SUMMARY POVERTY IMPACT ASSESSMENT

I. Introduction

1. This poverty impact assessment attempts to provide a first evaluation of the impact on poverty from Typhoon Yolanda. Using the 2009 Family Income and Expenditure Survey for the baseline poverty profile of Visayas, and combined with the findings of the initial damage and needs assessment, we simulate the impact of Typhoon Yolanda on household incomes and the poverty incidence. Our analysis estimates that an additional 1.5 million persons may fall into poverty in the immediate aftermath of the typhoon. This represents a 24.0% increase in the number of impoverished persons in Visayas and a 7.1 % increase in the total number of poor persons in the Philippines, threatening to cancel out the country's gains in poverty reduction in the last four years. The poverty gap in Visayas, which measures how far poor people are below the poverty line, has substantially widened in Eastern Visayas. The implication of this larger poverty gap is that not only are there more people impoverished as a result of Typhoon Yolanda, but many of the poor will take a longer time to escape poverty.

2. The government's Yolanda recovery and rehabilitation plan (YRRP) has identified appropriate actions needed to restore livelihoods and lift most of the 1.5 million new poor out of poverty. Crucially important for lifting the poor out of poverty will be ensuring sufficient resources are available to fund the YRRP, disbursement of budgetary funds and implementation of projects are timely and targeted to affected persons and areas.

3. This document is structured as follows. In Section II, we provide an overview of the recent evidence linking disasters and extreme poverty. This section also presents lessons learned for poverty reduction from other countries disasters and their recovery programs. Section III describes the poverty profile of the Visayas region. The section highlights the high vulnerability of the populations in Eastern Visayas and Western Visayas to falling into poverty as a result of disasters. This high vulnerability arises from the large share of the population just above the poverty line, households' high dependence on a narrow range of agricultural crops for income, and limited off farm income opportunities. Section IV presents estimates of the impact of Typhoon Yolanda on poverty in the Visayas. At the outset, we clarify the assumptions made for the attainment of results, and the geographical focus of the analysis. We then provide the estimated poverty incidence and poverty headcount pre and post disaster, as well as a brief analysis of estimated impact on the poverty gap and poverty severity index. The analysis underlines the localized poverty impact of the typhoon, providing regional and provincial disaggregation of the data. We also assess the employment and gender dimensions of the impact. Section V highlights the key features of the government's YRRP aimed at helping lift the victims out of poverty and the potential channels for reducing poverty.

II. The Link between Disasters and Poverty[1]

4. **Natural disasters can lead to extreme poverty in affected communities.** There is a growing body of international empirical evidence linking natural disasters with extreme poverty in developing economies. This relationship between disasters and poverty is complex with

[1] This section draws heavily on discussions, analysis and findings in the following recently published report: A. Shepard et al. 2013. *The Geography of Poverty, Disasters and Climate Extremes in 2030*. UK Department for International Development (DFID). London.

vulnerability to extreme poverty a function of the country's level of exposure to multi-hazards and disasters (extreme heat, droughts, typhoons, floods, and earthquakes), available national fiscal resources to support emergency relief and recovery programs, the country's disaster risk management capacity, household assets and endowments, and households' dynamics in coping with disasters.

5. **Empirical evidence also shows that the poor, especially those in rural areas, are the most vulnerable to the effects of natural hazard shocks and research suggests that disasters can have long-run economic consequences for those in the lowest income and wealth quintiles.** According to the 2013 report on disasters, poverty and extreme climate (footnote 1), disasters can affect people through five channels: death and disability, sudden loss of income, depletion of assets, loss of public infrastructure, and macroeconomic shocks. Major disasters not only hurt the poor directly through depletion of assets but also through stress on national fiscal resources. Countries with limited fiscal space (e.g. high fiscal budget deficits and large public debt ratios) are not able to respond effectively in restoring public infrastructure and livelihoods of families affected by the calamity. A case study on poverty dynamics in Andhra Pradesh, India, between 2002, 2006 and 2009 found that drought and price inflation were the main causes for poor people falling into or staying in poverty during those years (footnote 1).

6. **A number of underlying drivers of impoverishment exacerbate the long term impacts of disasters on vulnerable groups of people.** These include: a lack of income diversification, gender and income inequality, and a lack of entitlement to key assets and resources such as markets, capital, insurance, social safety nets, land, media and information, and education. (footnote 1). The implication is that depletion of or damage to household assets due to a natural calamity is correlated with higher vulnerability to falling into poverty.

