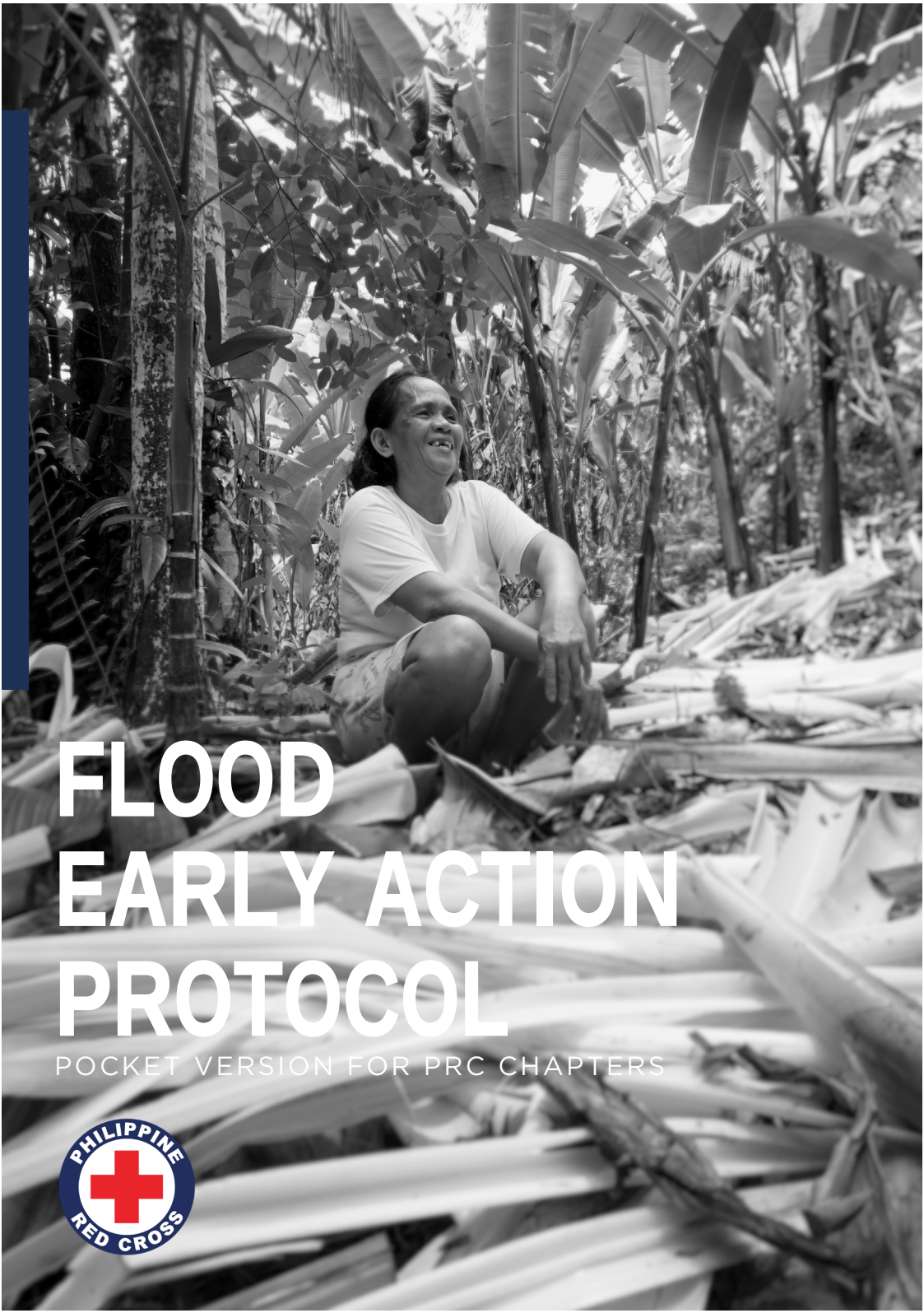

FLOOD EARLY ACTION PROTOCOL

POCKET VERSION FOR PRC CHAPTERS

PHILIPPINE RED CROSS

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FLOOD EARLY ACTION PROTOCOL

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List of Acronyms

4Ps	Pantawid Pamilyang Pilipino Program
BAET	Barangay Animal Evacuation Committee
BarCom	Barangay Committee
CfW	Cash for Work
COA	Commission on Audit
CRA	Community Risk Assessment
DA	Department of Agriculture
DepEd	Department of Education
DENR	Department of Environment and Natural Resources
DILG	Department of the Interior and Local Government
DMS	Disaster Management Services
DPWH	Department of Public Works and Highways
DREF	Disaster Relief Emergency Fund
DRR	Disaster Risk Reduction
DRRM	Disaster Risk Reduction and Management
DSWD	Department of Social Welfare and Development
EA	Early Action
EAP	Early Action Protocol
ECMWF	European Centre for Medium-Range Weather Forecasts
ERU	Emergency Response Unit
FAO	Food and Agriculture Organization
FbA	Forecast-based Action
FbF	Forecast-based Financing
FRC	Finnish Red Cross
GRC	German Red Cross
HH	Household
HQ	Headquarters
IEC	Information, Education, and Communication
IFRC	International Federation of the Red Cross and Red Crescent Societies
INGO	International Non-Government Organization
JICA	Japan International Cooperation Agency
KII	Key Informant Interview
LGU	Local Government Units
MAAB	Membership with Accident Assistance Benefit
MoA	Memorandum of Agreement
MoU	Memorandum of Understanding
NDRRMC	National Disaster Risk Reduction and Management Council
NGO	Non-Government Organization
NLRC	Netherlands Red Cross
OCD	Office of Civil Defense
ODK	Open Data Kit
OPAg	Office of the Provincial Agriculturist
OpCen	Operations Center
PAGASA	Philippine Atmospheric, Geophysical and Astronomical Services Administration
PAGRO	Provincial Agriculture Office
PAO	Provincial Accounting Office
PAR	Philippine Area of Responsibility
PBO	Provincial Budget Office
PCIC	Philippine Crop Insurance Corporation
PDRA	Provincial Pre-Disaster Risk Assessment
PEO	Provincial Engineering Office
PhilFIDA	Philippine Fiber Industry Development Authority
PPDO	Provincial Planning and Development Office
PDRRMO	Provincial Disaster Risk Reduction and Management Office
PRC	Philippine Red Cross
PSWDO	Provincial Social Welfare and Development Office
PVO	Provincial Veterinary Office
RCCC	Red Cross Climate Centre
SSK	Shelter Strengthening Kit
STY	Super Typhoon
TC	Tropical Cyclone
TD	Tropical Depression
ToC	Theory of Change
TWG	Technical Working Group
TY	Typhoon
UCL	University College of London
UN	United Nations
VS	Volunteer Services
WFP	World Food Programme

SECTION 1

Introduction

This section looks at the purpose and structure of the Flood Early Action Protocol (EAP).

This Pocket ***Flood Early Action Protocol (EAP)***

is a guide for PRC chapters to implement flood early actions. It contains all the relevant information for the chapters about the key actors, risk analysis, trigger model, early actions selected, the activation procedure, budget and monitoring & evaluations for flood early actions. This Pocket EAP is a shortened version of the original Flood Early Action Protocol.

The first version of the Flood EAP is focusing on 4 river basins: **Cagayan river basin, Bicol river basin, Panay river basin** and **Agusan river basin**. As there are 18 major river basins in the Philippines, the Flood EAP can be expanded to additional river basins in the future. This EAP provides guidelines for implementing timely and effective anticipatory actions in any of the 4 selected river basins (see fig 1), when a flood forecast shows a high likelihood of a severe impact.

The Flood EAP complements the Typhoon EAP of the PRC, as it is probable that lower categories of Tropical Cyclones (TCs) may not lead to Typhoon EAP activation but might cause severe flooding in particular in Luzon island, hence requiring flood Early Actions – nonetheless, most extreme TCs could lead to the **activation of both Typhoon and Flood EAPs at the same time,** preferably in different geographic locations, and allowing a broader coverage of anticipatory needs.

The flood early actions selected are early harvesting of matured crops, livestock evacuation and temporary relocation of vulnerable businesses (in urban contexts), which all aim to reduce the loss of income of vulnerable farmers/fishermen and small business owners.

Currently, the Flood EA trigger methodology relies on the **Global Flood Awareness System of the EU (GloFAS)** with the flood Early Actions being triggered when the forecast 72h before the peak of the flood is indicating that there is a 70% chance that the flood will have a return period of at least 5 years. The Early Actions will be implemented in priority in the municipalities where the predicted flood will affect at least 50% of the crops.

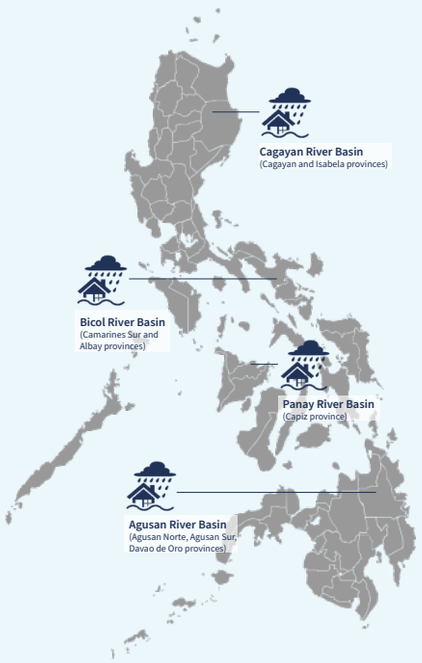


Fig. 1: Four (4) river basins covered by the Flood EAP.

