange), and the difference between both (illustrated in light orange). In 2040, the post-emergency poverty rate in the absence of any emergency cash transfer is estimated to stand at 50.8 per cent, while the different programmatic options reduce that poverty rate by 0.1 to 1.7 percentage points.

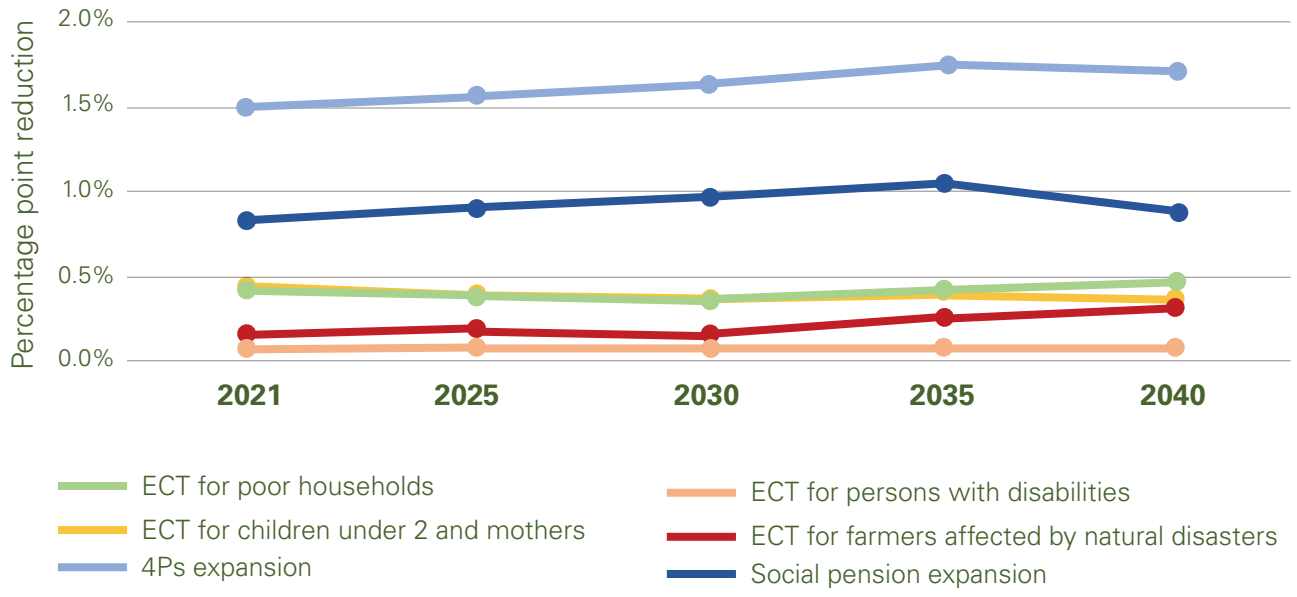
In particular, the expansions of the national 4Ps and social pension are effective in reducing the poverty rate after an emergency. In the case of the 4Ps, for example, a vertical expansion to all beneficiaries would reduce the post-emergency poverty rate from 50.8 per cent to 49 per cent in 2040, and in the case of the social pension from 50.8 per cent to 49.9 per cent. However, the emergency cash transfers for poor households, farmers, children under 2 and lactating and pregnant women, as well as persons with disabilities also contribute to poverty reduction, albeit at a lower level. As further elaborated upon below, the poverty reduction effects of the expansions of the 4Ps and social pension are bigger due to their larger target groups.

Figure 10. Poverty reduction effect of different shock responsive program options, 2040



Below, *Figure 11* showcases the poverty reduction effects, i.e., the difference between the poverty rate after the emergency in the absence of an emergency cash transfer and the poverty rate after the emergency with a cash transfer, across the years. It becomes evident that all options included in the model reduce the post-emergency poverty rate across the whole modeling period. An ECT for poor households affected by emergencies and not receiving the 4Ps, or an ECT for affected households with children under 2 or pregnant/lactating women, for example, would reduce post-emergency poverty rates by 0.4 to 0.5 percentage points throughout the years. Similarly, an ECT for farmers affected by emergencies would reduce post-emergency poverty rates by 0.2 to 0.3 percentage points, and an ECT for affected persons with disabilities by 0.1 percentage points. An expansion of the 4Ps would achieve a reduction of 1.5 to 1.8 percentage points, while an expansion of the social pension reduces post-emergency poverty rates by 0.8 to 1.0 percentage points across the years.

Figure 11. Poverty rate reduction effects of programs across years



In line with a poverty rate reduction, the poverty headcount, i.e., the number of persons living below the poverty line is also reduced through the different emergency cash transfer options *(Table 7).* Without any support after the emergency, between 2.9 and 3.4 million persons will be living in poverty in BARMM across the modeling period. Through the poverty reduction effects of the various programmatic options, the post-emergency headcount can be reduced.

A vertical expansion of the national 4Ps, for example, lifts between 68,346 and 115,937 persons out of post-emergency poverty, while an emergency cash transfer to poor households affected by an emergency and not receiving 4Ps lifts between 18,942 and 31,378 persons out of poverty. Even emergency cash transfers targeted at a smaller population group, for example affected persons with disabilities, lift between 3,460 and 4,654 persons out of poverty after an emergency.

Table 7. Poverty headcount reduction post-emergency with cash transfer

Poverty headcount	2021	2025	2030	2035	2040
Post-emergency, without cash transfer					
No emergency cash transfer	2,943,272	3,106,911	3,300,192	3,393,478	3,409,172
Post-emergency, with cash transfer					
ECT for poor households, not receiving 4Ps	18,942	19,110	21,319	26,541	31,378
ECT for persons with disabilities	3,460	3,726	3,966	4,185	4,654
ECT for households with children under 2, pregnant/lactating women	20,295	20,293	20,741	24,562	25,492
ECT for farmers affected by natural disasters	6,781	9,338	9,011	16,278	19,937
4Ps expansion	68,346	77,738	92,813	109,001	115,937
Social pension expansion	37,949	45,609	54,640	64,543	61,154

Alleviating the effects of emergencies: Human capital development

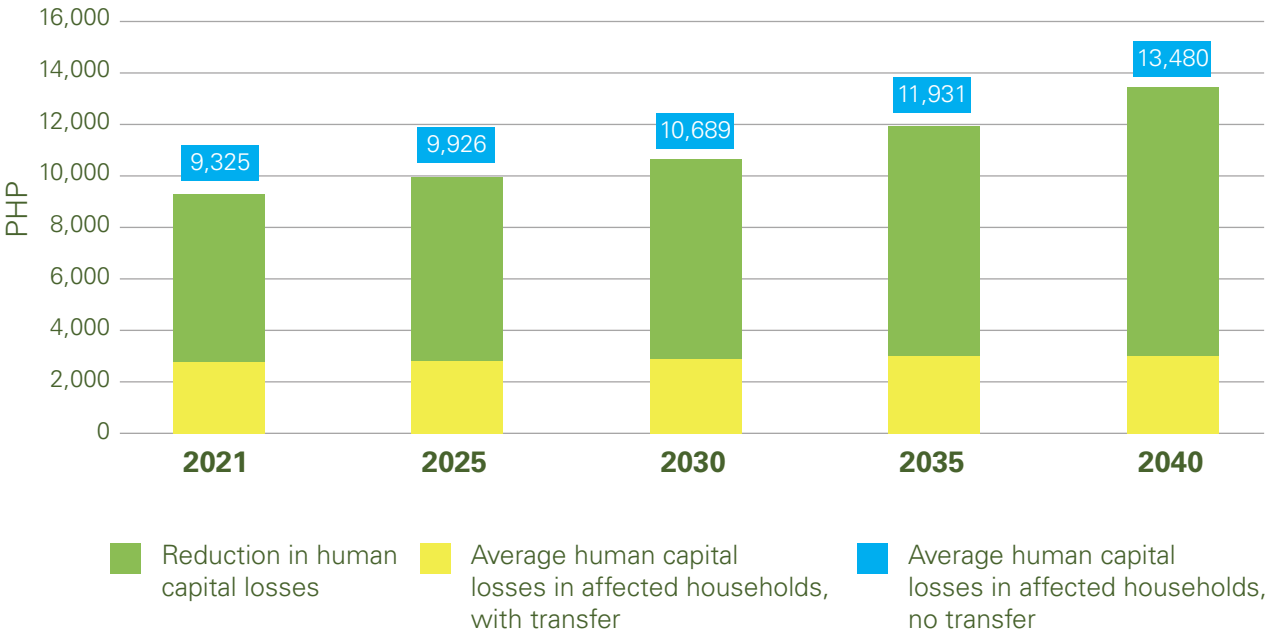
In addition to poverty reduction effects, the analysis for this investment case also assessed the effects of the programs aimed at preventing and reducing human capital losses caused by emergencies. Assuming that affected households only spend 50 per cent of the emergency cash transfer they receive on investments in nutrition, education and health, substantial reductions in human capital losses of affected households can be achieved.

Below, *Figure 12* illustrates the average reduction in human capital losses that can be achieved in affected households that receive an emergency cash transfer within one month after the emergency. The red markers indicate the average human capital losses an affected household is estimated to incur in the year after the emergency, as a reduction in household income will result in lower or no human capital investments. In 2021, affected households are estimated to incur an average of PHP 9,325 in human capital losses in the absence of any emergency assistance; in 2040 the average losses amount to PHP 13,480 per affected household. However, if a cash transfer is delivered within one month following the emergency, human capital losses can be significantly reduced. In 2021, losses can be reduced to an average of PHP 2,793 in affected households

(illustrated in dark blue) – a reduction of PHP 6,531 on average, or 73.2 per cent. Similar reductions in human capital losses in affected households occur throughout the modeling period.

