
Catch the FUNDS, if you Can!: Forecasting Disaster-related Expenses

Wet from the heavy rain and exhausted from a disaster evacuation, Mr. Andrew Burao arrived at the Municipal Hall of Cabatuan, where he worked as a head of the Disaster Risk Reduction Management Office (DRMMO). He tapped the water away from his baseball cap as he entered the office of the Mayor of Cabatuan.

Mayor: Andrew, are the residents okay and well-taken care of? Since we always have this problem during rainy season, I want to make disaster risk mitigation as one of my development priorities. In order for me to lobby for additional funds and possible partnerships, I want your office to submit a report of our disaster-related activities, including a projection of disaster expenditure for next year. I will meet with the council next month, and they are expecting a scientific approach in forecasting these expenses.

And oh! Do not forget the preparation for the Mutya ng Cabatuan celebration next month as well.

Walking toward the door out of the Mayor's office, Burao was already deep in thought about forecasting tools and how they could be used to forecast disaster-related expenses for 2017 for disasters that hadn't even occurred yet.

The Local Government of Cabatuan

Profile and disaster experience

Cabatuan is a first class municipality in the Province of Iloilo in the Philippines with 55 thousand residents (**Figure 1**). The town consists of 68 *barangays*ⁱ in 11,290 hectares of land area. It is home to the Iloilo International Airport and is 24 kilometers from Iloilo City, the capital of Western Visayas Region. Major industries include agricultural (common produced are corn and rice) and commercial (commercial livestock).

Figure 1
Map of the municipality of Cabatuan, Iloilo, Philippines



Source: "Cabatuan, Iloilo, Philippines." Accessed 28 November, 2016 <http://www.cabatuan.com/barangays.html>

The municipality consists of plain and hilly terrain (highest elevation is 250 meters) with Tigum River and numerous creeks (e.g. Amerang, Guibuangan Tigbauan, Morobuan, Jelicuon, Sulanga, and Inadalan). The *poblacion*ⁱⁱ is regularly flooded as these water-bodies overflow. As a consequence, landslides also likely to occur as the general topography of the municipality is 'gently rolling terrain.'

The following scenarios are generally observed in a two-day rain in the months of June and November:¹

1. Flooding of Tigum river and creeks during heavy rainfall;
2. Destruction of electrical posts and trees near the rivers;
3. Residential and public infrastructure damages;
4. Two-meter flood in communities near the river;
5. Proliferation of evacuees; and
6. Health related diseases from floods.

ⁱ *Barangay* is the smallest administrative unit in the Philippines. It is oftentimes referred to as 'community.'

ⁱⁱ *Poblacion* is the central area of a *barangay*.

In June 2008, Super Typhoon Fengshen (Local name: Typhoon Frank) damaged Cabatuan and its surrounding towns. The Tigum Bridge and Imelda Marcos Bridge were heavily damaged, and approximately 4,550 residents were also adversely affected. Five died during this calamity. Large amounts of livestock and agricultural crops were damaged as well.

As Burao recalled, two main bridges had been built connecting Cabatuan to central Iloilo: Tigum Bridge in Tabucan and the Imelda Marcos Bridge going to [the municipality of] Maasin. Following the typhoon, the main highway of Central Iloilo passing through Cabatuan and going to Calinog [a nearby town in Iloilo Province] and Tapaz [a boundary town of Capiz Province] were all cut off. The highest flood level that ever occurred in Cabatuan was during Typhoon Fengshen.²

More recently, in November 2013, Typhoon Haiyan (Local name: Typhoon Yolanda) affected 3,813 residents and caused widespread power and communications interruptions. Agricultural damage was recorded at 4.15 million pesos (USD 83,569).ⁱⁱⁱ

The Municipal Disaster Risk Reduction Management Office (MDRRMO)

The Philippine Disaster Risk Reduction and Management Act of 2010 (Republic Act 10121) strengthened disaster-related activities at national and local levels.³ The Act emphasized prevention and mitigation activities (e.g., infrastructure) and reinforced preparedness, response, rehabilitation and recovery into the overall develop agenda. In 2010 and 2013, the municipality of Cabatuan organized and reorganized the Municipal Disaster Risk Reduction Management Office (MDRRMO) (Executive Order No. 2013-35) (Exhibit A). Together with the Municipal Disaster Risk Reduction Management Council (MDRRMC), this office spearheads the planning, implementation, and integration of disaster related activities. Recently, the municipality formulated a strategic plan until the year 2018, anchored on thrusts of the Republic Act 10121. Most of the planned activities involved collaboration with other sectors of the government (e.g. police), communities, and other local governments.