SECTION 2

Key Actors

Philippine Red Cross (PRC) is the main implementer of this Flood Early Action Protocol (EAP). This EAP has been prepared with the technical assistance of the German Red Cross (GRC), the Finnish Red Cross (FRC), the Red Cross Climate Center (RCCC). The IFRC country office will be the main counterpart of PRC in activation of this EAP.

Forecast based Financing (FbF) is being implemented under the Disaster Management Services (DMS), one of the major services of PRC. In addition to the DMS, several other major and support services of PRC are expected to be engaged in the activation of this EAP, like the Emergency Response Unit (ERU), the Operation center (OpCen), the Finance Department, the Logistics Department, Social Services, Volunteer Services, or Communications Department. They have been oriented on FbF, invited in key activities, and consulted in various technical matters.

On the other hand, target PRC chapters have been actively engaged in the planning process and in the writing of the first EAP for Flood, and will be in charge of its activation. Mainly, the chapter does the coordination at the local level (provincial, city, municipal, and barangay level), they conduct meetings, gather information, conduct field visit, focus group discussion, key informant interviews, and all other related field activities that contribute to the pre-identification of possible beneficiaries.

Through its country delegation in Manila as well as its regional office in Kuala Lumpur, IFRC is informed of the FbF implementation in the Philippines and is involved in reviewing the EAPs being submitted by the PRC, in coordinating its approval and in monitoring its activation in case the trigger level is reached.

GRC is a strong partner of PRC since 2007 and has been engaged along the PRC in various emergency operations – for instance after typhoon Fengshen *(international name Frank)* in 2008, or following typhoon Yolanda *(Haiyan)* in 2013. For FbF, GRC is providing technical and financial support for the overall piloting of the intervention in the country, from assessment, planning, activation, monitoring, and evaluation of the EAP. GRC is also ensuring the sharing of knowledge around FbF with all interested partners, among the Red Cross movement or externally.

The FinnRC delegation in the Philippines is closely involved into FbF implementation, mainly in the development of the EAPs via the funding of early actions simulation and the support to the EAP training programme at chapter level. This cooperation aims to share knowledge on FbF and consequently to promote implementation and use of FbF in new countries.

As a partner in GRC's FbF pilot projects, the RCCC is mainly providing technical support aiming to improve use of meteorological data for triggering of the *early actions*, as well as in their evaluation. In the country, a Senior Policy Adviser and the Asia Pacific Regional Focal Point is present, supporting the team in coordinating with key actors at all levels – local, national, and international.

The national institution is dedicated to provide flood and typhoon warnings, public weather forecasts and advisories, meteorological, astronomical, climatological, and other specialized information and services primarily for the protection of life and property and in support of economic, productivity and sustainable development.

PAGASA Flood Forecasting and Warning System (FFWS) in selected river basins are expected to play a major role in flood modeling and monitoring of river level. At the time of writing this EAP, PAGASA Flood Forecasting and Warning center in Bicol is already supporting the flood modeling, while discussions have been initiated with PAGASA center for the Cagayan river basin to do the same. PAGASA Flood forecasting and warning center in the Agusan river basin is currently under construction, and the regional PAGASA office has been informed on the FbF activities of the PRC.

The Advanced Science and Technology Institute under the Department of Science and Technology is mandated to undertake research and development activities aimed at strengthening and modernizing Information and Communications Technology. In a span of seven years, from 2010 to 2017, the DOST-ASTI has deployed around 2,000 automated weather stations (AWS), automated rain gauges (ARG), water level monitoring systems (WLMS), and warning systems nationwide, which can be accessed online and used for monitoring rainfall and river level - http://philsensors.asti.dost.gov.ph/

PRISM is a research program of the Philippine Rice Research Institute (PhilRice), an R&D arm of the Department of Agriculture (DA). Planted area for each crop season can be extracted from: - https://prism.philrice.gov.ph/dataproducts/

Core Group on EAP Development

Prerequisite to the implementation of the EAP, the Early Actions were selected in a collaborative manner at provincial level, and details on their implementation have been shared with all key actors involved. In that regard, a core group has been established at provincial level in all targeted provinces.

Provincial level: PRC Chapter, DRRM, Planning and Development, Social and Welfare, Agriculture, Engineering, Health Office, Civil Society Organization, Other (active partners doing similar concept or anticipatory action)

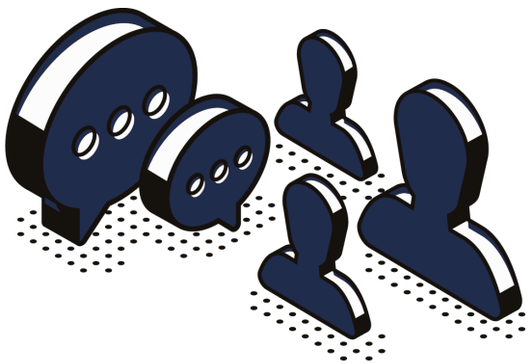
Among the partners of the chapters, the following agencies are key in the activation of the flood EAP:

PDRRMO: This is a key stakeholder with whom the PRC chapters must coordinate in their respective provinces. In Agusan del Norte, PDRRMO recruited a hydrologist and is getting involved in flood modeling as there is no PAGASA FFWS in place yet; more generally, PDRRMOs are coordinating flood risk reduction or response.

Department of Agriculture (DA): Responsible for the promotion of agricultural and fisheries development and growth. DA is a key partner for the development of the Flood EAP as farmers and fishermen are some of the targeted groups for the Early Actions of the Red Cross.

Department of Trade and Industry (DTI): DTI is tasked at province level to monitor and review the prices of basic commodities and enact price control measures. DTI will be supporting the Early Action in urban context towards micro businesses.

Provincial Veterinary offices: These offices are key to support effective livestock evacuation.



Risk Analysis

This section looks closer at past flood impact in the Philippines, sectoral exposure to flood hazards, and flood vulnerabilities in agriculture, livestock, and commercial sector.

3.1 Hazard Selection

The Philippines is highly prone to natural disasters. The most significant hazard in terms of casualties and economic damage is Tropical Cyclone (TC), while flood is the second most frequent hazard with the second most significant economic impact.

There are different types of flooding in the Philippines – coastal flooding, overland (or flash flooding) and river flooding:

Coastal flooding are high-impact events and can cause significant damage, but rare in occurrence. Coastal flooding is restricted to specific areas and is usually linked to typhoons and tsunamis and comes under the purview of tropical cyclones and would be covered by the Typhoon EAP.

Flash flooding in the Philippines is caused by heavy rain, usually as a result of a Low-Pressure Area (LPA) or tropical storm system, and occasionally by a rapidly forming thunderstorm system. Flash flooding is most common during the rainy season (from July to December), and particularly during the latter half of the typhoon season (Oct-Dec). The high level of uncertainty in predicting flash flooding events prevents the implementation of any Early Actions for this type of floods.

River floods rarely cause high casualties; however, they can displace hundreds of thousands of people from their homes, damage infrastructure, and have a significant impact on the economy. In most river systems in the north and east of the country, the peak flood season is October-December, in conjunction with the Northeast monsoon (*amihan*), while in the western part of the country, flood season is more probable during the Southwest monsoon (*habagat*) from July to October. **As those floods can be anticipated, the Flood Early Action Protocol will focus on river flooding only.**

There are 18 major river basins in the Philippines and a total population of 7,754,520 living in areas at high risk of flood. The river basins vary significantly in terms of population affected, with those located in urban areas **(Agno, Pampanga, Pasig-Laguna de Bay)** containing populations in the millions, while those in more remote and mountainous areas **(Davao, Tagoloan)** have fewer than 10,000 living in high-risk locations.

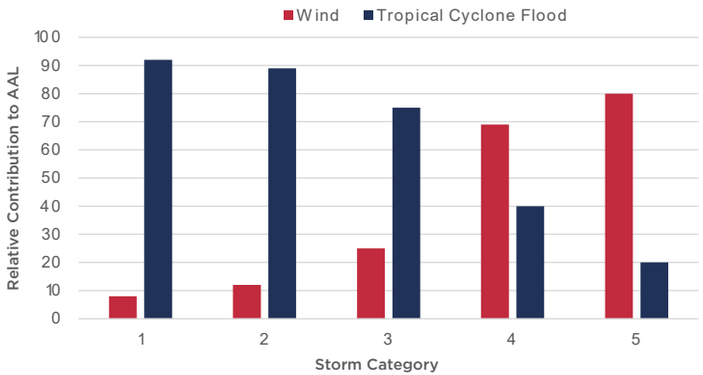


Fig. 2: Relative contribution to TC gross average annual loss (AAL) to the industry exposed to database (IED) by Saffir-Simpson category for topical cyclone flood (inland and surge) from the RMS Philippine Typhoon and Inland Flood Model (source Risk Management Solutions RMS)

Data from PAGASA indicates that across the country **47% of rainfall comes from tropical cyclones**, 14% from monsoon rains, and 39% from other weather systems. However, this varies significantly by region; **in the north of Luzon, over 90% of the total annual rainfall comes from tropical cyclones**, while in the **south of Mindanao**, the proportion is **barely 10%**. This means that there is a strong probability that **the Flood EAP** would be **activated** for a **Tropical Cyclone** inducing heavy rains, **leading to a 5-years return period flood** at least, particularly in Luzon island which is the most exposed to tropical cyclones.