The reasoning behind this is that households that receive the transfer do not have to avert their spending from food, education and health due to a loss of income. With the help from the cash transfer, households can maintain at least parts of their human capital expenditure and thereby lower today's cost of future losses from lower human capital. It must be stressed that the timing of the response is of essence in averting losses to human capital, as these losses accrue over time.

Figure 12. Reduction in human capital losses in households, transfer delivered after 1 month

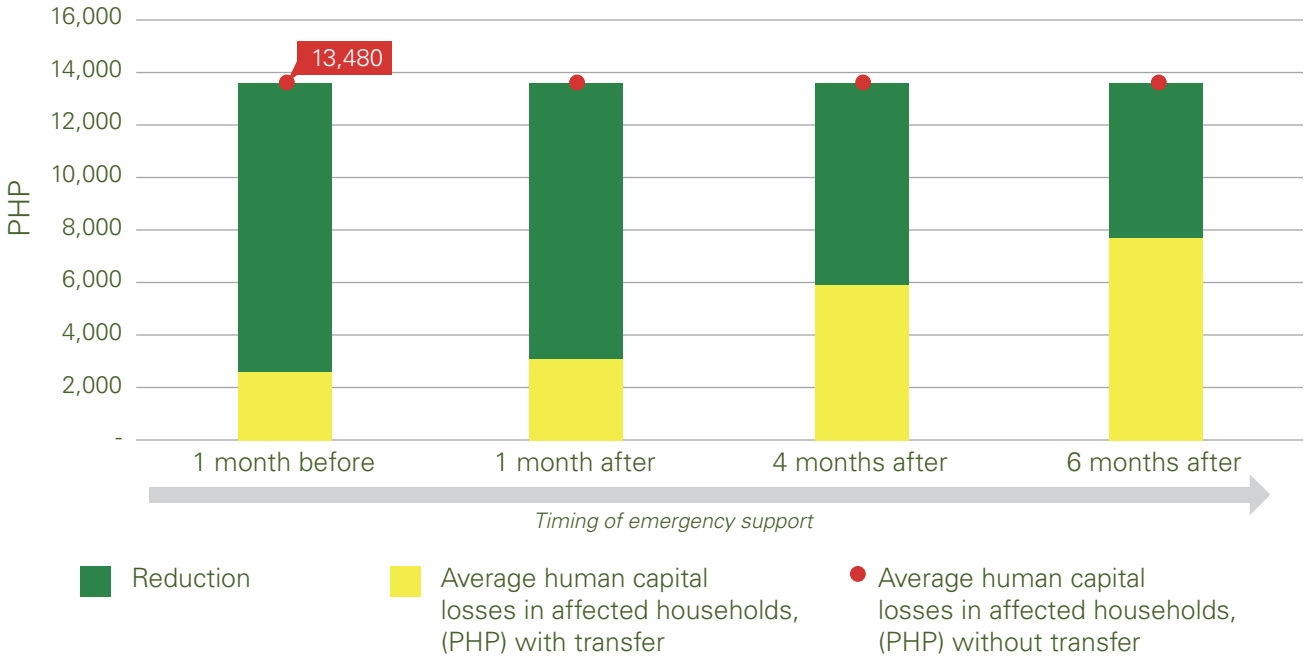


Effectiveness of programs: Timing of response

Comparing different timings for the delivery of the emergency shows the implications that timing of support has on human capital losses. ***Figure 13*** illustrates the average human capital losses that an affected household will incur in 2040, according to the timing of the emergency cash transfer. In the absence of any transfer, a household affected by an emergency will incur on average PHP 13,480 in human capital losses. However, if the affected household receives a cash transfer one month after the emergency, losses can be reduced to PHP 3,109. If the emergency transfer is delivered four months after, the losses amount to PHP 5,881, and if the transfer is delivered six months after the emergency, human capital losses are reduced to PHP 7,729. Hence, even though there is a substantial reduction in human capital losses for all timings, the most significant one can be achieved when the transfer is delivered early on.

Ideally, the transfer is delivered even before the emergency, to prepare households that are likely going to be affected by the upcoming emergency. Particularly for recurring natural disasters such as droughts or flooding during the rainy season, such anticipatory action can support households throughout the emergency and ensure that risk mitigation and coping strategies, such as reduction in human capital investments, can be kept at a minimum. Modeling suggests that if the emergency cash transfer is delivered a month before the emergency, human capital losses can be reduced to PHP 2,647 – a reduction of 15 per cent vis-à-vis a scenario in which the cash transfer is delivered one month after the emergency and a reduction of 80 per cent vis-à-vis a scenario in which no cash transfer is delivered at all.

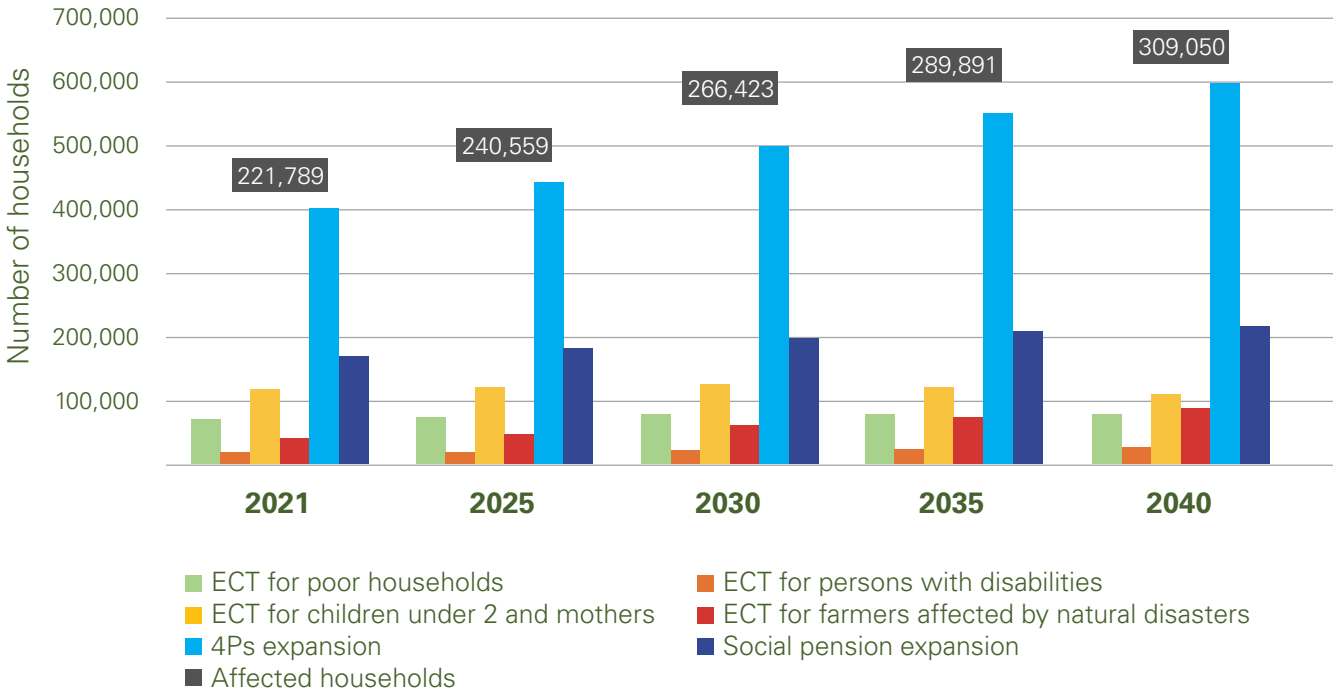
Figure 13. Human capital losses in affected households in 2040, according to transfer timing



Effectiveness of programs: Reaching affected households

As indicated earlier, the different programmatic options have differing target group sizes, which also affects their effectiveness in reducing post-emergency poverty. The vertical expansion of the 4Ps has the highest coverage across the years, increasing from 401,961 households in 2021 to 598,049 households in 2040. By contrast, the emergency cash transfer for affected persons with disabilities reaches 17,416 households in 2021 and 24,601 households in 2040 ***(Figure 14).*** A comparison of program coverage with the number of affected households per year (illustrated in dark grey) shows that all programs have the ability to reach a substantial share of the affected population. Only the 4Ps has a coverage that surpasses the number of affected households, because the target group size of the regular 4Ps program (i.e., not the emergency expansion) is already higher than the number of households affected by an emergency.

Figure 14. Total households covered by emergency cash transfers



7.4. ADDITIONAL CONSIDERATIONS WHEN DESIGNING AND IMPLEMENTING SHOCK RESPONSIVE SOCIAL PROTECTION

The analysis above presents a range of program options that could be implemented in response to a shock, and ultimately the Bangsamoro Government, and particularly first responder agencies such as the MSSD and MAFAR, must decide which programming options are most relevant in response to the emergency at hand. The options significantly differ in their target group size and hence vastly differ in their potential to achieve impacts in alleviating the income losses of affected households and therefore reduce post-emergency poverty reduction. Even though programs with higher coverage will be more effective in alleviating the effects of shocks on affected populations, it must be noted that the programs included in this analysis will not be able to capture all of those that are affected. Hence, parallel emergency cash transfers remain important, where there might be a strong role for development partners to play.

Furthermore, it must be stressed that the timing of response is vital to avert human capital losses. The analysis shows that the quicker a response is delivered, and the quicker households receive income support, the lower the human capital losses are likely going to be. These findings once more stress the need for the Bangsamoro Government, and particularly for the MSSD, to prepare for emergencies. The MSSD, but also the MAFAR and other first responder agencies, should continue to prepare for emergencies by developing design options for shock responsive social protection that can be operationalized immediately after or even before emergencies.