Through RA 10121 in 2010, the DRMMO was institutionalized and now had clear functions and mechanisms of how things should be done, along with a structure with three departments or divisions, such as the [research and] planning office.⁴ Manuela was in charge of the disaster program. The office for disaster operations ran 24/7 with a staff of 9 drivers, 3 radio operators, 3 nurses, 9 responders, and 4 fire volunteers. The staff worked by team on a 1-day duty and 2-days off routine. Andrew, in addition to being head of the DRMMO, was also in a member of the Economic Legislative Agenda Office, which involved formulating new policies for economic and disaster programs, so he was strapped for time.⁵

Disaster-related activities and disaster budget

Budgets for disaster-related activities of local governments were often limited, constrained, and/or misdirected.⁶ The allocation of funds was 70-30, in that 70% of the fund went to preparation and mitigation, and only 30% went to response. The total annual budget was 5% of the total yearly income of the town.⁷

In the Philippine law, unused funds could be carried over to the next years. In 2015, Burao used only about half of the Php 14 million (USD 281,919) allotted to his office. The excess went to a trust fund, which had a five-year life span, meaning the funds that not used in 2010 would expire in 2015. But Andrew questioned why not use all the funds, since they could be deployed in useful areas such as social services.⁸

ⁱⁱⁱ The Forex rate of 1 USD =49.65PHP as of November 28, 2016 has been used in this and all subsequent USD/PHP conversions <http://www.xe.com/currencyconverter/convert/?From=USD&To=PHP>

For the past years, the municipality had been active in various disaster-related activities (Exhibit B), such as deploying bulk SMS, wherein 12,000 numbers were registered. DRMMO sent a warning SMS when there was a typhoon, and Cabatuan was the first municipality in the province to have that system. Burao's office also geo-tagged the houses to classify disaster vulnerable households.

In the summer of 2015, Burao's office trained its first set of responders from the barangays, a total of 400 barangay tanods.^{iv} They were trained in basic life support and response in case of an emergency – in short, trained to be first responders. The training paid off even before a natural disaster, Andrew recalled. One of the trainees' siblings suffered a stroke, and the trainee knew what to do and responded properly to the emergency.⁹

However, not all disaster projects were funded by the municipality. During disasters, some funds and donations (either in monetary or in kind) came from outside sources. Recently, Cabatuan received 500 sacks of rice from the Department of Social Work and Development (DSWD) but did not know where to store these pre-positioned goods, so it stored them in a garage. Assistance from non-government organizations (NGOs) also came when there was a need, but the DRMMO discouraged receiving pre-positioned goods because the goods could expire before they were needed. Burao believed it was better to partner with private businesses because that way perishable goods were only drawn during times of need.¹⁰

Finally, municipalities shared activities and good practices with each other, to help prepare for disasters.¹¹

Future disaster activities

The budget and forecast of expenditures was dependent on the future disaster activities. For 2017, Burao planned to break the two response teams down to district level. His town has nine districts, eight of which were rural and one was urban, [the town proper]. For 2017, Andrew planned to break the north and south teams down to a response team per district, and there were 7 or 8 barangays per district. With the new structure, if a disaster occurred in one of the districts, a group there that could respond right away. With the DRMMO's communications system, the office's radio operators could practically cover the whole town.¹²

The downside of this communications system, Burao noted, was that residents tended to depend on the operators. For example, if someone was about to give birth, she might not take the initiative to come to the town's health center to give birth but instead just wait for the ambulance to come and fetch her.

Burao also had plans to integrate businesses and other development plans to disaster planning in order to promote more resilient communities and share resources. In Iloilo Province, there was an association of MDRM Officers, of which Burao was president. Burao planned formalize agreements between towns in the future, which he considered vital because if, for example, the fifth district of the Iloilo Province was hit by a disaster, which district should follow or support? In that situation, the fourth district was more likely to be affected as well. Therefore, the first or second district would be the best potential districts to support the affected districts.¹³

Looking ahead

As Burao went back to his office, he reflected on the municipality's achievements and challenges in mitigating disasters, and he outlined what he had to do. First, he would need information about the town's

^{iv} Tanod is the barangay safety officer, who is in charge of maintaining order in the community.