It is worth noting that when it comes to tropical cyclones of lower categories, the rainfall causes relatively more damage and loss than wind: this outcome is reflected by Fig. 2 presenting the relative contribution of tropical cyclone flooding to average annual loss.

On another hand, there are extreme events not directly related to the occurrence of a Tropical Cyclone that could lead to an extreme flooding: non-typhoon flooding is **accounting for 20% of modeled average annual loss (AAL)** as per Fig. 2. For example, a Tail End of the Cold Front (TECF) contributed to heavy rainfall in North Luzon in December 2019, leading an extreme flooding event in the Cagayan river basin with an estimated 5-years return period.

In summary, the Flood EAP shall address flooding in major river basins, either induced by tropical cyclones or by non-tropical cyclone climatic events (monsoon rains, tail end of cold front, Low Pressure Area). While there is a high probability that tropical cyclones of lower intensity may induce a severe flood, with the Flood EAP being triggered, it is also possible that the higher categories of TCs (typhoon, super typhoon) will lead to both EAPs being triggered at the same time – for typhoon and for flood –when the predicted impact from wind on housing, and from rain on crops (see section 4), are reaching the respective pre-approved thresholds.

3.2 Target Locations

The most populated river basins, particularly in urban areas, have flood forecasting and warning systems (FFWS) already in place, staffed by PAGASA hydrologists, and have flood control infrastructure in place. However, for the majority of the river basins, there are neither any flood forecasting capacities nor an effective warning system in place. Moreover, even the better equipped FFWS don't do flood forecasting using rainfall forecasts, but rather do near real-time forecasting, based on rainfall and river level monitored in their river basin, allowing the dissemination of warning messages only a few hours before the flood occurrence.

The first targeted river basins for the early actions were determined by a set of criteria including number of people affected annually, number of people living in high risk areas, and the state of flood warning systems. As a result, the present EAP covers the following river basins: The **Cagayan river basin, the Bicol river basin, the Panay river basin and the Agusan river basin**. This selection is partly matching the AHA hotspots for casualties due to flood – See Fig 3.

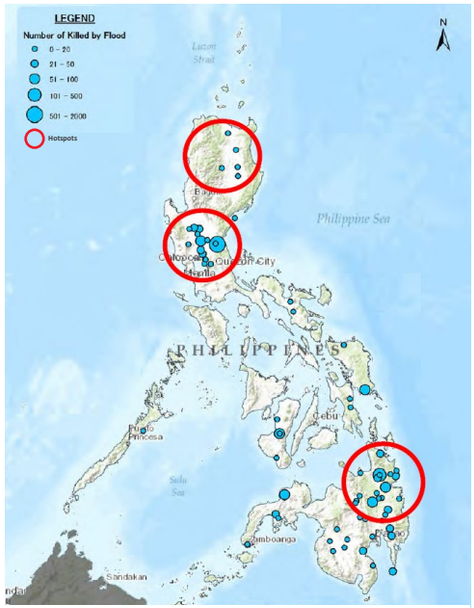


Fig. 3 Source: Country report Philippines (AHA Center, JICA, March 2015)

It must be noted that the highly urbanized areas with a functioning Flood Forecasting and Warning Systems (FFWS) (such as Pampanga, Agno, or Pasig Laguna de Bay) were not selected for the first batch due to the complexity of developing triggers in such context. However, they might be targeted by the EAP at a later stage.

3.3 Impact Analysis

Looking at the rainfall hazard– which can be associated to either the occurrence of tropical cyclones or the occurrence of extreme climatic events (monsoon rains, TECF) – the Northern provinces of the Philippines are logically more exposed to extreme rainfall, thus to the risk of riverine flooding.

The 510 database of the Netherlands Red Cross is confirming (see fig 4) a higher frequency of flood in: (i) **the Cagayan river basin**, (ii) **the Agno and Pampanga river basins**, (iii) **the Bicol river basin**, as well as in (iv) **the Agusan river basin** and (v) **the Mindanao river basin** and the southern island of Mindanao.

The main impact of floods in the river basins is on livelihoods: if flood hits rural areas, the main economic impact is on the **agriculture sector** (including fisheries) whereas when flood hits highly urbanized areas, the losses and damages are mostly bore by the **commercial sector**.

Urban flooding is a growing concern in the Philippines as **more than half** of the Philippine population is now **living in urban areas** according to the latest report by the Philippines Statistics Authority (PSA, 2015). Two recent studies are highlighting further the risks in cities:

- A research conducted by the risk analysis firm *Verisk Maplecroft* (2016) is **highlighting that 8 of the 10 most disaster-prone cities in the world are in the Philippines**, with among others the city of Tuguegarao in Cagayan being 2nd, Metro Manila 4th, the city of San Fernando in Pampanga 5th or Naga in Camarines Sur being 10th – **all four cities being highly exposed to flood risks**.
- Furthermore, a recent study published in Nature Communication journal is highlighting the impact of climate change on sea level rise which will affect the Manila Bay (including Bulacan province in Pampanga river basin) as well as "parts of Roxas and Iloilo cities in the Visayas, and Cotabato, Surigao and Butuan in Mindanao", thus increasing the possible effect of river flooding there.

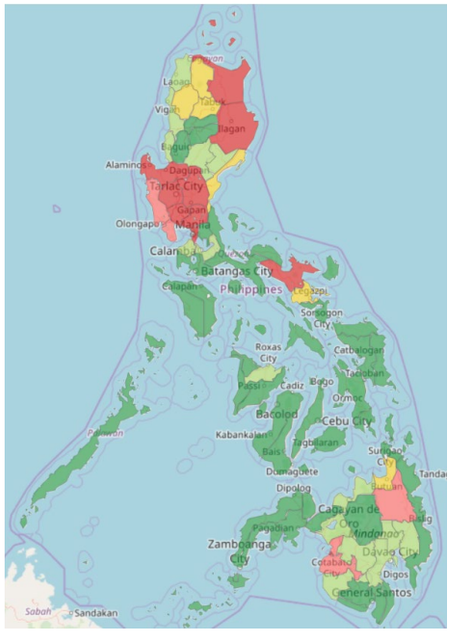


Fig.4 Source: 510 Dashboard

3.4 Sectoral Exposure

Flooding is affecting the economy of the Philippines every year. The monsoon season costs approximately **2%** of the country's **yearly GDP** on average, and another 2% is consumed by the recovery activities – a recurrent disaster trap which hinders overall economic development (Vidal, 2013).

Based on the analysis of historical impacts, the sectors **the most at-risk of floods** in the Philippines are the **agriculture sector** (small farms cultivating standing crops and high value crops, livestock, aquaculture), in addition to **small businesses and housing sector in the urban context**.

In the agriculture sector, the **rice and corn farmers** are among the smallest and most vulnerable in the country, and their output is essential to food security. On the other hand, it is estimated that half of the High Value Crops (HVC) farmers can be considered to be small and vulnerable farmers". Among HVC, banana and pineapple are export-driven and with intensive level of management. Ultimately, a particular care should be provided to farmers with farms of less than 1Ha as well as daily workers.

The **fisheries** subsector is providing employment to over 1.6 million people, 85% of whom are from the municipal fisheries (marine and inland), while the aquaculture sector employs 14%. Inland municipal fishing activities and aquaculture are regularly impacted by flood, with a significant loss of income caused by the suspension of fishing activities during any flood occurrence, by the reduction of catches, or in most extreme events, by the loss of the fish stocks, as well as the damage and loss of fishing equipment and cages.

With regard to **livestock**, the cattle production has a higher share (93%) in backyard systems (1 to 5 heads of cattle), while for both goat and carabaos, the production is at 99% in backyard farming. Backyard farming is an important source of extra income, savings and food (meat, milk, eggs) for vulnerable groups.

In an urban context, some research highlights that the most severely affected households in urban areas are those relying on **a single home-based business** (sari-sari stores, eateries, shoemaking, rug making, street vendors and tricycle drivers for example) as both equipment and inventory are often lost.

Informal settlers are especially vulnerable as there is often insecurity in tenure, they are cut off or lack basic services and city infrastructure and their housing may not comply with building regulations and are often situated in hazardous areas.

Thus, the main elements at risk in **urban centers** are (i) the one-storey houses legally built as well as illegal settlement and (ii) the commercial sector - more specifically the small enterprises who would lose their stocks, or production asset.

In addition to agriculture and small businesses in the urban context, floods can also have considerable negative impact on other sectors, such as access to **education, health, and infrastructure**. Number of casualties– and damages to houses – can also become more significant in the case of urban flooding.