7. The 2013 report on disasters, poverty and extreme climate compared those countries ranking highest on the global multi-hazard index with their vulnerability to extreme poverty (persons living on $1 per day or less). It observed that developing countries in Africa and South Asia were the most exposed to hazards and their populations were most vulnerable to falling into extreme poverty caused by natural disasters. The study classified the Philippines as a country falling into the high exposure-high vulnerability category along with India and Pakistan. It projected that as many as 13.2 million Filipinos could risk falling into extreme poverty by 2030 as a result of extreme disasters. The projections did not account for differences in disaster risk management capacity and capacity to respond among countries with high exposure to hazards, which will be a key influence on actual poverty outcomes in the future.

8. **Disaster risk governance and adaptive capacity is key in minimizing the actual poverty outcomes from extreme disasters.** Effective disaster risk management (DRM) generally involves a menu of measures to reduce and transfer risk and to respond to disasters in a coordinated way by providing emergency relief followed by recovery and reconstruction of public and private property and livelihoods. Successful strategies include a combination of hard infrastructure-based responses and soft solutions such as individual and institutional capacity building and ecosystem-based responses.[2] According to findings of the 2013 disaster, poverty and extreme climate report, good DRM can reduce the impact of disasters on poor people, as highlighted by the vast difference in the human impact of natural hazards. In 2010, for example, 11% of those exposed to the Haiti earthquake lost their lives, compared to 0.1% of those who

[2] IPCC SREX. 2012. *Managing the Risks of Extreme Events and Disasters in Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change*. Cambridge University Press.

experienced the Chile earthquake. In 2008, Cyclone Nargis killed 138,000 people in Myanmar, while Hurricane Gustav, a storm of similar strength, killed just 153 in the Caribbean and US (footnote 1).

9. There are several indices that attempt to measure and rank countries DRM and adaptive capacity. The 2013 disaster, poverty and extreme climate report developed a composite index of several global surveys to provide an overall measure of effective DRM governance, with the composite index scores ranging from 1 (worst) to 5 (best). Table 1 below presents the study's assessment of DRM governance in countries with high exposure to multi-hazards and poverty vulnerability. The study assesses the Philippines' DRM governance score of 3.3 out of 5.0, as above average for high exposure-high vulnerability countries and therefore the Philippines has a "good chance" of minimizing long-term disaster impacts now compared to many of its peers. Even so, the Philippines DRM governance is scored below some of its regional neighbors also with high exposure to multi-hazards such as Indonesia, Thailand, and Viet Nam which are assessed as having a "higher chance" of minimizing long-term disaster impacts now. Thus, there is scope for significant improvements to the Philippines DRM governance.

10. **Lessons learned from international experience with disaster response and recovery.** Governments are faced with serious challenges to effective delivery of assistance to affected individuals and communities, and in implementing the recovery, rehabilitation and reconstruction phases of the post-disaster program. Some of the serious challenges include (i) restoring logistics to ensure delivery of assistance to victims; (ii) ensuring government ownership of the recovery agenda in an environment crowded with development partners and civil society organizations; (iii) related to this, government coordinating development partners and civil society organizations to minimize duplication of efforts and ensure a well sequenced recovery effort aligned with government objectives; (iv) donors over committing pledges of financial assistance that are not delivered, undermining the government's resource planning efforts, (v) a surge in price inflation of building and construction materials leading to under-investment during the rehabilitation and reconstruction phase, (vi) risk of poorly targeted assistance to victims and risk, (vii) risk of corruption in the disbursement of budgetary funds to finance the recovery program, and (viii) transitioning from recovery program to longer term development.

Table 1
Categories of Countries According to their Current Disaster Risk Management Capacity and their Ability to Manage and Cope with Future shocks

Category of Disaster Risk Management Capacity	**High Hazard – High Poverty Vulnerability Country in 2030**
Category 1 (3.5-4.0 on relative score): relatively good DRM and adaptive capacity, with a high chance of minimizing long-term disaster impacts now and in the future.	Colombia, Indonesia, Mexico, Rwanda, Tanzania, Thailand, Viet Nam, Zambia
Category 2 (3.0-3.4): better than average DRM and adaptive capacity with a good chance of minimizing long-term disaster impacts now and in the future.	Burkina Faso, Peoples' Republic of China, Guatemala, Honduras, India, Malawi, Nicaragua, **Philippines,** Senegal
Category 3 (2.5-2.9): average DRM and adaptive capacity, with potential danger of disasters having long-term impacts now and in the future	Bangladesh, Burundi, Cameroon, Ethiopia, Guinea, Kenya, Liberia, Nepal, Nigeria, Madagascar, Mali, Papua New Guinea, Uganda, Zimbabwe
Category 4 (2.0-2.4): poor DRM and adaptive capacity, with high likelihood that disasters will cause long-term impacts now and in the future.	Central African Republic, Cote D'Ivoire, Democratic Republic of Congo, Guinea Bissau, Haiti, Myanmar, North Korea, Pakistan
Category 5 (1.9 or less): very poor DRM and adaptive capacity, with disasters very likely to cause long-term impacts now and in the future.	Afghanistan, Chad, Somalia, Sudan, Yemen

Source: A. Shephard, et al. 2013. *The Geography of Poverty, Disasters and Climate Extremes in 2030,*. UK Department for International Development (DFID). London.