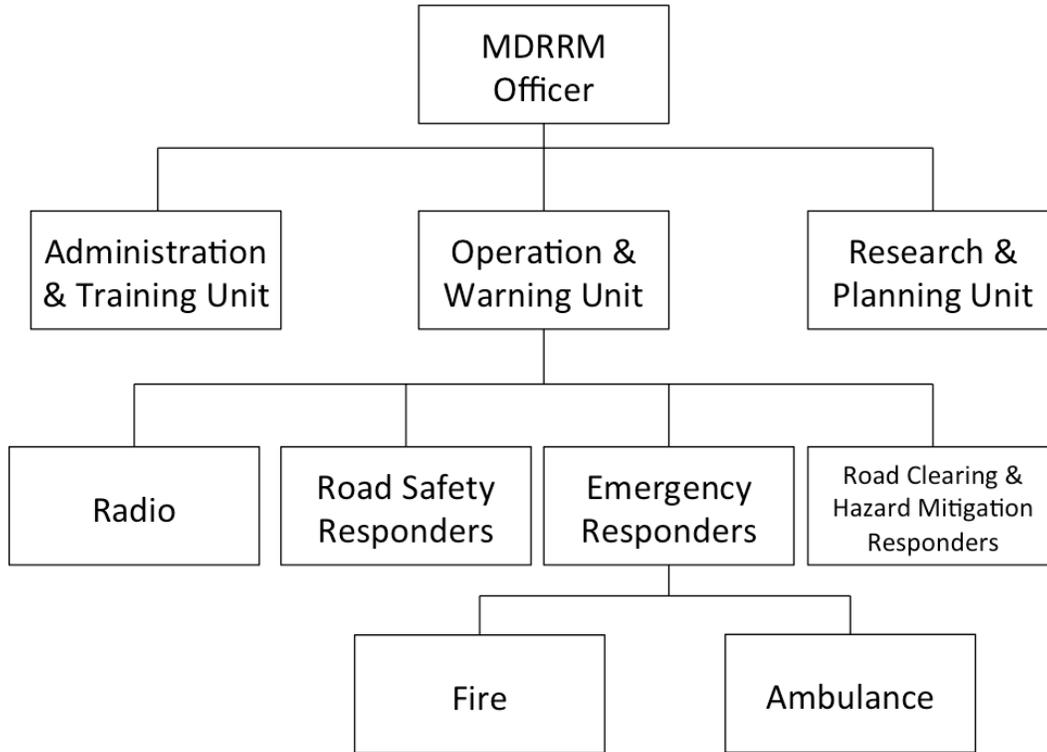
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income as well as the expenditures relating to disasters for the past years. “Manuela might have all that information,” he said to himself, as he reached his office. Surprised, he saw a folder with a label, ‘Summary of annual expenditure, income, and disaster budget of Cabatuan’ (**Exhibit C**). All needed information for forecasting disaster expenditure was in place. ‘Manuela is indeed up-to-date and efficient,’ he said to himself and smiled.

Exhibits

Exhibit A

The Municipal Disaster Risk Reduction Management Office (MDRRMO) of Cabatuan.



Source: Cabatuan Disaster Risk Reduction Management Office (CDRRMO). (n.d.). Cabatuan Disaster Risk Reduction and Management Plan 2014-2018

Exhibit B
First responders training program in Cabatuan



Source: Cabatuan Disaster Risk Reduction Management Office, 6 October 2016.

Exhibit C

Summary of annual expenditure, income, and disaster budget of Cabatuan, in million ₱.

End of year	Total disaster expenditure, in million pesos	Total LGU Income, in million pesos	Disaster budget, in million pesos
2010	1.08	76.19	3.81
2011	1.71	81.69	4.08
2012	2.56	83.33	4.17
2013	4.41	88.10	4.41
2014	6.50	98.98	12.32
2015	2.95	112.83	11.73
2016		121.35	14.79

Sources: Cabatuan Disaster Risk Reduction Management Office (CDRRMO). (n.d.). Cabatuan Disaster Risk Reduction and Management Plan 2014-2018 and Local Governance Performance Management System (2016). LGU Profile accessed on 23 October, 2016.

Endnotes

¹ Cabatuan Disaster Risk Reduction Management Office (CDRRMO). (n.d.). Cabatuan Disaster Risk Reduction and Management Plan 2014-2018.

² Interview with Andrew Burao, Cabatuan Disaster Risk Reduction Management Officer, on 6 October, 2016.

³ Philippine Disaster Risk Reduction and Management Act of 2010 (Republic Act 10121). Retrieved from the National Disaster Risk Reduction Management Council (NDRRMC), 10 October, 2016 at http://www.ndrrmc.gov.ph/attachments/article/45/Republic_Act_10121.pdf

⁴ Interview with Andrew Burao, Cabatuan Disaster Risk Reduction Management Officer, on 6 October, 2016.

⁵ Ibid.

⁶ Benson, C. (March, 2009). Mainstreaming Disaster Risk Reduction into Development: Challenges and Experience in the Philippines. http://www.preventionweb.net/files/8700_8700mainstreamingphilippines1.pdf accessed on 11 October, 2016

⁷ Interview with Andrew Burao, Cabatuan Disaster Risk Reduction Management Officer, on 6 October, 2016.

⁸ Ibid.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ibid.

¹² Ibid.

¹³ Ibid.