Impact of floods will cause the displacement of population in evacuation centers for an extended time, leading eventually to:

- ***Disruption of education;*** *floods cause cancellation and disruption of classes due to either the physical damage to schools, the adverse effects on teachers, or due to the use of the premises as evacuation centers. In 2013, according to DepEd data, 16.3% of elementary schools (that is, over 5,000 schools) were flooded at least once. During TS Ondoy (Ketsana), more than 3,400 schools were affected by flood in the metropolitan area, and many others opened their doors as evacuation centres for displaced families.*

- ***Impact on Health;*** *this is a low risk in the Philippines, unless there is significant population displacement and/ or if water sources are compromised. In the Philippines, following the 2009 floods from Tropical Storm Ondoy (Ketsana), there has been a noted increase in the incidence of leptospirosis, mainly as a result of wading barefoot in flood waters.*

- *Finally, main* ***infrastructures*** *(transport, flood control systems, telecommunications, electricity, water supply and sanitation) are also systematically affected by floods. Impact on the transport sub-sector is mainly reported on the road network and bridges*

3.5 Vulnerabilities

In order to identify the vulnerable communities and households, two vulnerability indicators included in the 510 dashboard can serve as proxies for identifying most vulnerable farmers and fishermen, as well as the small businesses:

1. **The highest percentage of the poor** work in agriculture and forestry (52.49%) followed by fishing (8.83%), wholesale and retail trade (6.76%), and construction (6.55%). In more than 70% of poor households, the head is employed as a farmer, forestry worker, fisher, laborer, or unskilled worker. Hence, the poverty indicator can be used to identify areas where impact of a flood may be more significant;

2. **Pantawid Pamilyang Pilipino Program (the 4Ps)** is a social support program of the Department for Social Welfare and Development. The program provides conditional cash transfers to the poorest families with children who are under the age of fourteen at the time of registration (which takes place every four years). However, since it targets families with children under 14, there are many vulnerable households which do not qualify.

The 510 dashboard provides similar information at municipal level (for all 1,600 municipalities), which supports the pre-selection of the municipalities where to intervene in anticipation of a flood.

For access to 510 dashboard go to: https://dashboard.510.global

3.6 Prioritized Impacts

The **prioritized flood impacts** that PRC wants to mitigate through a set of anticipatory actions are:

- the loss of income of vulnerable farmers and fisherfolk (aquaculture)
- the losses of stocks/assets of small enterprises (in urban context)

Looking at the possible impacts of extreme flooding in the targeted river basins, preventing the loss of lives is a priority but does not require a specific Early Action as the improvement of flood forecasting capacities – through collaboration with PAGASA flood forecasting centers (in Cagayan and Bicol) or with PDRRMO (Agusan, Panay) – shall eventually benefit to the Early Warning procedures in the targeted river basins, and consequently to the timely pre-emptive evacuation of the population at-risk.

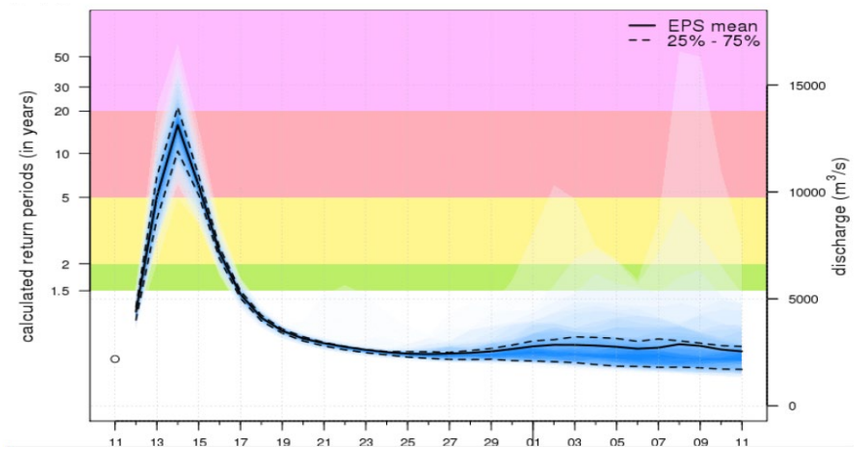
Preventing damage to vulnerable houses in urban settings and preventing its immediate consequence (prolonged displacement of population in evacuation centers) is not prioritized in this EAP as it would require long term structural mitigation intervention, either through retrofitting of the houses which are the most vulnerable and exposed to floods, or through relocation programme for the exposed illegal settlements.

Finally, impact of flood on infrastructures (roads and bridges) is also requiring a longer-term mitigation intervention, and cannot be addressed by this EAP.

Trigger Model

Now we know what sectors we are going to target and what are the prioritized impacts, we should also define when it is critical to act.

4.1 Trigger Statement



GloFAS forecast such as this one issued for Cagayan river basin during typhoon Ulysses (Nov 2020)

The trigger of flood Early Actions for the targeted river basins will consist of two stages.

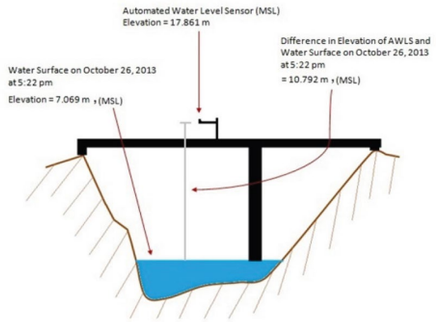
Flood forecasting in the Philippines is very limited and mostly near-real time. To date, PAGASA has established 5 Flood Forecasting and Warning and Warning Centers in the country, but none of them is considering using rainfall forecast to anticipate major flooding in their target river basin.

The Global Flood Awareness System (GloFAS) has reporting points in all the 4 river basins covered by this EAP and GloFAS forecasts at 5, 4 and 3 days will be used for pre-Alert, Alert, as well as trigger stages. Looking at the uncertainties around the GloFAS forecasts for anticipating a 1 in 5 years flood events in the targeted river basins, it is proposed to trigger the early actions using GloFAS forecasts when the probability of reaching the 5 years return period is **more than 70%**.

The 24h accumulated rainfall forecasts of the ECMWF at 3 and at 2 days will be compared to the values leading to a 1 in 5 years flood event (in table 4) for learning purpose only, then can be used for predicting the flood extent and where the impact on crops will be the most critical.

Name of River Basin	24h Rainfall value leading to 1 in 5 years flood	Water level threshold
Cagayan	200mm	12.24m (Buntun bridge)
Bicol	240mm	4.54m (Kinale bridge)
Panay	273mm	7.4m (Dao bridge)
Agusan	175mm	7.3m (Talacogon bridge)

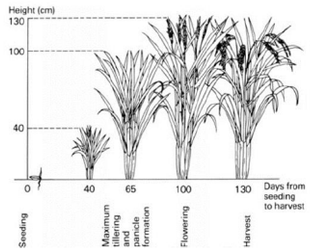
Table 1



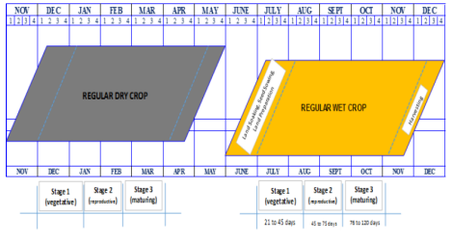
[1]PRC FbF team is using three different flood models: HEC-HMS and HEC-RAS in Cagayan and Agusan river basins, RRI in Bicol river basin, PRINS (Flo2D) in Panay river basin, which help predicting a discharge measure that can be either translated into a water level at certain cross sections of the river, or associated to pre-run flood extents

4.2 When is the impact deemed critical?

While flood and rainfall forecasts allow us to predict the possible flooding extent, anticipating the damage on crops allows us to predict where impact is deemed critical. This, in turn, is connected to growth stages of crops.



In terms of monetary value, **crops under stage 2 (reproductive) cause the highest monetary loss** compared to the other two stages. The farmers usually harvest even if the rice paddy is not fully matured to prevent untoward events from totally damage their standing crop. In the event that they fail to harvest before the flood events, by practice, they still harvest even after the floods to save what they can from their rice paddy. In terms of pricing on the said crop, buyers will then classify it into **wet** and **dry**, with price almost divided by three if wet.



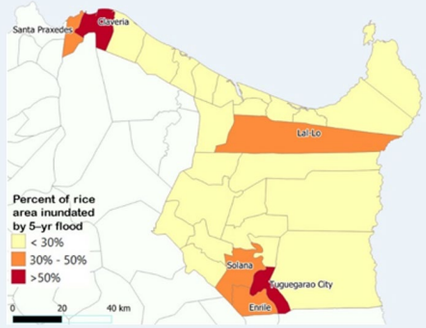
The discussions with provincial partners have highlighted that a loss of between 30-50% of crops at a municipal level is considered as critical. Such impact is recorded in all river basins for a 5-years return period event (see maps).
The comparison of the impact curves shows that a 24h rainfall (leading to a 5-year flood) has a different impact on crops in each river basin– but all river basins record impact of more than 30% of rice which is where the early actions may be implemented.

Map of Targeted Areas

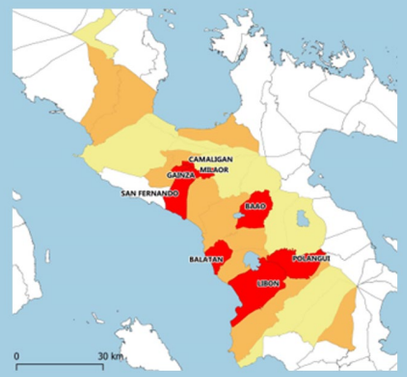
In order to define where to implement the anticipatory actions, the main data that will be used is the crop extent for season 1 and season 2, available on Philippine Rice Information System (PRISM): this layer will be overlaid with predicted flood extent and will provide percentage of crop being at risk, at a municipal level.