The ministries should continue to build on past/ongoing initiatives, such as the piloting of emergency cash transfers for children under 2 and pregnant women in response to COVID-19 (with support from UNICEF), or the development of an emergency cash transfer for farmers affected by natural disasters (with support from FAO). Furthermore, the MSSD could work on one or multiple design options for vertical and/or horizontal expansions of one of its existing social protection programs and pilot the option(s) during the next emergency, after which the option(s) can be further refined and enhanced.

Building a more shock responsive social protection system goes hand in hand with strengthening the existing social protection system in BARMM. The program options modeled within this investment case analysis will be delivered through the existing system and assume that the Bangsamoro Government will be able to identify affected households and deliver cash assistance to these households. For these processes to function smoothly and efficiently, the Government needs to continue to strengthen the underlying systems and processes of the 'regular' social protection system; these include the poverty registry, which is currently being updated to also include relevant data on vulnerability to different types of shocks in the future; and wider coverage of existing social protection beneficiaries with electronic payment mechanisms, to enable quick delivery of emergency response.

8. Financing of shock responsive social protection in BARMM

A crucial part of (shock responsive) social protection programming is the financing thereof. Shedding light on the financial viability and sustainability of programs can help policy makers decide on the most relevant programming options given the available resources. To provide this necessary evidence, as part of this investment case, a costing of the various shock responsive programming options was conducted. Subsequently a fiscal space analysis was carried out to identify possible options of increasing the fiscal space to finance shock responsive social protection programs without jeopardizing BARMM's financial sustainability position or the stability of the economy.

8.1. SOCIAL PROTECTION AND DISASTER RESPONSE FINANCING IN BARMM

BARMM government revenue

According to the Bangsamoro Organic Law, the Bangsamoro Government has the power to create its sources of revenue and to levy taxes, fees and charges consistent with the principles of equity, accountability, administrative simplicity, harmonization and economic efficiency. During the transition years of the new BARMM government, the region's budget is composed of three main sources of revenue: 1) Annual Block Grant, 2) Special Development Fund, and 3) its share in national taxes. Below, ***Table 8*** provides an overview of these three sources of government revenue in BARMM.[53]

Table 8. BARMM's main sources of government revenue

Revenue type	Details	Value in 2021 (000s PHP)
Annual Block Grant	Automatically appropriated share for BARMM as part of the national internal revenue tax collections of the BIR and the BOC.	PHP 71,669,833
Special Development Fund	Fund for the rebuilding, rehabilitation and development of the conflict-affected communities in BARMM Fixed yearly amount, disbursed for the first 10 years of the transition plan	PHP 5,000,000
Share in national taxes	BARMM's share in taxes, fees and charges collected by the national Government. For the first 10 years, BARMM will receive 100% of all taxes collected in BARMM as part of the national tax collection, afterwards BARMM will receive 75% of all taxes collected in BARMM and the national Government will retain 25%.	PHP 3,613,514

[53] (LBRMO, 2021)

Within BARMM, the Ministry of Finance Budget and Management (MFBM) has the mandate to coordinate and regulate the region's financial processes. Even though BARMM is an autonomous region, its constituent local government units (LGUs) are subject to the national laws and budgeting rules and regulations from the Department of Budget and Management (DBM) and Department of the Interior and Local Government (DILG), as provided for in the Local Government Code.[54] Thus, to prepare BARMM's annual budget, local ministries and offices prepare and submit their budget proposals for the next fiscal year to the MFBM. These proposals are reviewed to verify their sustainability and adequacy to the Philippine Development Plan and Bangsamoro Regional Development Plan. Afterwards, the MFBM presents the Bangsamoro Expenditure Program for the review and approval of the Chief Minister and the Cabinet.[55]

Financing of regular social protection in BARMM

The financing of regular social protection in BARMM is divided between the national Government and the Bangsamoro Government. While the national flagship programs – e.g., the 4Ps, social pension and Sustainable Livelihoods Program – are designed and financed by the national Government, the regional programs – such as the UPBP, orphans' assistance and disability assistance – are financed by the BARMM government via budget allocations to the MSSD.[56]

In light of the high and persistent developmental needs of the BARMM population, however, the MSSD's budget has been considered relatively low. This limits not only affect the ability of the Ministry to implement and finance larger-scale social protection programs, but also its ability to fund shock responsive social protection programs.[57] Consequently, the existing regional social protection programs in BARMM currently reach a relatively small share of the population and expansions in case of an emergency must be funded through additional budget.

In addition, in the past, BARMM has faced challenges of funding national social protection programs due to delays in budget transfers from the national Department of Budget and Management (DBM). In 2019, for example, the national budget allocated for the national social protection programs was delayed by six months, resulting in interruptions to beneficiary transfers and unpaid salaries.[58] While the BOL's new administrative arrangements streamlined this process, there are still questions around the sustainable financing of national social protection programs in BARMM, for which the BARMM government will continue to be reliant on national funding.

Disaster risk financing

Due to its exposure to different types of shocks, specifically natural disasters, the Philippines has established a relatively advanced Disaster Risk Management (DRM) and Disaster Risk Financing (DRF) system, guided by legislation and reflecting within institutional structures. In response to Typhoon Haiyan, in 2014 the Philippines developed its Disaster Risk Financing Strategy. The strategy identifies a range of financing instruments – the most important one being the National Disaster Risk Reduction and Management Fund (NDRRMF), which is a special purpose fund financed through annual budget allocations from the national

[54] (PLCPD, 2020)
[55] (PLCPD, 2020)
[56] (Rowe, 2020)
[57] (Ibid.)
[58] (Ibid.)

Government. The NDRRMF has various sub-funds, with the objective of splitting funds between preparedness, relief, reconstruction and rehabilitation. An overview of the sub-funds is provided in the box on the next page.[59]

Since 2020, BARMM also allocates 5 per cent of its annual block grant to help fund disaster risk reduction management programs in the region. Creating a regional fund for DRRM allows the region to locally design and fund response programs within the different ministries and offices in the Bangsamoro Government, which are then deliberated upon, and approved by, the regional government, as opposed to the national Government. Similar to the national DRRMF, the regional fund has the calamity fund for relief, recovery and rehabilitation services, and a quick response fund to be accessed by first responder agencies.

In BARMM – and the Philippines as a whole – financing of disaster response focuses largely on response and not preparatory activities. This is because first of all, the current system for declaring an emergency – and hence the release of disaster response funding from the DRRMF – is ex post, following the official declaration of an emergency by the President, or the Chief Minister in the case of BARMM, or local governments. In addition, budget from the local DRRMFs, that is originally meant for pre-disaster, preparatory activities, is oftentimes not used as such, but rather rolled over and used for disaster response, recovery and reconstruction.[60] Furthermore, there is currently no enabling policy for anticipatory action and there is no link between the national DRF strategy and shock responsive social protection.

[59] (Ibid.)
[60] (Farhat & Borja, 2021)

Box 5. Structure of the National Disaster Risk Reduction and Management Fund

The NDRRMF is structured into the following sub-funds:

1. **Calamity Fund:** The largest sub-fund at typically 70 per cent of the main fund and known as the 'regular NDRRMF'. The Calamity Fund is used for disaster relief, recovery and rehabilitation services to communities affected by calamities, as well as funding for pre-disaster measures. Since 2018, part of the funding has also gone towards insurance of public assets against damage from natural calamities. Annual allocation for the NDRRMF should be used after two years wherein the balance reverts back to the General Fund. Despite funding for risk reduction and mitigation, NDRMMF is mainly used for disaster response, recovery and reconstruction. Even then, the funding is deemed inadequate to meet post-disaster financing needs.

2. **Quick Response Fund (**QRF): Typically 30 per cent of the main fund and to be used within one year, this fund provides standby funding for disaster relief. Although consolidated in a single pot, some 'first responder' agencies have a pre-approved nominal allocation, including DSWD, DoH, DPWH, the Armed Forces of the Philippines and the Office of Civil Defense.

3. **People's Survival Fund (PSF):** This was set up in 2012 to provide long stream financing for adaptation projects of LGUs and community organizations to increase the resilience of communities to climate change. PSF received its stipulated PHP1 billion replenishable fund allocation under the General Appropriations Act regular fund only in 2015.

4. **Rehabilitation and Reconstruction Program (RRP):** Included from 2017 onwards and valid for over two years, this is included in the fund to address the post-conflict reconstruction in Marawi through Marawi Recovery, Rehabilitation and Reconstruction Program (MRRRP) and earthquake damage in Mindanao through Comprehensive Aide to Repair Earthquake Damage (CARED).

In addition, **Local Disaster Risk Reduction and Management Funds** (LDRRMFs) mirror the NDRRMF at the local level. LGUs have to contribute 5 per cent of their annual local government revenues to the fund, out of which 70 per cent are to be used for pre-disaster activities, and the remaining 30 per cent for the local QRF.

Source: (Farhat & Borja, 2021)

8.2. COST SIMULATIONS OF SHOCK RESPONSIVE SOCIAL PROTECTION PROGRAM OPTIONS

Against this background in DRF, the costs and financial viability of the shock responsive social protection program options were assessed over the next 20 years. The costs were calculated in absolute terms and as a share of the projected regional GDP – which was forecasted on the basis of historical trends and projections for the Philippines' GDP – and the projected Bangsamoro Government budget – forecasted on the basis of the budget allocation provisions made in the BOL. Program costs were calculated on the basis of the projected number of beneficiaries, the benefit level (PHP 6,300 for each program, increasing with inflation) and an estimate for the administrative costs involved in the delivery of the benefits.