11. While each post-disaster recovery program is shaped by its own context, severity of the disaster, its political economy, and culture, various evaluations of post-disaster recovery and reconstruction programs provide several key lessons for achieving their poverty reduction objectives. In particular, there are several good lessons from the post-Tsunami aid assistance to Aceh from 2004 to 2008. The Aceh tsunami killed 120,000 persons, displaced 700,000 persons and caused damage and losses estimated at $4.5 billion (2004 prices) with approximately over 500,000 houses damaged or destroyed. Evaluations of the Aceh recovery program assess it has being generally successful in avoiding many typical problems associated with such post-disaster recovery programs including high volatility of output due to unstable or uncertain funding, poor coordination of development partner and CSOs activities, and lack of information and data on fund pledges, disbursement, and program implementation.[3] Key success factors in the Aceh case included the Indonesian government establishing a central board to coordinate government agencies development partners and CSOs; setting up information portals to track donor funds and programs; establishing a multi-donor trust fund to coordinate donor programs; and ensuring sufficient funding for the recovery program coursed through government in a flexible and manner. However, price inflation for construction materials is a major risk to delay n construction of houses (footnote 3).

[3] H. Masyrafah and J. McKeon. 2008. *Post-Tsunami Aid Effectiveness in Aceh: Proliferation and Coordination of Reconstruction*. Wolfensohn Center for Development Brookings, *Working Paper 6*. Washington, DC.

III. Poverty and Income Inequality in the Visayas

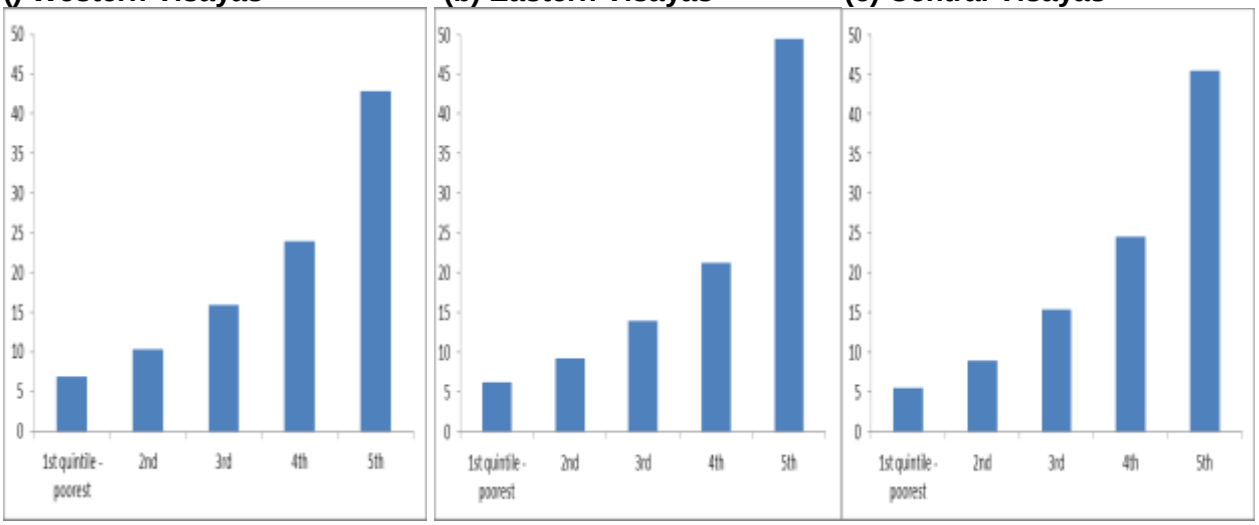
12. This section describes the incidence of individual and household poverty in the Visayas prior to Typhoon Yolanda, using the 2009 Family Income and Expenditure Survey. The descriptive analysis highlights the vulnerability of the poor to long term poverty as a result of major natural disasters. This is particularly the case for the poor residing in Eastern Visayas. This vulnerability to poverty arises because many of the poor are living just above the poverty line and mainly rely on income from agriculture. Income inequality, especially in Eastern Visayas is very high. Incomes of the poor are low and they have minimal savings to provide a buffer from the disaster. Remittances will be an important part of families coping strategies, however, the poorest have lower access to remittances compared to the better off families.