While most riverine Local Government Units (LGUs) are affected by some degree of flooding on an annual basis, there are certain municipalities/ barangays that are particularly exposed in the targeted river basins, where the height and duration of the flood can affect more significantly farmers and small businesses during critical flooding events. Below are the maps identifying the most flood-prone municipalities in the target River Basins, ranked according to the % of crops that would be flooded by 0.5m **for a 5-year return period** flood, using the PRISM data from 2019 (2nd season). **These maps will have to be regularly updated based on latest PRISM information.**

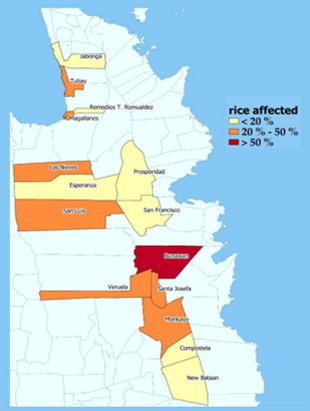
Also, the predicted impact on crops cannot inform on where to implement early relocation of small businesses in urban context: additional information will be used in the urban barangays, particularly % of population possibly affected by a 5-years flood and the density of small businesses.



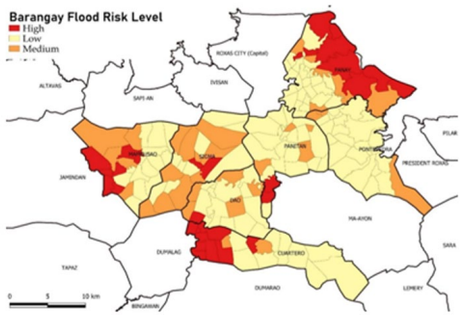
% of crops affected by a 5-year flood in Cagayan river Basin



% of crops affected by a 5-year flood in Bicol river basin



% of crops affected by a 5-year flood in Agusan river basin



Map of Barangays categorized by % of crops flooded under 0.5m of water in Panay river basin

SECTION 5

Selection of Early Actions

The proposed early actions were selected in an extensive consultation process with selected provinces to address the main flood impacts in high risk areas and were based on their feasibility and relevance. Moreover, Theory of Change (ToC, see Annex for further information) was used to identify possible Early Actions.

5.1 Early Action Selection Process

The identification and prioritization of the flood Early Actions involved a total of 8 provinces in 4 river basins. The process consisted in 3 successive steps:

» **First,** the team organized a series of workshops with the selected PRC chapters and their respective government partners, allowing the participants to identify past flood impacts in their respective provinces and to identify possible Early Actions using the Theory of Change.

» **Second,** focus group discussions and key informant interviews were conducted in the respective provinces to gather more evidence and to validate the choice of the identified early actions.

» **Finally,** simulation exercises allowed the testing and validation of the planned Early Actions. One simulation was conducted in livestock evacuation and one in early harvesting of rice and the relocation of micro businesses.

In addition to the simulation exercises, a dedicated consultation process took place for determining the specific Early Action for urban flood context with **core group members** from the target cities.

5.2 Chosen Early Actions

Early Harvesting

In order to minimize the loss of income of farmers and fishermen, **early harvesting of matured crops and/or fishes** is considered as the priority Early Actions:

- **The early harvesting** may vary per context and need but shall contribute to **reduction in loss of income** of farmers and/or fishermen (in the aquaculture sub-sector).
  - **Early harvesting of rice or corn** can be considered only **towards the end of the cropping seasons**, preferably when crop is matured. With adequate resources such as manpower, manual harvesters, and trucks, the harvest can be possibly done and stored **ahead of the flood** (-2 day and -1 day before peak of the flood).
  - For rice and corn, **manual harvester will be rented**. It is a modern and efficient way of harvesting rice that provides farmers with comfort in operation, with less manual labor needed and allows them to complete the harvest in a short duration of time.
  - Early harvesting of **High Value Crops (HVC)** can be done **any time of the year**. High value crops are crops other than traditional crops, such as fruits and vegetables. Once HVVs are matured, they can be harvested.
  - **Harvesting of fish** can also be considered in **aquaculture farms** exposed to flooding and may target those fish that can be sold immediately to the market.
- In order to implement this early action, teams of at least 10 workers will be hired on day -2 and possibly on day -1 to contribute to the harvesting **of 1-2 farms per day**.
- Renting of trucks is another support considered for early harvesting. This is to be used to transport the crops/ fishes into the designated post-harvest facilities.

Livestock Evacuation

The second Early Action that would help minimizing loss of income of farmers is the **evacuation of livestock.**

See Livestock Evacuation Guidelines for detailed instructions for how evacuation of livestock is to be conducted.

- Livestock evacuation aims to target the LGUs where the distribution of swine and cattle in backyard farming is significant, and where a safe evacuation area can be pre-identified.
- **A Barangay Animal Evacuation Team (BAET)** must be formed in peace time and mobilized during activation to help the evacuation and the monitoring of the livestock evacuation area.
- The Early Action consists of installation of a **safe evacuation space for livestock** (near evacuation centers for human), with partitions for swine, goat, carabao and cattle, and with provision of food and water for maximum 3 days (if the flood would be prolonged, it is expected that the owner will be able to provide food).
- Cost of the equipment for the temporary pen, and material needed (for tagging the animals) is estimated at 40,000 php per pooling area.
- On day -2, the chapter will hire **teams of 10** farmers (or fishermen) at least for each identified livestock evacuation area, to support the installation of the temporary pen for the animals – including roofing.
- Then, the latest on day -1, the livestock evacuation at the safe place can proceed. An estimated 150 heads can be evacuated per barangay in 1 or 2 pooling areas.

Temporary Relocation of Vulnerable Businesses

In relation to the second main impact identified – e.g the economic losses for micro businesses in urban settings – the selected early action is the temporary relocation of vulnerable businesses – and will target in priority those **businesses selling basic necessities and prime commodities**, specifically **micro businesses** which are defined by those with an asset size equal to or less than **PHP 3 million** and employing one to nine workers. To implement this early action:

- **Temporary marketplace** needs to be identified in a safe area, in coordination with local authorities. This will allow vendors/micro businesses to continue selling basic necessities during flood events, which helps mitigate their economic loss. Tables and tents will be purchased, wherein goods will be placed

- Truck or minivan will be rented to transport the goods. In addition, a team of 5-10 workers will be hired to support in evacuating the products and setting up the stationary temporary marketplace. Division of roles and responsibilities for the evacuation team needs to be determined in advance, see further instructions in Section 7.

- On the other hand, depending on the context and applicability, mobile market instead of a stationary temporary marketplace, can be an option. Mobile market can have the advantage of moving around, as long as roads remain passable, which allows to reach out to more people. Appropriate vehicle needs to be rented, in which goods will be placed.

- Temporary relocation of micro businesses shall be done on day -2.

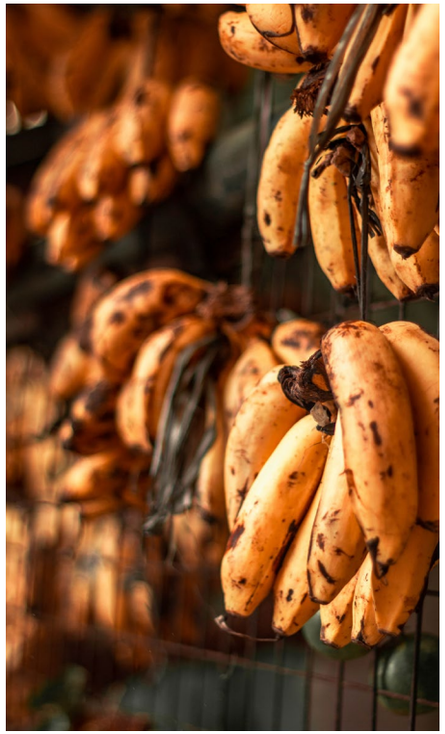
Finally, **Cash for Work** is a cross-cutting intervention in all the early actions identified. It provides temporary work by mobilizing the community into the different early actions, like early harvesting, evacuation of livestock and assets, and relocation of micro businesses.

- In exchange for the work rendered, target beneficiaries will be provided with cash. Workers will receive a service contract by the chapter. The cash should cover for basic necessities.

- It is proposed to provide a lump sum of **1,000.00php per person** (around 19.00 CHF), for 2 days of work – this corresponds approximately to the price of a bag of 25kg of rice.

- It is expected that at least 50% of these workers will use the cash ahead of the flood, to purchase food or medicine.

Optional: Evacuation of farmers and fishermen assets can be proposed. Evacuation of these assets can ensure that the most vulnerable farmers and fishermen still have resources to use after the flooding event, in order to resume their livelihood activities as soon as possible.



5.3 Analysis/Consequences of acting in vain

Partners and stakeholders involved in the development of this first EAP for flood raised repeatedly their concerns about acting in vain:

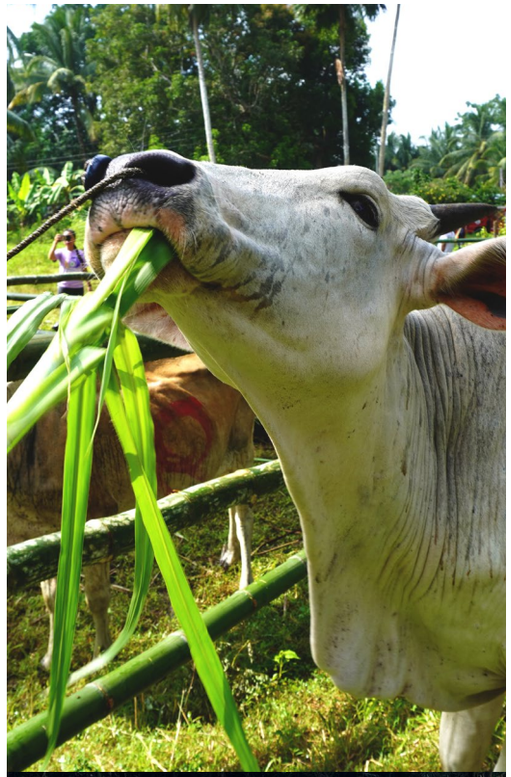
- People will not easily trust the weather or impact forecast the next time;

- People might be dependable and demand for an assistance whenever an event will occur, even if not an extreme event.