Cost of programs

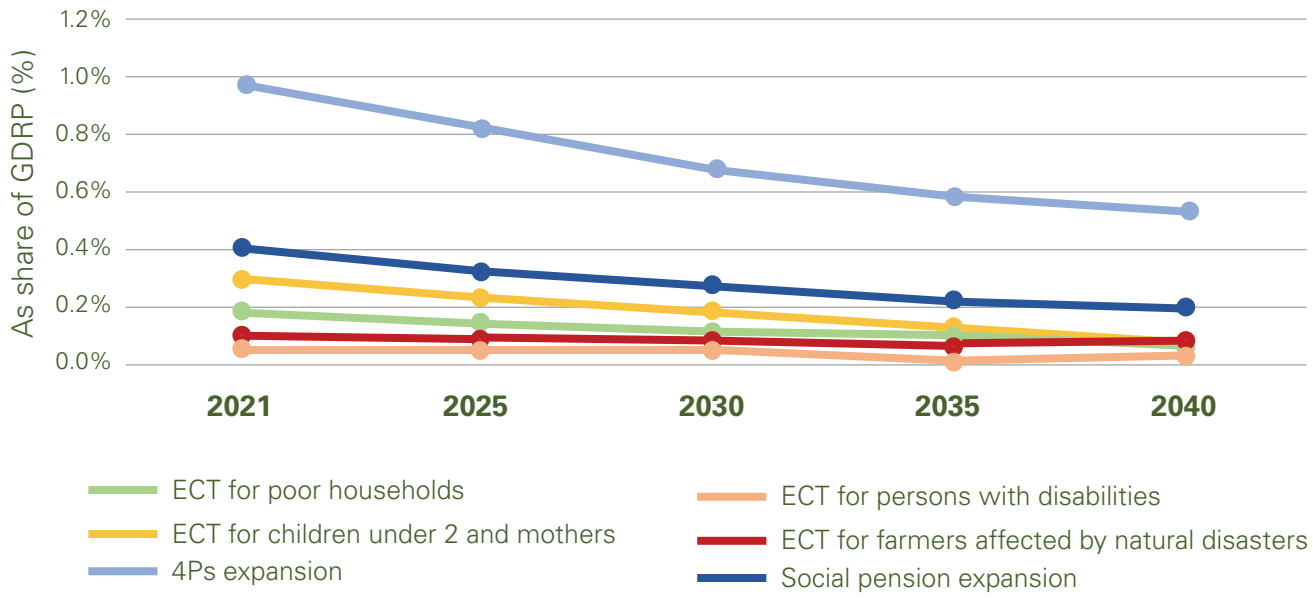
Below, *Table 9* lists the costs of the various program options in absolute terms. A vertical expansion of the 4Ps program in response to emergencies is by far the most expensive option, with costs ranging from PHP 2.7 billion in 2021 to PHP 7.3 billion in 2040. As elaborated earlier, the target group size of the 4Ps' expansion is substantially bigger than that of the other options, and hence the costs are higher, too. The second most costly option is the expansion of the national social pension, again a program with a relatively big target group. Costs for the different emergency cash transfer options range between PHP 120 million and PHP 1.4 billion throughout the years, depending on the program and target group size.

Table 9. Projected costs of shock responsive social protection program options in PHP

Program cost	2021	2025	2030	2035	2040
ECT for poor households, not receiving 4Ps	497,045,579	598,290,720	728,566,698	859,653,947	996,940,689
ECT for persons with disabilities	120,693,194	152,025,131	196,684,004	253,544,983	315,995,873
ECT for households with children under 2, pregnant/ lactating women	822,428,619	966,225,148	1,173,609,429	1,320,521,815	1,421,935,519
ECT for farmers affected by natural disasters	276,333,219	384,134,323	557,546,684	789,750,030	1,089,263,973
4Ps expansion	2,658,974,413	3,382,177,922	4,460,098,237	5,768,213,598	7,332,542,755
Social pension expansion	1,124,725,826	1,392,247,013	1,759,705,841	2,179,044,750	2,637,258,507

Below, Figure 15 shows the costs of the shock responsive social protection program options as a share of the projected regional GDP until 2040. As illustrated, the costs of all programs reduce as a share of regional GDP, meaning that the region's economic growth will outperform the growth in program costs. It also becomes evident that almost all programs cost below 0.4 per cent of regional GDP throughout the years; only the 4Ps' costs as a share of regional GDP are higher, gradually reducing from 0.9 per cent in 2021 to 0.5 per cent in 2040. Consequently, the various program options included in this analysis can be considered relatively affordable. Additionally, the gradual decrease of program costs vis-à-vis the regional GDP projections stresses their financial sustainability. ***Annex B.*** presents the graph of program costs as a share of projected Bangsamoro Government budget.

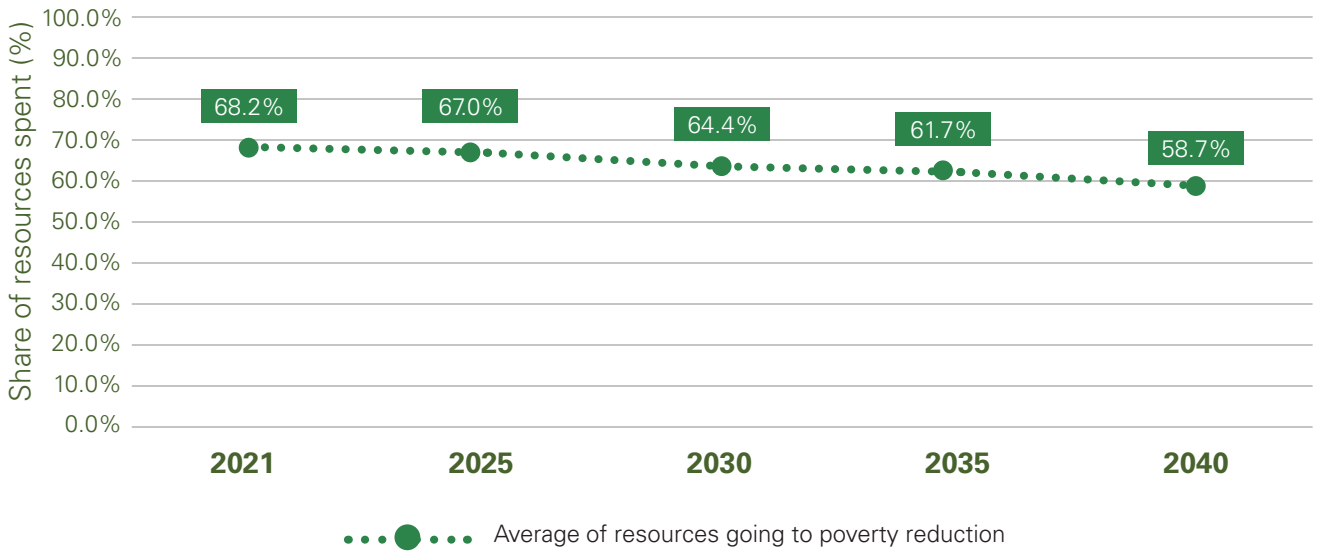
Figure 15. Projected costs of program options as a share of regional GDP



Efficiency of spending on shock responsive social protection

The cost analysis conducted for this investment case also considered the efficiency of the investments in shock responsive programs in reducing poverty, measuring the share of all resources spent on programming that contributes to poverty reduction. Even though the majority of the emergency programs in this model are not poverty targeted, results from the efficiency analysis indicate that across all programs, an average of 58.7 to 68.2 per cent of all resources go to poverty reduction across the years ***(Figure 16)***. The remaining share of funds spent on programming goes to non-poor households affected by emergencies. Hence, these funds do not directly contribute to poverty reduction, but still go a long way in supporting affected households in coping with the emergency and likely contribute to a reduction in human capital losses.

Figure 16. Share of shock responsive social protection funds going to poverty reduction



8.3. FISCAL SPACE ANALYSIS FOR SHOCK RESPONSIVE SOCIAL PROTECTION IN BARMM

In addition to the costing of the various shock responsive social protection programming options, potential avenues of creating additional fiscal space for these programs were assessed for their relevance and suitability in the BARMM context. Finally, a comparison of program costs and the additional fiscal space that could be created from various options highlights the financial affordability and sustainability of shock responsive social protection in BARMM.

Box 6. What is a fiscal space analysis?

A fiscal space analysis understands that fiscal space must exist or be created if extra resources need to be made available to fund a specific governmental program or project. A government can create fiscal space by raising taxes, securing outside grants, cutting lower priority expenditure, borrowing resources (from citizens or foreign lenders), or borrowing from the banking system. Accordingly, any option to generate additional resources must be implemented without compromising macroeconomic stability and fiscal sustainability.

Source: (Heller, 2005)

Potential sources for financing of shock responsive social protection

Based on the key informant interviews and desk review of relevant analysis on the financing of disaster response and social protection in the Philippines, and specifically BARMM, various options to be considered in the fiscal space analysis were identified as shown in ***Table 10*** and briefly elaborated upon below.