13. **The incidence of poverty is very high in Visayas**. The 2009 poverty rate in Eastern Visayas was 41.2%, the poverty rate in Western Visayas was 31.0% and 34.8% in Central Visayas. This compares with the national poverty rate of 26.9%.

14. **Income inequality is also very high in the Visayas**. On average the richest 20% households account for between 45.0 and 50.0% of total household incomes, while the poorest 40.0% of households account for about 15.0% of total household income (Figure 1). Per capital incomes of the poorest 40% households are low in the range of P12,000 to $16,000 per annum in 2009, indicating that the poorest households have very limited resources to buffer from a natural disaster.

Figure 1:
Household Income Distribution in Visayas
(% share of total household income by income class)

() Western Visayas **(b) Eastern Visayas** **(c) Central Visayas**

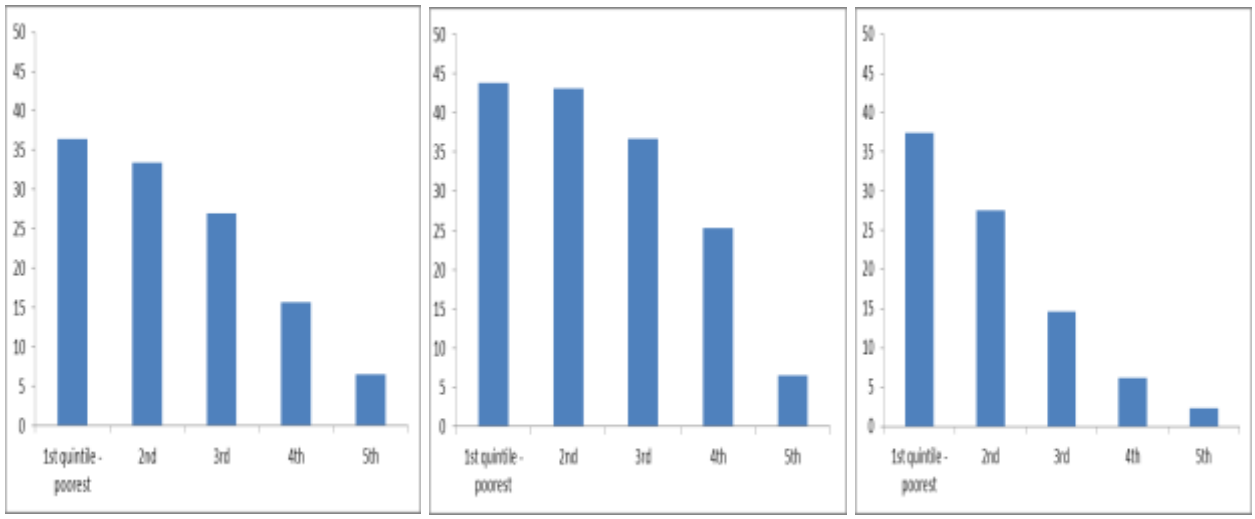


Source: 2009 Family Income and Expenditure Survey.
Notes.1st quintile refers to the poorest 20% households and the 5th quintile the richest 20% households

15. **Reflecting their vulnerability to poverty, the poorest households rely heavily on incomes from agriculture**. This reliance is most striking in Eastern Visayas where almost half of household incomes of the poorest 40% households are derived from earnings from agriculture highlighting their vulnerability to poverty from natural calamities. Another source of vulnerability, especially in Eastern Visayas is the lack of diversified farming activities as well as

off the farm income earning opportunities in the rural areas. Crops account for about 50.0% of agricultural production in Eastern Visayas, and the two main crops are paddy and coconuts, which account for 75.0% of total crop production. Coconut production is a major source of household incomes in Eastern Visayas and accounts for about 36.0% of the total value of crop production from 2010 to 2012. Of serious concern for East Visayas farmers, a substantial share of coconut trees was destroyed by Typhoon Yolanda; it takes about 10 to 15 years for coconut trees to mature indicating that many farmers have lost a long-term asset. In contrast to Eastern Visayas, the agricultural sector in Central Visayas is much more diversified, with the two main crops accounting for only 35.0% of total value of crop production.