On the other hand, even the event will not occur, the proposed early actions will still benefit the most vulnerable households in the high-risk areas. For the cash for work, cash provided will be used in securing daily basic needs of the targeted households, while the work will still be relevant, as there will be no disadvantage seen:

- ✓ Early harvesting of rice or corn will also have no negative impact on prices, considering that both commodities are being imported in the Philippines and demand is not met by national production;
- ✓ Evacuation of livestock (done in vain) might stress the animals for a short time but are not expected to create any long-term negative impact. Besides, as demonstrated during the simulation exercise, the animals that are pooled in the safe evacuation place can be examined by the Office of the Provincial Veterinary, and receive some medical supplies, which benefit in fine to the farmers.
- ✓ Other work, like temporary relocation of micro businesses, will also not hamper the normal activities of beneficiaries more than a few days.

Simulation exercises showed that all of the Early Actions need thorough discussion and orientation with the beneficiaries in targeted areas in order to inform on the purpose of the anticipatory intervention. Assistance should not be seen as a long-term solution to the needs of the communities but only addressing the possible impact of an extreme event that is predicted to happen, on the most vulnerable population



Beneficiary Selection

Prior (of lead time)

- Gathering of secondary data of the most 'at risk' areas from PDRRMO, PPDO, MDRRMO, BFAR, DA, OPAG, MPDO, DSWD, etc.
- Meta database of the most 'at risk and most vulnerable households

Within lead time

- Screening of households from the meta-database
- Finalization of beneficiaries with barangay committee
- Beneficiaries' orientation including registration

Due to the short lead time for intervention (2 days) the beneficiary selection takes place in two stages: prior to the lead time and within the lead time.

Prior to the lead time, the FbF project is short listing 5 to 6 municipalities most at risk per province, using the following indicators:

- Impact of past events on businesses, livestock and crops
- Frequency of disasters
- Poverty incidence
- Number of 4Ps
- Income class

Then, within these shortlisted municipalities, the team identifies **most at-risk barangays** with similar criteria. Within each municipality, around 20 % of barangays (or minimum of five barangays) should be shortlisted.

After the most vulnerable communities have been mapped, the chapter **needs to pre-identify** beneficiaries using the following set of criteria to identify which households to support (this pertains to both the early harvesting actions, as well as the urban flood EA):

CASH FOR WORK*

Farmers and Fisherfolks:

- Tenant – those not owning the land but cultivating it; giving either cash or percent of their product as rent for the land
- Labourer – unskilled worker hired and paid in a daily basis
- Poor household (thru 4Ps)
- HH with more than 5 children
- HH with disabled member
- HH with elderly member
- Single-headed household with dependent children
- Female-headed household with dependent children
- Minor-headed household
- Native or indigenous tribe

EARLY HARVESTING*

- Preferably less than 2 hectares (or depending on the agreement with the BarCom)
- Accessible from the main roads (optional if manual/ combined harvester will be used)

*All criteria must be met

RELOCATION OF VULNERABLE BUSINESSES

- Vendors selling perishable goods
- No other permanent source of income in the household (such as employed w/ fixed salary)
- With no big assets such as vehicle for transportation, and major equipment (aircon)
- With financial asset of less than Php15,000.00
- Residents of the high-risk barangay for at least 6 months
- Store with weak structure (made of wood that can easily wash away by floods)
- No insurance or access to insurance

LIVESTOCK EVACUATION*

Any farm or household with any of the following conditions:

- 1–20 heads of adult livestock and zero young;
- 1–40 heads of young animals;
- 1–9 heads of adult and 1 – 21 heads of young animals

It is expected that this list of beneficiaries will be submitted during the preparatory phase to a barangay committee (BARCOM) – see terms of reference of the BARCOM in Annex 5 – then one more time for validation/quick update on the day of activation.

Implementation Process

There are 3 phases for the implementation of FbF: Preparatory, Activation of Early Action, and Evaluation.

PEACETIME UNTIL DAY -4

DAY -4 UNTIL DAY -1

IMPACT

AFTER IMPACT

PREPARATORY

Done during peacetime and ends once trigger is confirmed.

Includes actions for both national headquarters and chapters to be prepared during activation, such as risks analysis, development of trigger models, pre-positioning of items, formation of core group, collection of impact data, shortlisting municiaplities, prioritizing barangays, formation and orientation of Barangay Committee, etc.

ACTIVATION OF EARLY ACTION

Starts as soon as trigger is confirmed and before impact happens

Funds are transferred to the target chapters. Chapters need to initiate the early actions, from validation and finalization of beneficiaries, and then implementation of early actions.

Preferably, early actions should be completed in **2 days**.

EVALUATION

Immediately after the impact

We need to do the 2 rounds of evaluation: 1st is a *quick ocular survey in the communities* to check their condition and as well our early actions, and *2nd round of evaluation is the impact assessment survey* which is to be done 3–4 weeks after.

PHASE ONE

Preparatory Actions

Readiness
The costs related to preparatory actions are related to the upkeeping/maintenance of the EAP for a duration of 5 years (or less if there is an activation). It is proposed that the costs of refresher trainings (per river basins) and of the beneficiaries' shortlist updating (for each chapter), once a year, are included in the EAP budget – see detailed budget in section 8.

1. Core Group Formation

Core Group formation: In order to guarantee smooth implementation of early actions, it is important to coordinate with the relevant government units. The Early Actions should be selected in a collaborative manner at provincial level, and all details must be agreed by all key actors involved. Consequently, a core group must be established at regional and provincial levels. The core group in each targeted zone is expected to provide the necessary technical guidance to concerned chapters in developing and implementing the EAP, to make sure that actions are adhering to existing national policies and guidelines; and it is appropriately complementing with them and to assist, in any possible ways, during activation.

2. Data Analysis and Shortlisting Municipalities

While the 510 dashboard helps identify vulnerable locations, a meta database needs to be created by the Chapters to understand local vulnerabilities. First, we need to understand previous disasters per provinces and identify municipalities greatly impacted. Then, prioritized municipalities need to be further shortlisted by analyzing the impact of past events on housing and crops, frequency of disasters, poverty incidence, number of 4Ps, income class, and others. Information about past disasters can be collected from

NDRRMC (SitRep) or in PDRRMO. Five to six municipalities per province should be shortlisted by each Chapter involved in EAP implementation. Shortlisted municipalities are made aware of the EAs, the Philippine Red Cross and its main services and principles of the Movement. Shortlisting is important as it helps to save time when EAs are activated. Moreover, data analysis complements the work of other services of the Chapter, as prescreening areas at risk contributes to the overall service delivery.

3. Barangay Prioritization

After municipalities are shortlisted, the most vulnerable barangays within those municipalities need to be further prioritized. Prioritization is done based on the number of poor, history of past disasters, income classification, geographical description and other specified factors. For each barangay, a suitable early action is identified in advance. In order to do this, data should be gathered on:

- *Early Harvesting:* Main Crops, Number of farmers, and percentage of land for that crop
- *Livestock Evacuation:* Number of livestocks, number of livestock owners and evacuation site

For the temporary Relocation of vulnerable businesses, a dedicated mapping activity will be implemented in each targeted cities.

4. BarCom Formation and Preselection of Beneficiaries

After barangays have been prioritized, next step is to pre-identify possible beneficiaries for the early harvesting, relocation of vulnerable businesses, livestock evacuation and cash for work. PRC Chapters should do this in a participatory community consultative process, through the BarCom. They play an important role in ensuring transparency and accountability of PRC's engagement at the community level. It is important to guarantee that the stakeholders at barangay level understand that EAs will not necessarily be implemented every time there is a forecasted extreme rainfall, but only if the trigger is reached.

Different steps with BarCom shall be undertaken as illustrated in the diagram above.

Step 0. PRC Chapter setting up coordination meeting in the barangay with key leaders and sectoral representatives. **Step 1.** First formal engagement in the barangay wherein PRC is introduced and the purpose of BarCom. **Step 2.** Through defining past impacts, it will help in identifying appropriate early action/s in the barangay. **Step 3.** Will define criteria of the most vulnerable households who should be targeted (priority and less priority) by the selected early action/s. **Step 4.** Will initially identify households possessing the defined criteria. **Step 5.** Selection of BarCom members. **Step 6.** Based on the list of households generated from *Step 4,* PRC Chapter with the BarCom need to fill in the Household Database. **Step 7.** There should be 3 days to 1 week posting of the household names from the Household Database for community validation. Any concerns shall be taken up, reviewed, and validated.

Output: Pre-final list of beneficiaries

Meta database should be used for shortlisting municipalities, barangays, and households, the Meta database should be used by the PRC Chapters. It is an excel file document which requires many relevant details on the exposure, capacity, and vulnerability which supports the identification of high-risk areas and households. It also includes some logistical details which will support the chapter in preparing for the early action.