Table 10. Assessed options for fiscal space creation for shock responsive social protection

Potential option	Relevance for BARMM	Modeling parameters
Re-allocating public expenditures	Gradual increase of MSSD budget over the long term	Gradual increase from 4.1% to 4.5% of Bangsamoro Government budget by 2040
Making use of existing disaster risk financing	Tapping into calamity fund of DRRMF Tapping into quick response fund of DRRMF	5% of projected DRRMF 5% of projected QRF
Increasing tax revenues	BARMM is assessing options for taxation in addition to continuing national taxation; for now, considered infeasible	
Increasing grants	Supplementing internal revenues with ODA until 2029 to support transition	10% of projected ODA for BARMM is spent on shock responsive social protection

Gradually increasing the MSSD's operating budget

The first option for fiscal space creation that was assessed and ultimately included in the model is a gradual increase in the MSSD budget until 2040. Currently, the MSSD budget is relatively low as a share of the total Bangsamoro Government budget, standing at 4.1 per cent.[61] In light of other programming priorities within the Ministry as well, it was considered infeasible that the various shock responsive social protection programming options that would fall under the responsibility of the Ministry (expansions of the UPBP, orphans' assistance, disability assistance, and implementation of the emergency cash transfer for children under 2 and pregnant women) would be covered by the existing budget. Hence, instead of taking resources from the existing pie and allocating them to shock responsive social protection, gradually increasing the total pie over the years was assessed to be a more feasible option.

[61] Calculations based on Bangsamoro Government Expenditure Program FY 2021 (Bangsamoro Government, 2021)

For the sake of modeling, it was assumed that the MSSD would manage to increase its budget from 4.1 per cent as a share of Bangsamoro budget in 2021 to – still a relatively modest – 4.5 per cent in 2040. It was assumed that the increase in the overall budget would also augment the Ministry's operating budget, which could be spent on shock responsive social protection activities, particularly preparatory activities and anticipatory action such as recurring emergency programming for national disasters, which are predictable.

Tapping into existing disaster funds

Secondly, options of tapping into existing disaster funds were assessed and modeled as part of the fiscal space analysis. As elaborated above, BARMM allocates 5 per cent of its annual block grant to help fund disaster risk reduction management programs in the region. The regional DRRMF can be used to locally design and fund response programs within the different ministries and offices in the Bangsamoro Government. The regional DRRMF is split into the calamity fund for relief, recovery and rehabilitation services, and a quick response fund to be accessed by first responder agencies.

Thus, accessing funds from the calamity fund of the DRRMF was modeled as a first option. It was assumed that approximately 5 per cent of the fund could be accessed and utilized for different shock responsive social protection program options. As a second option, the fiscal space that can be generated from tapping into the quick response sub-fund of the DRRMF immediately post-emergency was modeled. Again, it was assumed that 5 per cent of the fund could be accessed and utilized for different shock responsive social protection program options.

Increasing BARMM's tax revenue

As a last option to create additional space for shock responsive social protection through internal sources, an increase in BARMM's tax revenue through additional regional taxes was assessed. However, according to key informants, creating new taxes in BARMM is not a viable option. The Ministry of Finance and Budget Management (MFBM) in BARMM is already in the process of identifying potential regional taxes, however, this process is proving to be challenging thus far as LGUs and the national Government already collect taxes in BARMM and any newly identified regional taxes would thus create double taxation. Consequently, this option for fiscal space creation was not considered in the model.

Supplementing with development assistance

Finally, to supplement the various options for internal fiscal space creation, the Official Development Assistance (ODA) was modeled as a last avenue to create additional budget for shock responsive social protection. While disaster response has been largely financed by the Philippine Government, the country has been a recipient of the ODA, which has also been used in response to emergencies. In 2020, for example, the Philippines' ODA portfolio increased by 46.63 per cent, from USD 20.93 billion (PHP 1,053.3 billion) in 2019 to USD 30.69 billion (PHP 1,544.5 billion) to support various programs and projects in response to the COVID-19 pandemic. Likewise, BARMM (previously ARMM) has been a recipient of the ODA. From 2007–18, the region received approximately PHP 62 billion in developmental assistance, averaging PHP 5.2 billion per year.

For this fiscal space analysis, it was assumed that BARMM would continue to receive the ODA, especially in light of the assumed interest of donors to support the transition within BARMM. It was assumed that 10 per cent of the forthcoming ODA for the region would be spent on shock responsive social protection to continue supporting

the transition. The ODA was included in the fiscal space analysis until the end of 2029, i.e., 10 years after the creation of BARMM; afterwards it was assumed that sufficient internal resources could be generated.

Additional fiscal space

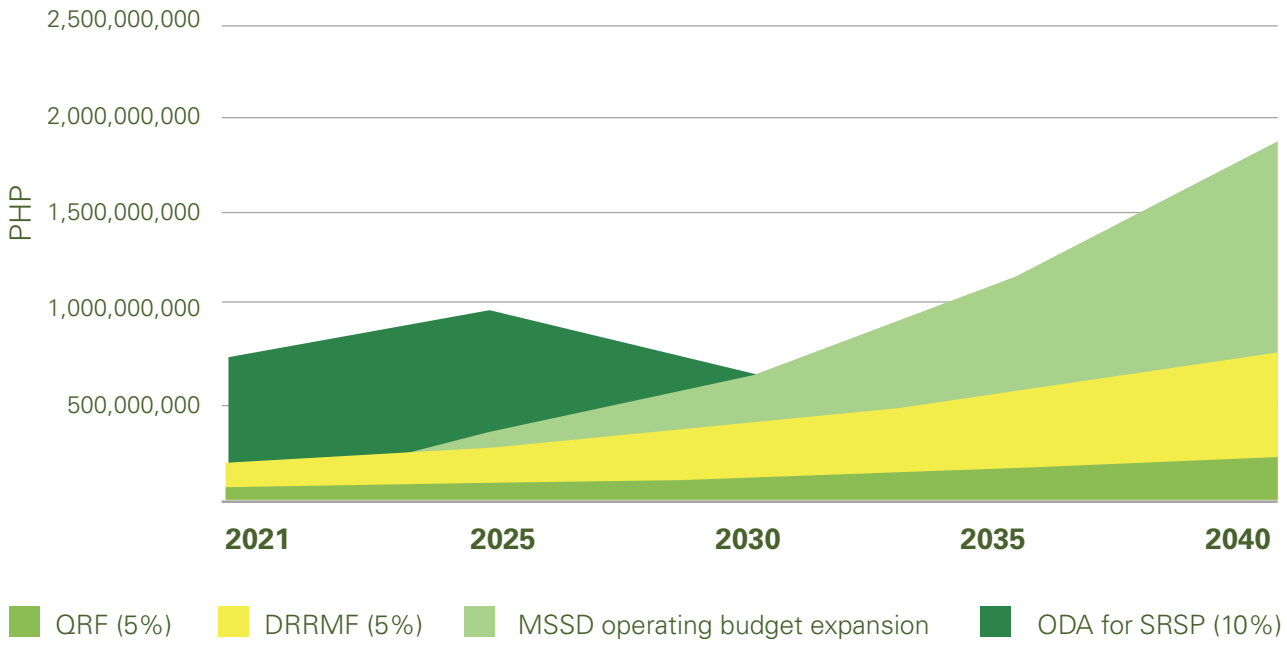
The results from the analysis show that substantial additional space can be generated through the four identified options. Below, ***Figure 17*** illustrates the additional fiscal space from each option in PHP from 2021 to 2040. In addition, Annex B. illustrates the additional fiscal space as a share of projected regional GDP.

First of all, tapping into existing DRRM funds and assuming that 5 per cent of the quick response fund could be accessed for a response through shock responsive social protection would amount to PHP 60.2 million in 2021 and grow to PHP 237.4 million in 2040 – an average of 0.02 per cent of the projected regional GDP throughout the years. Furthermore, accessing 5 per cent of the regular DRRM fund for shock responsive social protection is forecasted to yield an additional fiscal space of PHP 140.5 million in 2021, growing to PHP 554 million in 2040 – averaging 0.04 per cent of projected regional GDP throughout the years.

Additionally, gradually increasing the budget of the MSSD and therewith the operating budget that could be used for shock responsive social protection would yield substantial budgetary space. While in 2025 the additional operating budget for shock responsive social protection is forecasted to stand at PHP 86.6 million (0.02 per cent of regional GDP), in 2040 the additional budget already amounts to PHP 1.2 billion (0.08 per cent of regional GDP). Thus, while this option provides the least additional resources over the short- to medium-term, over the long term substantial additional budgetary space can be created and therewith support a gradual expansion of shock responsive social protection in the region that could be sustainable over the long-term.

Finally, utilizing 10 per cent of the expected ODA for BARMM for shock responsive social protection in the region is projected to generate on average an additional PHP 576.5 million in 2021 to PHP 761.4 million in 2029, averaging 0.15 per cent of regional GDP. So as to not render the (shock responsive) social protection system in BARMM dependent on development assistance, from 2030 onwards, the ODA was not included in the model anymore. In the years up to 2030, the ODA makes up the biggest share of the additional fiscal space for shock responsive social protection. To create a lasting impact on the (shock responsive) social protection system, resources from the ODA could be used for the strengthening thereof, for example by investing in underlying systems (e.g., the poverty registry or digital payment delivery), piloting emergency programs/expansions, and building the capacity of the relevant ministries to design and implement (shock responsive) social protection programs, and request and manage finances for such programming.