Figure 2
Share of Household Income from Agriculture
(% share of total household income by income class)
() Western Visayas **(b) Eastern Visayas** **(c) Central Visayas**

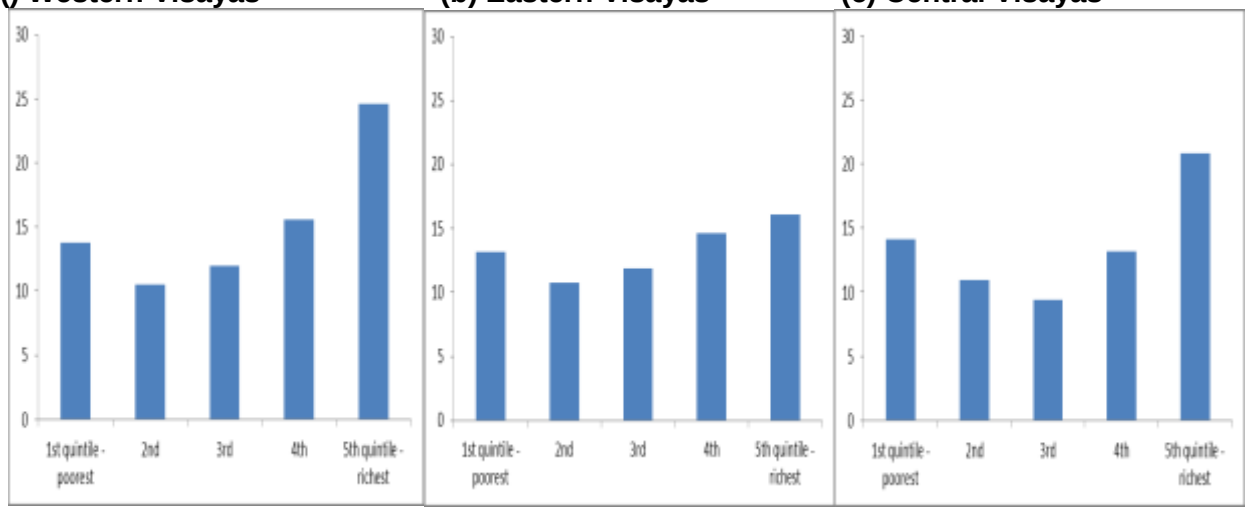


Source: 2009 Family Income and Expenditure Survey.
Notes.1st quintile refers to the poorest 20% households and the 5th quintile the richest 20% households

16. **Remittances and other income transfers will be important sources of income for households' coping strategies.** Remittances account for between 10.0% and 15.0% of total household incomes in the Visayas and the flow of remittances are expected to increase in the aftermath of the disaster as families send additional remittances home to help their families offset loss incomes and help restore depleted assets. While this will help many poor families to cope, the poorest families in the Visayas tend to have less access to remittances compared with the richest households, and for many poorer families remittances are received from domestic sources rather than from overseas Filipino workers. As Figure 3 illustrates, remittances account for only 10.0% to 13.0% of total household incomes of the poorest 60.0% households. In contrast, remittances account for over one fifth of household incomes in the richest 20% households in Central Visayas and Western Visayas. The distribution of remittances as a share of household incomes is more evenly spread across income groups in Eastern Visayas.

Figure 3
Share of Household Income from Remittances
(remittances as a % share of total household income by income class)

() Western Visayas **(b) Eastern Visayas** **(c) Central Visayas**



Source: 2009 Family Income and Expenditure Survey.

IV. Impact of Typhoon Yolanda on Poverty

17. For the purpose of estimating the impact on poverty incidence and headcount, the affected provinces are categorized according to the percentage of population affected. The full list of affected provinces is provided in Table 2. The share of population affected by the typhoon is well over 95% in Leyte, Eastern Samar and Biliran, while a number of provinces in Mindanao and Calabarzon only had 1% or less of their population affected. Our analysis concentrates in the 22 provinces that most affected by the typhoon (up to Occidental Mindoro with 9.6% of its population affected). These 22 provinces are classified in three categories: severe impact, moderate and slight impact.