Completing the entire document might take 3 – 6 months of work and requires consistent mobilization of at least 2 volunteers. Though, it might take longer or shorter depending on the number of shortlisted areas and also availability of resources such as manpower (volunteers), vehicles, etc. used by the PRC Chapters. It is an excel file document which requires many relevant details on the exposure, capacity, and vulnerability which supports the identification of high-risk areas and households. It also includes some logistical details which will support the chapter in preparing for the early action.

5. Simulation Exercises

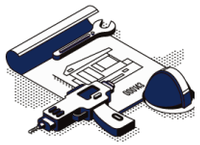
In order to guarantee smooth implementation, EAs need to be practiced in advance with chapter, LGUs, and other stakeholders, BarCom, and target beneficiaries. Simulation exercises are a great way to bring stakeholders together, clarify roles and responsibilities and identify possible weaknesses or special needs for each early action.

6. Orientation of Chapter Volunteers

It is essential to guarantee that chapter volunteers are aware of the early action implementation in order to guarantee sustainability of the activation and the management of the EAP. It has been estimated that at least thirty chapter volunteers should be oriented about FbF and Early Actions to make sure that there are enough capacitated volunteers available in case of activation.

7. Mapping Suppliers

Suppliers for different items and services need to be mapped in advance to guarantee availability when activation takes place. Suppliers of the SSK items, harvesters, vehicles for transportation of SSK items, livestock, harvested crops, and also for deployment of volunteers, need to be identified in peace time and chapter can enter into a MoA/MoU with the suppliers.



8. Prepositioning of livestock evacuation IEC and an activation toolbox

Each of the eight provinces included in the Flood Pocket EAP will receive 128 Livestock IEC's, which can then be distributed to LGUs where livestock evacuation is deemed relevant.

In addition, an activation toolbox with items including a big light stand, a flashlight, gloves, raincoats, first aid kit, aprons, and waterproof bags will be purchased by the NHQ and prepositioned in the chapters to support the anticipatory actions of the volunteers.

Preparatory Actions for Livestock Evacuation

Identification of possible safe livestock evacuation/pooling area: The evacuation site should be identified in advance. It should be located in an open and elevated location, away from any hazards, with natural vegetation and water resources, that is also near human evacuation site. The area should preferably be owned by the government or a MoA should be signed with the owner to guarantee usage when needed.

Creation of Barangay Animal Evacuation Team (BAET): a team for animal evacuation should include a stockyard boss, record keepers, heard health technicians, people in charge of nutrition, water & sanitation, and logistics and security.

Transport supplier/Trucking: Pre-identification of transportation vehicle for large animals (truck, livestock carrier or sled).

Preparation of on-site materials: suppliers for ropes, water containers, tagging materials, temporary fencing materials, veterinary medical kits among other materials need to be pre-mapped.

Preparatory Actions for Relocation of Vulnerable Businesses

Identification of a temporary marketplace: A temporary marketplace location needs to be identified in advance through a mapping activity. Alternatively, the LGU may opt for a mobile market.

Pre-identification of a vehicle provider: Prepare a MoU/MoA with the supplier to guarantee availability.

Creation of Assets Evacuation Team: An evacuation team with specific roles and responsibilities needs to be created in advance to guarantee a smooth process for relocating vulnerable businesses once activation takes place. The team consists of:

- Logistics officer(s)
- Record Keeper
- Health and Safety Officer
- What else?

Agree with the LGU about the procedure for returning the assets: As the Early Action Protocol only covers actions taken *prior* to the impact, it cannot cover for activities that take place after the flood. Hence, it is important to endorse the responsibility for returning the assets to the LGU in question and prepare procedures for how they will return the assets to the original marketplace after the flood has subsided.

Actions from day -5 to day -3 (Alert Stage)

This section explains what happens when there is a forecasted flood, flood early actions are activated, and chapters need to start the implementation of the flood EAs.

GloFAS forecast will ideally be used for alert stage, 5 days before flood peak to provide a pre-alert for Agusan, Panay and Cagayan river basin chapters. Corresponding Flood model will then be applied to respective river basin with ECMWF rainfall forecast every 12h, till 48h prior to extreme rain event to see if the rainfall reaches a certain limit.

ALERT MESSAGE

shall be sent to the concerned chapter(s) 72h before predicted extreme rainfall, which means that the peak of the flood might happen some time after – up to 12h later in the longest river basin.

VOLUNTEER ORIENTATION

The orientation of volunteers on planned Early Action(s) must be done on day -3 by the chapter(s), in line with the needs identified with the shortlisted municipalities and barangays.

VERIFYING THE AVAILABILITY OF:

- transport (for volunteers, transportation of harvested crops and relocated assets)
- the availability of fencing and tagging equipment for livestock evacuation
- the readiness of the BAET and more importantly the accessibility of the targeted LGUs (chapter may report to NHQ on the status of targeted LGUs).

COORDINATION WITH LGUs

The concerned chapter is expected to share information on the possible activation with provincial partners – if possible, at the provincial Pre-Disaster Risk Assessment (PDRA) meeting – and enquire if they can assist the implementation of the Early Actions.

PREPARATION OF NECESSARY MATERIALS

Preparation of documents and forms, such as beneficiary card, distribution sheet, service contracts, MAABs, attendance, etc. for the possible activation of early action. Preparation of a draft activation budget with an excel file also needs sent by HQ (indicating how the activation budget must be shared between procurement, cash for work, volunteer allowance, etc.)

REVIEW OF META DATABASE AND PRIORITIZATION OF AREAS

The concerned chapters shall review the prepared meta database. Based on the completeness of the data, it will help the chapter to easily identify which municipalities and barangays are to be prioritized and what specific early actions are to implement.

It must be noted that the preparation for the Early Actions is part of a broader work of the chapters. Usually, chapters would also assign staff and volunteers in a number of tasks such as Health and Welfare, evacuation, assessment, WASH and Logistics, Search and Rescue, or Ambulance service, and would also be mobilized on the preparation of the possible response (post disaster). FbF can be complementary from the work of the assessment, the logistic or the evacuation teams, and shall contribute to the preparation of the response with the pre-screening of most at-risk LGUs and the impact forecasts.

PHASE TWO

Activation Stage

(Actions from day -2 to day 0)

TRIGGER
(ACTIVATION PHASE STARTS ON DAY -2)

Once the technical advisor confirms that the predicted impact is reaching the trigger level (with the use of 2 days rainfall forecasts from ECMWF), a message is sent to the concerned chapters to confirm the activation of the Flood EAP. Please note that the time between the extreme fain fall and flood peak varies depending on the individual characteristics of different river basins.

For example, in Agusan river basin there may be approximately 12 h in between the extreme rainfall and the flood peak, which gives some additional buffer time for the chapters to implement early actions, while for other river basins it may be less.

Due to the short leadtime, there is no stop mechanism. Nevertheless, it is possible to re-assess the predicted severity of the flood, once EAP has been activated, and adjust the early actions on the second day of the activation – for example the livestock evacuation can be stopped if the threat is not confirmed anymore.

CONFIRMATION WITH THE LGUs AND BENEFICIARY VALIDATION

The chapters that are concerned by the impending event must confirm the selection of LGUs for the intervention and prepare the list of beneficiaries for the most at-risk barangays. They inform the concerned barangays of the confirmed intervention and set a meeting with the barangay committee (BARCOM), in each target barangay, to confirm the beneficiaries list (farms, businesses in urban context) as early as possible on day -2.

Implementation of the EA shall be completed the following day (day -1), or as long as the flood hasn't reached its peak in the targeted LGUs and rain is not preventing the intervention.

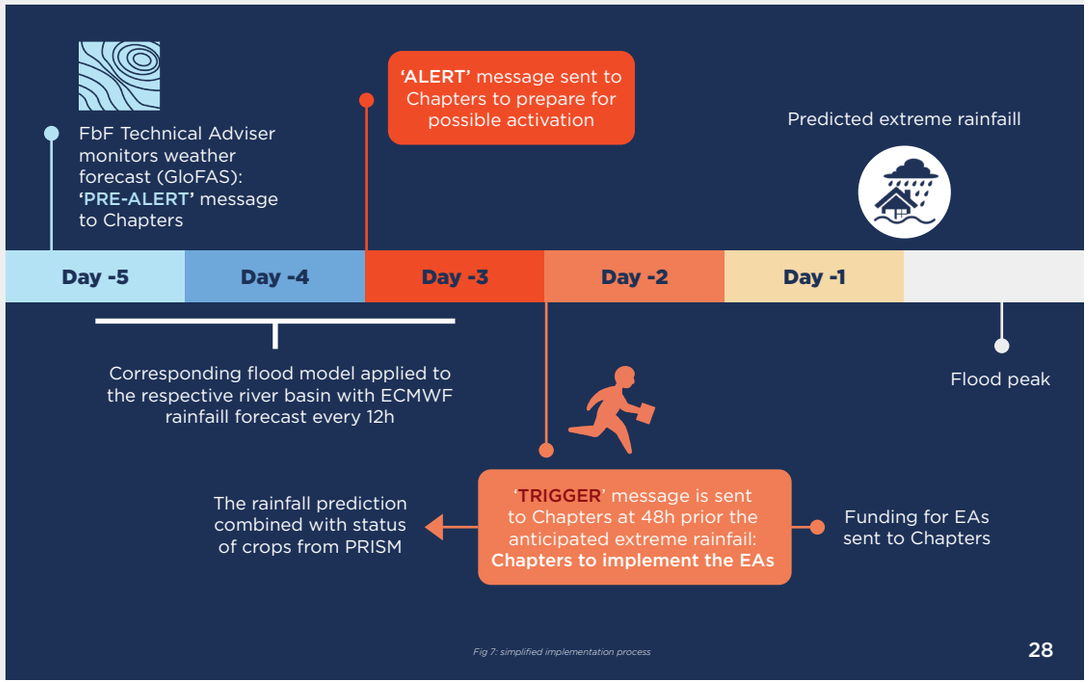


Fig 7: simplified implementation process

PHASE THREE

Monitoring, Evaluation, and Learning

It is crucial to collect information about the implementation and the impact of the FbF, in order for the FbF project team at the NHQ to be able to assess and refine the EAP. Every time the EAs are activated, the lessons learned are compiled to refine the EAP.