Figure 17. Options for additional fiscal space (in PHP)

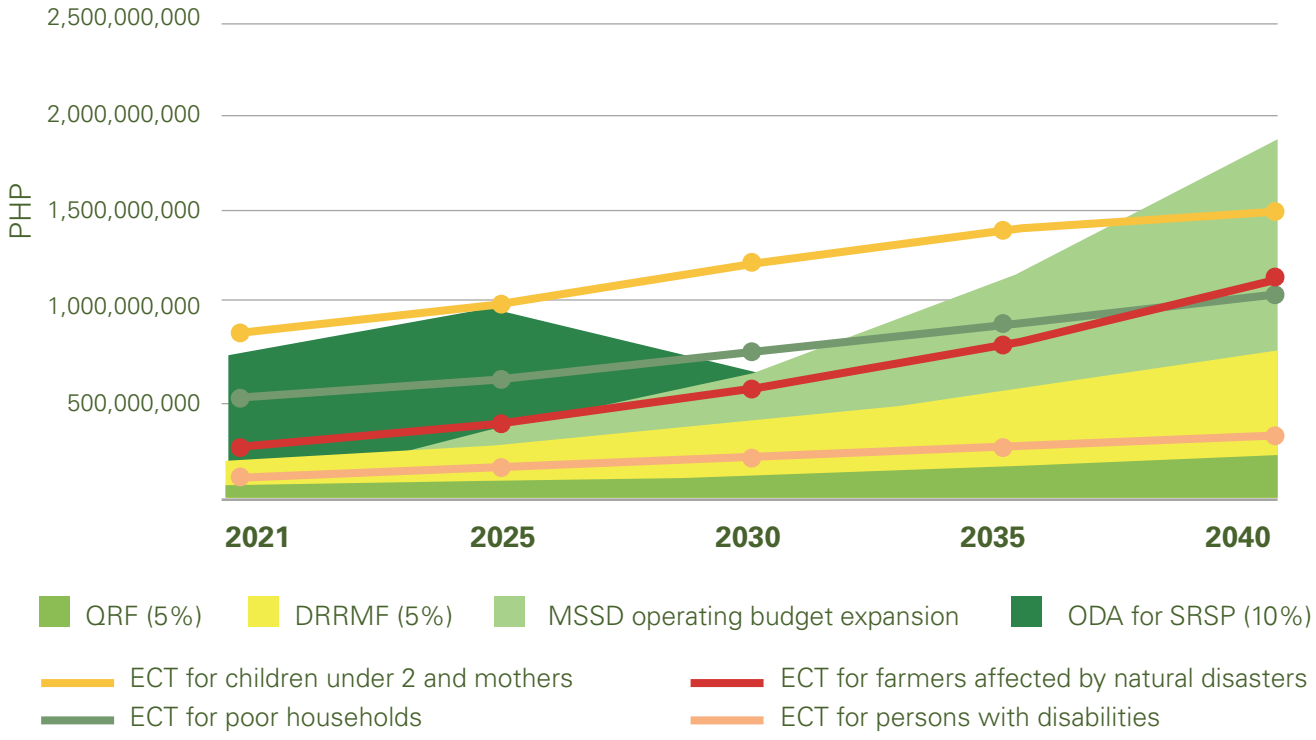


In total, the additional fiscal space that could be created from the four options modeled in this fiscal space analysis ranges between PHP 681 billion (0.11 per cent of regional GDP) in 2030 and PHP 2 billion (0.14 per cent of regional GDP) in 2040. Comparing this additional fiscal space with the costs of the shock responsive social protection programming options highlights the financial viability and sustainability of implementing these options in response to different emergencies in BARMM.

Findings suggest that the additional fiscal space is sufficient to cover the costs of several regional programs throughout the years. As illustrated in ***Figure 18***, emergency cash transfers targeted at affected persons with disabilities, farmers affected by natural disasters, and poor households affected by an emergency and not receiving the 4Ps could be covered by the additional fiscal space created through internal revenue streams. Only the costs of delivering emergency cash transfers to affected households with children under 2 and pregnant/lactating women surpass the additional fiscal space that could be created for some years of the modeling period. In the long-term, however, i.e., in 2040, the additional fiscal space also suffices to cover such an emergency cash transfer.

Finally, this comparison of costs and fiscal space does not include the emergency program options modeled on the basis of the national programs – 4Ps and social pension – because the implementation and financing of these regular programs, and potential emergency expansions thereof, are at the discretion of the national Government.

Figure 18. Additional fiscal space in relation to the costs of the shock responsive social protection programs (in PHP)



8.4. ADDITIONAL CONSIDERATIONS ON THE FINANCING OF SHOCK RESPONSIVE SOCIAL PROTECTION

The analysis shows that the potential fiscal space would suffice to cover several regional shock responsive social protection programming options. It must be stressed that the options included in this analysis simply serve as examples of what the Bangsamoro Government could do to respond to different emergencies with the help of shock responsive social protection. The Government may decide to only implement one option or opt for multiple options to complement one another. Likewise, the target groups and benefit levels included in this analysis are not set in stone and could be redefined according to the needs of the population after an emergency, as well as the available budgetary space.

Furthermore, it should be noted that the identification of additional options to create fiscal space for shock responsive social protection goes hand in hand with the ability of implementing ministries in BARMM – particularly the MSSD and MAFAR – to request and manage the additional resources. Especially in terms of requesting resources from the MFBM, ministries currently face substantial challenges. Multiple key informants even indicated that the availability of funds is not the main constraint, but rather the accessing of these funds in light of the newly established government bureaucracy and procedures. In the past, ministries in BARMM simply received a certain amount of money from the national Government and did not have to request any funding themselves. Now the Bangsamoro Government has its own budgeting process and ministries must

submit program and project proposals to receive funding. The proposals are assessed in light of their links to the development priorities of the Bangsamoro Government, as stipulated in the Bangsamoro Development Plan and the Bangsamoro Development Investment Plan. Proposals supporting these development priorities have a high likelihood of being approved by the MFBM, however, the capacity within ministries to develop such proposals was indicated to be limited at this point. Technical assistance through the ODA, for example, could be designed to address these challenges and be utilized for capacity building of ministries to request and manage additional funding, and overall responsibilities to oversee and implement programs.

Next to capacity constraints, the absence of a guiding framework that links (preparatory) shock responsive social protection and disaster risk financing also hampers better integration of both. Currently, there is no link between the national DRF strategy and shock responsive social protection in the country, or between the BDP and shock responsive social protection within BARMM, potentially hampering the use of emergency cash transfers in response to emergencies. Furthermore, the absence of an enabling policy to allow ex-ante disaster risk financing for anticipatory action means that emergency response remains ex-post and reactive, instead of proactive and reparatory. Even though some pilots are under way, currently the vast majority of disaster funding is used ex-post.

Finally, to simplify and streamline the financing of shock responsive social protection in BARMM, funding arrangements for national programs should be clarified. While this analysis includes emergency expansions for the 4Ps and the social pension due to the scale of these programs and their ability to reach existing beneficiaries during an emergency, financing and implementation arrangements for potential expansions of these programs during an emergency remain to be clarified between the national Government and the Bangsamoro Government.

9. Conclusions

Despite the economic growth and institutional changes achieved by the BARMM region in the last few years, the region still ranks as the poorest and most vulnerable in the Philippines. One of the main contributing factors to BARMM's high poverty rates is the region's particularly high vulnerability to shocks. Results from this investment case have shown that over a third of all households in BARMM will be affected by any type of emergency in any given year. With limited coping mechanisms at their disposal, most households in BARMM cannot deal with the impact of shocks, further aggravating their poverty status. Accordingly, the analysis has shown that, on average, the income of households in BARMM affected by an emergency is reduced by 12.1 per cent in the year after the emergency. In turn, post-emergency monetary poverty rates are likely to increase around 3 percentage points throughout the years as a result of the emergencies.

Therefore, to lessen the impact that shocks can have on poverty indicators and contribute to poverty reduction, the BARMM government is increasingly exploring the role and relevance of its social protection system and the implementation of shock responsive programs. Results from this investment case have indicated that shock responsive social protection programs can promote substantial reductions in monetary poverty and human capital losses of households affected by emergencies. More importantly, results also suggested that the most significant impacts of shock responsive social protection can be achieved when the emergency cash transfer is delivered early – stressing once more the importance of a flexible social protection system that is prepared to respond to emergencies rapidly and scale up existing social protection programs or activate pre-existing emergency cash transfer designs.

Still, building a more shock responsive social protection system also requires continued strengthening of the existing 'regular' social protection system in BARMM. To deliver emergency assistance effectively and efficiently to affected populations, the Bangsamoro Government will need to continue strengthening the underlying systems and processes of the 'regular' social protection system. These include, for example, the poverty registry, which is currently being updated to also include relevant data on vulnerability to different types of shocks in the future. Moreover, more existing social protection beneficiaries will need to be linked to electronic payment mechanisms to enable quick delivery of emergency response. Furthermore, the Bangsamoro Government, and especially the MSSD, should continue to scale up its existing social welfare programs, which currently reach a fraction of the vulnerable and poor population – especially vis-à-vis the coverage of the national programs. And, given that even then, not all households that will be affected by emergencies will be covered by shock responsive programs, there remains a role for parallel programs that reach non-covered households, and also development partners to assist with their implementation.

Finally, the analysis has shown that enough fiscal space could be created to cover several programming options; however, the Bangsamoro Government will need to invest in its ministries' capacities to request and manage additional resources. While the region has a larger budget compared to previous years – albeit the developmental needs within the population are substantial, too – ministries and staff therein have not yet gotten used to the newly established government bureaucracy and procedures. Program and project proposals must be developed to receive budget allocations, which are assessed in light of their links to the Bangsamoro Development Plan and the Bangsamoro Development Investment Plan. Building the required capacity of ministries to draft such proposals and to access funding afterwards will thus play a substantial role in creating fiscal space for regular and shock responsive social protection.