Table 2. Affected Areas

Area*	Region	Province	Population affected (%)
Severe	VIII – Eastern Visayas	Leyte	99.5
	VIII – Eastern Visayas	Eastern Samar	96.1
	VIII – Eastern Visayas	Biliran	95.8
	VI – Western Visayas	Aklan	79.3
	VI – Western Visayas	Capiz	75.3
	VIII – Eastern Visayas	Western Samar	67.2
	VIII – Eastern Visayas	Southern Leyte	58.2
	VI – Western Visayas	Antique	50.0
	VIII – Eastern Visayas	Northern Samar	47.6
Moderate	VI – Western Visayas	Iloilo	41.7
	V – Bicol	Catanduanes	40.7
	VII – Central Visayas	Cebu	37.7
	VII – Central Visayas	Negros Oriental	34.8
	VII – Central Visayas	Bohol	33.7
	XVII – MIMAROPA	Romblon	33.5
Slight	VII – Central Visayas	Siquijor	23.4
	V – Bicol	Sorsogon	22.5
	VI – Western Visayas	Negros Occidental	16.4
	XVII – MIMAROPA	Palawan	13.8
	XVII – MIMAROPA	Oriental Mindoro	12.3
	V – Bicol	Albay	12.2
	XVII – MIMAROPA	Occidental Mindoro	9.6
Other provinces in the NDRRMC list	V – Bicol	Camarines Sur	8.9
	XVII – Mimaropa	Masbate	7.8
	VI – Western Visayas	Guimaras	6.5
	XVI – Caraga	Surigao del Norte**	4.2
	V – Bicol	Camarines Norte	4.1
	XVII – MIMAROPA	Marinduque	3.7
	X – Northern Mindanao	Camiguin	3.2
	XVI – Caraga	Surigao del Sur	2.8
	X – Northern Mindanao	Misamis Oriental	1.0
	XI – Southern Mindanao	Davao Oriental	0.5
	XVI – Caraga	Agusan del Norte	0.5
	IV – CALABARZON	Quezon	0.4
	IV – CALABARZON	Laguna	0.4
	XI – Southern Mindanao	Compostella Valley	0.3
	IV – CALABARZON	Batangas	0.2
	X – Northern Mindanao	Lanao del Norte	0.1
	XVI – Caraga	Agusan del Sur	0.0
	IV – CALABARZON	Cavite	0.0
	X – Northern Mindanao	Bukidnon	0.0
	IV – CALABARZON	Rizal	0.0
	XI – Southern Mindanao	Davao del Sur	0.0

*Note: *Area classification is based on the percentage of the population affected. Severe: >45%, moderate: ≤45% and>35%, slight: ≤35% and >10%*

*** Dinagat Island is included in Surigao del Norte.*

Source: Population affected – SitRep No. 28 Effects of Typhoon "YOLANDA" as of November 19, 2013 (6AM), National Disaster Risk Reduction and Management Council. Population – growth rates and actual counts in 2010, National Statistics Office

18. The typhoon's impact concentrated on some of the poorest provinces in the country. The average household income in the severely affected provinces was only 75% of the national average as per the 2009 data. The distribution of household income among the affected provinces shows that over 50% of the household income in all provinces was largely dependent on agricultural incomes and remittances.

19. The expected large impact on the poorest quintiles of the income distribution, due to their dependence on agriculture, is further verified once we review the employment profile of the affected areas. Nearly half of the households (46.3%) in the severely affected provinces are employed in agriculture-related activities. By region, 40.2% of households in Western Visayas, 44.6% of households in Eastern Visayas and 30,2% of households in Central Visayas are employed in agriculture-related activities. For the area affected as a whole, this is well above the national average of 33.6% in 2009.

20. Thus, the analysis of the population affected by the impact of Yolanda renders a predominantly agriculture-based population (both in terms of employment and household income derived from agriculture). It also shows, as expected, a larger predominance of agriculture as the main source of income across the poorest quintiles of the income distribution. In line with this population profile, and as the situation reports offered by the government report overwhelming damage to agriculture and agriculture-related activities in the affected areas, a large impact on the poverty patterns of these provinces is to be expected. A number of assumptions need to be made, however, prior to preparing poverty impact estimates.

21. First, the poverty estimates derived and presented below assume that only fourth quarter incomes have been affected by the typhoon, and aim to present the potential immediate impact of the disaster, not a dynamic evolution of poverty incidence. Guided by the share of population affected and also by the share of agricultural and non-agricultural income obtained in the fourth quarter of the year, we develop assumptions on the loss of income of the affected provinces as described in Table 3. For provinces severely affected by the typhoon, the poverty estimates assume that 30% of agricultural incomes and some 28% of non-agricultural incomes would be lost. The respective figures for moderately affected provinces are 15% (agriculture income), and 14% (non-agriculture), and 8% and 7% for slightly affected provinces.

Table 3. Assumed Impact of Typhoon on HH Incomes
(% loss in annual income)

Source of income	Severe	Moderate	Slight
Assumed loss of 4th quarter income (wages and entrepreneurial activity)	100	50	25
Agriculture (wages, entrepreneurial activity, rent)	30	15	8
Non-agriculture			
Wages	28	14	7
Entrepreneurial activity	28	14	7
Other (transfers, pensions, dividends, etc.)	No change	No change	No change

Note: Estimate share of 4th quarter incomes are based on the average 4th quarter output share of each sector for the past 3 years (2010-2012). Based on national income accounts, the share of agriculture is 30% of annual GDP and 28% for non-agriculture.