Consequently, this investment case has showcased that different types of emergencies will continue to affect the Bangsamoro population and its well-being, but that shock responsive social protection can plan a vital role in alleviating these effects. The investment case has also highlighted that the Government has a plethora of effective and financially viable shock responsive social protection programming options at its disposal; the choice of which option(s) will be implemented in response to future emergencies ultimately lies with the Government and the responding agencies. Any effective and timely response will depend on the preparations and strengthening activities that will be carried out at policy, program and administrative levels over the next years.

10. Recommendations

Lastly, this investment case presents a range of recommendations beyond the proposed shock response program options, focused on system strengthening and on building the capacity of the newly formed BARMM government. These recommendations include activities geared towards building a more shock responsive social protection system and activities focused on strengthening the overall social protection system in BARMM.

10.1. RENDER SOCIAL PROTECTION IN BARMM MORE SHOCK RESPONSIVE

Utilize pilot emergency cash transfer program options

It is recommended that first responder agencies, such as the MSSD and MAFAR, continue to pilot emergency cash transfer program options and in the future utilize such options in response to emergencies. Both ministries have been working with development partners to design and pilot such emergency cash transfers. These cash transfers can be a vital addition to any existing emergency response through the existing social protection system, particularly when the existing system does not reach a substantial share of the vulnerable and affected populations. In order to reach these populations that would otherwise not be covered, while not creating a parallel system of emergency cash transfers, it is recommended that the ministries take over the emergency cash transfer pilots, integrate them into their response programming portfolio and utilize, and potentially enhance, the existing pilot designs in future responses.

Rationale: The regular social protection programs in BARMM currently reach a relatively small share of poor and vulnerable populations, particularly when compared to the scale of national programs. Hence, additional emergency cash transfer designs, ready for operationalization, could help to reach affected populations not covered by existing social protection.

Design options for emergency cash transfers

It is advised that the MSSD prepares design documents and standard operating procedures for potential emergency cash transfer programs to be delivered through the existing social protection system. This investment case presents a range of cash transfer options to be utilized in shock responsive social protection programming. The MSSD should assess the most feasible/adequate options and prepare design documents for the program(s) to be ready for operationalization for the next emergency. In addition to design documents, SOPs clearly outlining processes and responsibilities should be developed.

Rationale: The investment case has highlighted the relevance of a timely response to emergencies, particularly in light of reducing human capital development losses at household level. In order to provide a timely response, the social protection system must be prepared to respond, for example by having pre-defined programming options, which can be activated at the onset of emergencies.

Clarify linkages between DRM and shock responsive social protection at policy level

It is recommended that the role of shock responsive social protection as a response to different types of shocks that BARMM experiences, particularly conflict, is highlighted. Currently, the Bangsamoro Development Plan does not outline a clear link between disaster risk management and shock responsive social protection, nor between conflict, peacebuilding, and the role of social protection. The lack of clear linkages could potentially hamper the access to funding and the use of shock responsive social protection in response to emergencies. Hence, in order to clarify the relevance of (shock responsive) social protection in disaster response, the evidence presented in this investment case could be used as advocacy material and be utilized to design program and budget proposals that align with the priority areas of the BDP.

Rationale: The Ministry of Finance and Budget Management allocates budget to ministries based on their program proposals and linkages to the Bangsamoro Development Plan. Clearly presenting the linkages between shock responsive social protection, DRM and peacebuilding – the latter two being priorities for the Bangsamoro Government as outlined in the BDP – could thus help to access required funding.

10.2. CONTINUE TO STRENGTHEN BARMM'S 'REGULAR' SOCIAL PROTECTION SYSTEM

Continue to build the regional poverty registry

It is recommended to continue and fast-track efforts to build a regional poverty registry, reflective of the needs and vulnerabilities of the Bangsamoro population. In a first step, the Bangsamoro Government could consolidate all existing beneficiary lists and registries into a unified regional database. This consolidated registry can be used as a basis to identify gaps and required adjustments to create a BARMM-specific registry. The next step would be to develop and implement a BARMM-specific social registry initially covering all poor households with the potential of being updated to all households. Considering the specific needs and characteristics of the BARMM region, even with the planned updates to the *Listahanan*, the region should have a registry based on its demographic indicators and the specific needs and challenges faced by the local population. The national DSWD and the PSA should support the BARMM government in developing a low-maintenance social registry that can be used as a basis not only for regular social protection but also for the scaling up of programs in response to emergencies.

Rationale: An updated and comprehensive social registry is instrumental to the rapid implementation of shock responsive social protection, as it helps identify in advance households that may be likely to need assistance at the onset of crises.

Scale up existing regional social welfare programs

It is recommended to scale up existing regional social welfare programs to meet the needs of vulnerable and poor populations and ultimately create regional flagship programs. These programs' designs and delivery mechanisms should be suited to the regional context and needs of the population, and ideally align along the life-cycle approach to ensure adequate coverage. Thereby, not only the regional social protection system would be strengthened, but the programs also have the potential to better address the needs of the BARMM population and form the basis of a flexible social protection system that would be ready for rapid emergency responses.

Rationale: The establishment of BARMM's autonomous government presents an opportunity to form a stronger social protection system tailored to the specific needs and characteristics of the region. Considering the uncertainties regarding the sustainability of financing for the national flagship programs in BARMM, investment in scaling up of regional programs is recommended.

Further strengthen the capacities of the MSSD

It is recommended to strengthen the capacities of staff within the MSSD, particularly in terms of requesting and managing funding. The investment case has shown that the MSSD faces challenges in requesting funds for its programing activities due to the newly established government bureaucracy and procedures, which require ministries to submit proposals to the MFBM, which then judges these proposals against their linkages to the BDP. Hence, ensuring that the MSSD staff is adequately equipped to complete these procedures will support access to fiscal space that can be used to strengthen the (shock responsive) social protection system.

Rationale: The transition means that substantial staff turnover occurred between the ARMM government and the new Bangsamoro Government, so that newly hired civil servants are working in the ministries now. Next to a reorganization and restaffing of ministries, departments and agencies, bureaucratic procedures also changed, one of them being the budget allocation process. To ensure that sufficient fiscal space can be generated for social protection in the region, it is necessary that the MSSD staff is well equipped to complete the necessary procedures. And while this recommendation focuses specifically on the capacity of the MSSD due to its relevance in shock responsive social protection, this recommendation is likely relevant for most BARMM ministries.

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Annex A. Modeling assumptions

Population and economic projections

- The model assumes a constant sex ratio at birth of 1.06, based on the 2019 rate.
- The model assumes a decrease in BARMM's fertility rate over the next 20 years, based on the regional trend from 2003 to 2017.
- In absence of regional mortality data, the model bases the mortality projection on the Philippines' mortality rate adjusted to BARMM's population share.
- The model uses the IMF's projections for the national inflation rate for 2021 to 2026 and historical data for the national and BARMM inflation rate (from PSA), and projects the inflation rate thereupon.
- The model projects BARMM's inflation rate from 2021 onwards based on the share of BARMM's inflation rate as of the national inflation rate.
- The model uses the IMF's projections for the national GDP for 2021 to 2026.
- The model projects national GDP from 2027 to 2040 based on the assumption that the Philippines' GDP growth will taper off to 6 per cent, which is the average growth rate of upper-middle-income countries.
- The model assumes that BARMM's GDRP will remain constant as a share of the national GDP.
- BARMM's poverty line based on official data from the PSA for 2015/18 and afterwards increased in line with the regional inflation rate.

Program costing

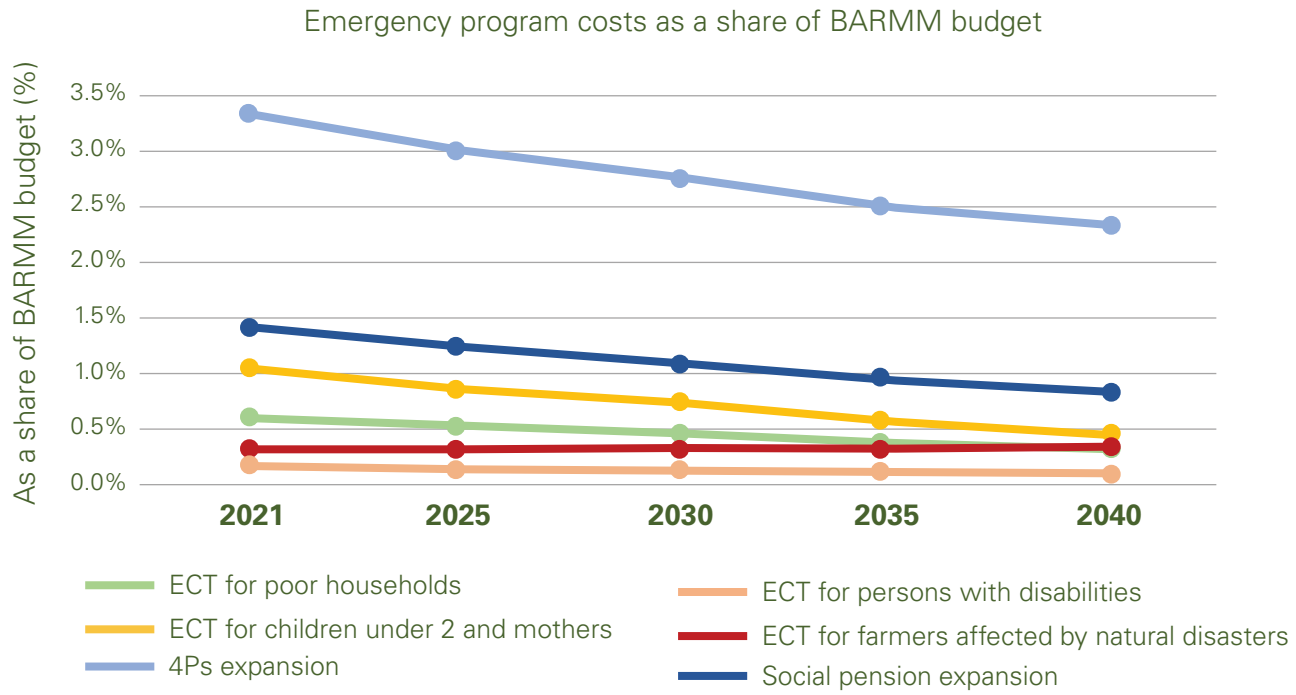
- The total number of beneficiaries for the vertical expansions of the 4Ps and social pension is based on official program data in 2021 and projected for the upcoming years based on population data.
- The total number of beneficiaries for the emergency cash transfer programs is based on FIES and population data and projected for the upcoming years.
- The model assumes targeting errors for the existing national programs – 4Ps and social pension – as stipulated by secondary evidence.
- The model assumes a decreasing share of pregnant and lactating women from 8.7 per cent in 2021 to 7.5 per cent in 2040, in line with the reducing fertility rate.
- The model assumes a constant share of people with disabilities at 7.7 per cent of the total population.
- The benefit levels for all programmatic options amount to PHP 6,300 in 2021 and increase in line with inflation throughout the modeling period.
- The model assumes an administrative cost of cash transfers of 10 per cent for the emergency cash transfers, in line with the Government's target for 4P's administrative cost, and 5 per cent for the vertical expansions of the 4Ps and the social pension.
- The model assumes a roll-out rate and take-up rate of 100 per cent.

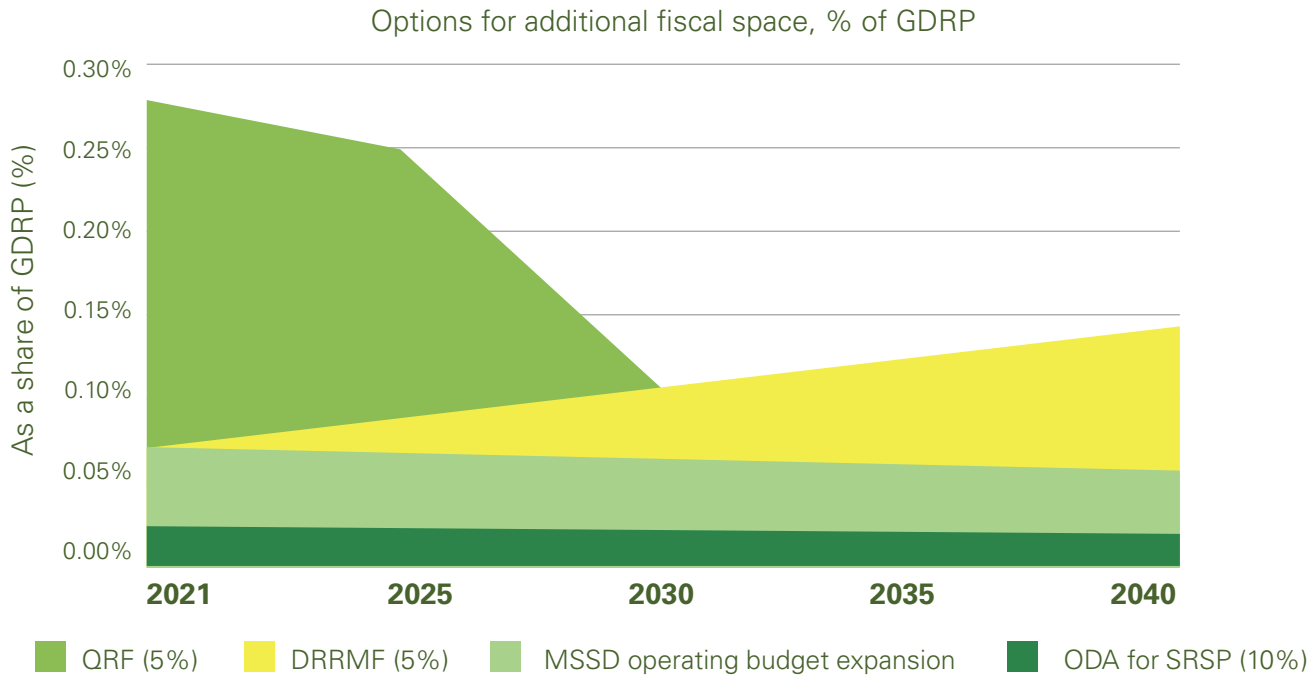
Fiscal space analysis

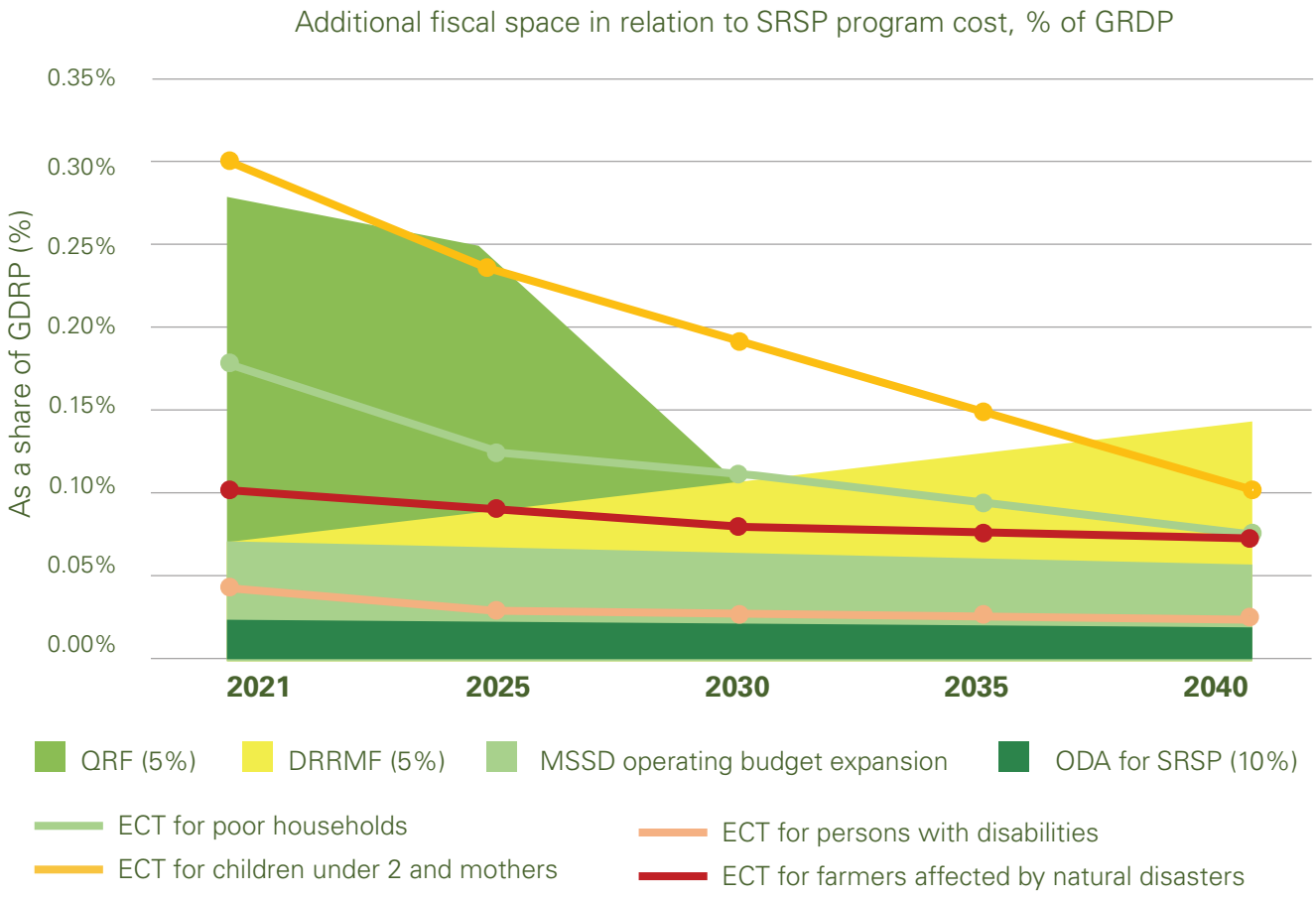
- The BARMM government's revenue is composed of the annual block grant, the special development fund, and the share in the national taxes.
- The block grant is projected until 2040 and increases following the national inflation rate.
- The special development fund remains constant until 2029, according to the Bangsamoro Organic Law.
- The share in the national taxes is projected until 2029, according to the Bangsamoro Organic Law, and increases following the national GDP growth.
- The MSSD budget is calculated as 4 per cent of the total government revenue, according to the share applied in the 2021 regional budget.

- ODA projections for BARMM are based on historical data of the ODA to BARMM from 2007–18, increased in line with inflation.
- To calculate potential fiscal space, the model assumes that 10 per cent of BARMM's ODA revenue could be directed to fund shock responsive social protection.

Annex B. Additional graphs






Additional fiscal space in relation to SRSP program cost, % of GRDP
As a share of GDRP (%)
0.35%
0.30%
0.25%
0.20%
0.15%
0.10%
0.05%
0.00%
2021
2025
2030
2035
2040
QRF (5%)
DRRMF (5%)
MSSD operating budget expansion
ODA for SRSP (10%)
ECT for poor households
ECT for children under 2 and mothers
ECT for persons with disabilities
ECT for farmers affected by natural disasters

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