22. ADB staff estimates that typhoon Yolanda may lead into poverty an additional 1,638,000 individuals or a 7.1% increase in the number of over the 2009 base (Table 4 below). This would lead to a poverty incidence rate of 28.2%, 1.9 percentage points higher than the 2009 base. Under any scenario, such an impact of poverty rates is unprecedented and it is linked to the high vulnerability of the population of the affected areas.

Table 4. Poverty Incidence and Headcount

Area	Poverty Incidence						Number of poor					
	Baseline			Simulated			Baseline			Simulated		
	All HHs	Male head HHs	Female head HHS	All HHs	Male head HHs	Female head HHS	All HHs	Male head HHs	Female head HHS	All HHs	Male head HHs	Female head HHS
Philippines	*26.3*	*28.6*	*15.5*	*28.2*	*30.6*	*16.8*	*22,976,884*	*20,582,854*	*2,394,030*	*24,615,160*	*22,011,586*	*2,603,574*
By area affected												
Severe	39.7	41.8	28.5	53.8	56.9	37.6	2,302,752	2,035,892	266,860	3,122,377	2,769,888	352,488
Moderate	33.5	36.2	22.9	39.9	42.9	27.7	3,103,702	2,680,223	423,479	3,691,407	3,177,514	513,893
Slight	35.0	36.9	25.2	38.2	40.2	28.1	2,538,327	2,244,968	293,358	2,769,273	2,442,413	326,860
By region												
Western Visayas	31.0	33.3	20.4	37.3	40.0	25.0	2,101,364	1,853,898	247,466	2,526,658	2,223,413	303,246
Central Visayas	34.8	37.3	24.4	41.5	44.3	30.2	2,317,565	1,991,718	325,846	2,766,554	2,363,661	402,893
Eastern Visayas	41.2	43.4	29.0	55.7	59.0	38.1	1,720,892	1,530,638	190,254	2,328,850	2,079,399	249,450

ADB staff estimates based on the 2009 Family Income and Expenditures Survey using published 2009 poverty lines.

23. The regional analysis provides further insight into the estimated impact. The poverty incidence in the affected regions of Western, Central and Eastern Visayas was 31%, 34.8% and 41.2% respectively in 2009. As a result of typhoon Yolanda, post-disaster poverty incidence rates may reach 37.3% in Western Visayas, 41.5% in Central Visayas and 55.7% in Eastern Visayas. ADB staff simulations estimate that the typhoon may have thrown into poverty an additional 24% of the population in these three regions, with Eastern Visayas witnessing a 35% poverty increase as a result of the typhoon. By area affected, the group of provinces that were most affected by the typhoon could potentially see their poverty incidence rates go up from 39.1% (2009 base) to 53.8% on the basis of the simulations prepared. Disaggregated by gender, the estimations do not show that the impact of the typhoon was disproportionally concentrated on female-headed household in principle. Female headed households represented 14% of total households in the affected areas (the 22 provinces focus of our analysis). In the severely affected provinces, the poverty incidence of female-headed households could rise from 28.5% to 37.6%, a 9.1 percentage point increase. The corresponding increase for male-headed households in severely affected provinces is over 15 percentage points (from 41.8% to 56.9%).

24. By province, the impact of Yolanda on poverty is even more dramatic. Leyte may likely see the number of poor increase from some 623,000 to 897,000, or a 44% increase. This would bring poverty incidence in Leyte from 34% to 49%. Estimates indicate increases of possibly 48% in the number of poor in Capiz, and of 24% in Cebu (mostly in its northern area). These affected areas are largely dependent on agriculture and therefore the poverty impact is greater there.

25. The poverty gap, the income shortfall of the poor from the poverty line may increase as a result of Typhoon Yolanda from its 2009 baseline of 7.2% to 8.1%, a very substantial increase. By region, the impact on the poverty gap is more acute in Eastern Visayas, as it would be expected. The poverty gap could potentially increase by 3 percentage points in Western and Central Visayas, and by 8.2 percentage points in Eastern Visayas. The analysis of impact on the poverty gap by affected area shows that, in the severely affected provinces, the poverty gap may increase from 11.4% to 19.1% as a result of Typhoon Yolanda. The simulations show a more moderate increase in the moderately and slightly affected provinces. The gender disaggregated estimates do not provide, again, evidence of a disproportionally greater impact on female headed households over their male counterparts.

Table 5. Poverty Gap

Area	Gap						Severity					
	Baseline			Simulated			Baseline			Simulated		
	All HHs	Male head HHs	Female head HHS	All HHs	Male head HHs	Female head HHS	All HHs	Male head HHs	Female head HHS	All HHs	Male head HHs	Female head HHS
Philippines	*7.2*	*7.9*	*3.9*	*8.1*	*8.9*	*4.5*	*2.8*	*3.1*	*1.4*	*3.3*	*3.6*	*1.7*
By area affected												
Severe	11.4	12.0	8.3	19.1	20.3	12.9	4.5	4.7	3.2	8.7	9.3	5.8
Moderate	9.9	10.8	6.2	12.8	13.9	8.0	4.1	4.5	2.4	5.6	6.1	3.3
Slight	9.1	9.7	5.9	10.7	11.4	6.9	3.4	3.7	2.1	4.1	4.4	2.5
By region												
Western Visayas	7.8	8.4	4.6	10.7	11.6	6.3	2.8	3.1	1.6	4.2	4.6	2.4
Central Visayas	10.8	11.8	6.7	13.8	15.0	8.7	4.6	5.1	2.6	6.2	6.8	3.5
Eastern Visayas	11.9	12.4	8.9	20.1	21.2	13.8	4.7	4.9	3.5	9.2	9.7	6.4

ADB staff estimates based on the 2009 Family Income and Expenditures Survey using published 2009 poverty lines.

26. The immediate implication of these results is that not only will the number of poor increase dramatically as a result of the disaster but that it will take longer for those to recover to pre-disaster real income levels.

V. The Yolanda Recovery and Rehabilitation Plan

27. At the end of November 2013, NEDA finalized the Yolanda Recovery and Rehabilitation plan (YRRP), which is expected to be endorsed by the government in December 2013. The YRRP covers the following five priority areas with specified broad interventions and designated agency responsibilities: (i) shelter and reconstruction of houses; (ii) power restoration; (iii) livelihood and employment; (iv) resettlement and psychosocial care; and (v) environmental protection.

28. Table 6 presents the key features and immediate activities of the YRRP. The YRRP will be implemented in three sequential phases from December 2013 to December 2017. The first phase from December 2013 to March 2014 will provide immediate humanitarian needs to victims. The second phase, from December 2013 to December 2014, will focus on short term recovery and rehabilitation of affected areas, housing and livelihoods, and providing social assistance and care. The third phase, from January 2015 to December 2017, will focus on larger and more complex reconstruction investments. The government will formulate interventions for the third phase after further assessments have been completed in 2014.

Table 6: Yolanda Recovery and Rehabilitation Plan

Components	Expected Outcomes	Immediate Activities
1. Shelter and reconstruction	New settlement areas established and public infrastructure rebuilt	Temporary shelter, housing assistance to families, and reconstruction of public services, public schools and health facilities
2. Power restoration	Power fully restored in all areas	Restoration and rehabilitation of power infrastructure
3. Livelihood and employment	Peoples' livelihoods and incomes restored	Assistance to farmers, short term employment programs, livelihood programs
4. Resettlement and psychosocial care	Resettlement successfully completed and affected persons supported	Support services provided and expansion of existing housing programs
5. Environmental protection	No-build zones identified and enforced	

Source. National Economic and Development Authority.

29. **The YRRP has identified appropriate interventions to address the channels in which the disaster may increase long term poverty.** Typhoon Yolanda is likely to increase poverty in the Visayas through four channels: (i) death and disability, (ii) sudden loss of income, (iii) depletion of assets, (iv) loss of public infrastructure, and (v) stress on fiscal budget allocations are also diverted from other priority public spending programs. The YRRP addresses most of these channels. The EAL will measure outcome of the YRRP by a substantial recovery in per capita consumption of 50.0% of the poorest households to pre-Typhoon Yolanda levels. The key YRRP channels for mitigating the longer term poverty impacts on affected persons are:

- Restoring public infrastructure will ensure the poor in the rural areas have access to markets
- Restoring power will ensure the poor have access to electricity and clean water
- Housing construction and new settlements to less hazard areas will restore household assets
- Programs to restore livelihoods, rehabilitate damaged agricultural land, agricultural stocks, and access to finance will provide the poor with new income earning opportunities.
- Rehabilitating and rebuilding schools and health facilities will help restore children's schooling and access to health programs, and therefore mitigating the adverse impact of the disaster on children's human capital development.

30. The government anticipates the recovery program will take approximately four years to compete. It is important that community expectations are managed and that programs are implemented in a timely manner. Housing reconstruction, which will be the largest component of the recovery program, is usually at risk of delayed implementation due to surges in price inflation for construction materials. In this regard, the government could lift import duties on construction materials to cap price inflation.

31. Over the longer term, the government will need to strengthen its disaster risk management governance and mainstream into its poverty reduction programs so to effectively mitigate the country's vulnerability to extreme poverty from natural calamities. This will need to include both hard infrastructure to withstand strong storms and soft infrastructure such as disaster risk insurance, among others.