Key Information to be Monitored

Key information that shall be monitored are the following:

- Trigger level,
- List of beneficiaries submitted to the barangay validation committee (and approved)
- List of beneficiaries having received the support
- Consistency of the support with the plan (amount received, material provided, timeliness of the intervention)
- Feedback from the beneficiaries on the intervention (through a meeting, tentatively a month after the activation, depending on the situation on the ground)

Chapters need to secure the following:

- Impact forecasts (510 maps)
- Copy of the alert and trigger messages sent by OpCen
- Beneficiaries lists, cards and award distribution sheets
- Cash for Work Documents: service contract, acknowledgement receipt, attendance sheet, and ID/Bio-data

Assessment of Impact

There will be 2 rounds of assessment that chapters need to do after the impact.

- First is a ***quick ocular survey in the communities*** where early actions were implemented. This can be part of the Rapid Disaster Assessment and Needs Analysis (RDANA) of PRC, which is being done in the first 24–72 hours after onset of disaster. For FbF, the purpose of which is to see how the early actions were implemented, how many were targeted, are those targeted still impacted, and the overall immediate impact of the early actions in the communities.
- Second is the ***community impact assessment***. Its purpose is to measure the impact of the typhoon early actions. It is important to estimate how the intervention has changed the status of the beneficiaries of the early intervention in affected areas, compared to affected people who didn't receive the support. The FbF team will do this assessment with staff and volunteers from the concerned chapters few weeks after the intervention.
    - Damage and impact assessments (with ODK), random for 20% beneficiaries, in addition to similar number in non-intervention communities;
    - Narrative summary report

After Activation Review

Debriefing after the activation will be organized as soon as possible with the chapter. The de-briefing involves the FbF team and DMS, as well as the core group members in the targeted provinces. Also, an **'After Action Review'** will be organized to present the results of the damage and impact assessment as well as the evaluation of the intervention.

Both Impact Assessment and After Action Review will support the **updating and the improvement of the flood EAP**, looking critically to what went well and what challenges are faced in the preparation phase (from the prepositioning to the alert, on day -4), the triggering process, and the implementation of the Early Actions.

Budget

This section looks at the budget that is available for PRC Chapters before typhoon forecast and after activation.

Readiness Costs

	QUANTITY	UNIT COST	TOTAL (Php)
Refresher training for each river basin (yearly)	20	85,000.00	1,700,000.00
Update of beneficiaries' lists (yearly)	40	40,700.00	1,628,000.00
TOTAL readiness (php)			**3,328,000.00**
FbF toolbox	8	32,345.00	258,760.00
IEC livestock	1000	120.00	120,000.00
Visibility	320	650.00	208,000.00
TOTAL prepositioning (php)			**586,760.00**
Grand TOTAL (php)			**3,914,760.00 php**

The budget considered for readiness and prepositioning is amounting 74,380.44 CHF.

Early Action Activations Costs

Cost of activation are estimated for the worst case scenario when 3 chapters would have to activate, either in one river basin (Agusan river basin) or in two river basins (possibly Bicol and Panay RB).

	QUANTITY	UNIT COST	TOTAL (php)
Truck rental for EA (3 per chapter, for 3 days)	9	45000	405,000.00
Transport (RC staff) - for 4 days	18	24000	432,000.00
CFW – Relocation micro enterprises	45	5000	337,500.00
Vehicle (rolling store) rental for 3 days	36	15000	540,000.00
Tent and table (10 per temporary market)	90	5000	450,000.00
Table and boxes (per rolling store)	36	2500	90,000.00
CFW – early harvesting (team of 10 for 2 days)	36	10000	360,000.00
Manual harvesters rental (for 2 days)	72	10000	720,000.00
IEC printing livelihood	1000	20	20,000.00
CFW – livestock evac. (team of 10 for 3 days)	36	15000	540,000.00
Forage and water (for 3 days)	36	40000	1,440,000.00
Corral & tagging equipment	36	40000	1,440,000.00
Insurance for workers	2475	225	556,875.00
Volunteers allowance (for 4 days)	90	1200	108,000.00
Banners, meals, communication (per chapter)	3	16000	48,000.00
COVID additional protection	3	213750	641,250.00
Post distribution survey & After Action Review	1	315000	315,000.00
Grand TOTAL (php)			**8,443,625.00 php**

The cost of activation is estimated at 160,429 CHF.

Activation Checklists

EARLY HARVESTING ACTIVATION CHECKLIST

WHAT	HOW	WHO IS IN CHARGE	RELEVANT DOCUMENTS	COMPLETED
Hire a team of workers and validate the beneficiary farms (based on the vulnerability criteria and the stage of the crops)	Hire a team of at least 10 workers from the target/nearby barangays for early harvesting. It is estimated that it takes about a day/10 worker to harvest 1 HA. Workers can be a tenant, laborer, or fishermen or low those receiving low daily/monthly income. Only choose farms where the crops have developed.	Staff, volunteers and BarCom		
Fill in forms	For beneficiary HH/workers: • Insurance form (MAAB) • Take a photo of their one (1) valid ID • If they don't have a valid ID's: • Insurance Form (MAAB) • Take a photo of their one (1) valid ID w/ signature. • If they don't have a valid ID's: - First, workers should fill-out the Bio-Data - Then, take a photo of the worker. Lastly, BioData should have signed and verified by Brgy. Captain • Fill-out one (1) service contract per Team. Composed of by (1) Team Leader and (9) Members • The Team Leader (TL) is the one who signs the contract.	Staff, volunteers, BarCom, and workers	MAAB Service Contract (per team) ID/Biodata	
Go through (i) reaping the crop, (ii) hauling the cut crops to central location for (iii) preparing bags of paddy	To fasten the process of harvesting, threshing and cleaning are not included in early harvesting of rice within the lead time. For abaca, the workers can either do (a) tumbling and store it in safe locattion, or (b) trimming of abaca leaves. Then assigned person should count the number of tumbled/trimmed abaca trees.	Workers (with guidance from staff, volunteers and BarCom)		
Transport the cut crops to a storage place	The cut crops need to be transported to a safe storage place/ marketplace.	Workers (with guidance from staff, volunteers and BarCom)		
Payment of workers	Conduct cash-distribution (recommendation is PhP500.00/day/pp) Workers should sign in the following documents: • Attendance sheet • Acknowledgment receipt	Staff, volunteers and workers	Attendance Sheet Acknowledgement receipt	

TEMPORARY RELOCATION OF SMALL BUSINESSES ACTIVATION CHECKLIST

WHAT	HOW	WHO IS IN CHARGE	RELEVANT DOCUMENTS	COMPLETED
Agree with LGU on the temporary relocation site/on rolling stores	Depending on context, chose the most appropriate option	Staff and volunteers with LGU	Flood map, map of prioritized businesses	
Rent vehicles and buy tables, tents & boxes	Depending on the number of prioritized SMEs and preferred option	Staff and volunteers	Activation budget (excel file)	
Post at barangay hall information on the relocation sites/ rolling stores	Use poster for temporary relocation of small businesses	LGU	Poster for temporary relocation of SMEs	
Hire team of workers and validate the list of SMEs prioritized	At least 5 workers per targeted barangay, to support the packing, record keeping and transportation of SMEs' stocks and possibly equipment	Staff and volunteers with BARCOM		
Fill in forms	For beneficiary HH/workers: • Insurance form (MAAB) • Take a photo of their one (1) valid ID • If they don't have a valid ID's: • Insurance Form (MAAB) • Take a photo of their one (1) valid ID w/ signature. • If they don't have a valid ID's: - First, workers should fill-out the Bio-Data - Then, take a photo of the worker. Lastly, BioData should have signed and verified by Brgy. Captain • Fill-out one (1) service contract per Team. Composed of by (1) Team Leader and (9) Members • The Team Leader (TL) is the one who signs the contract.	Staff, volunteers, BarCom, and workers	MAAB Service Contract (per team) ID/Biodata	
Transport the stocks and equipment to safe location/use rolling store	Once temporary market and rolling stores are set up, need to agree on the safety and maintenance	Staff and volunteers with beneficiaries		
Payment of workers	Conduct cash-distribution (recommendation is PhP500.00/day/pp) Workers should sign in the following documents: • Attendance sheet • Acknowledgment receipt	Staff, volunteers and workers	Attendance Sheet Acknowledgement receipt	

LIVESTOCK EVACUATION ACTIVATION CHECKLIST

WHAT	HOW	WHO IS IN CHARGE	RELEVANT DOCUMENTS	COMPLETED
Barangay Animal Evacuation Team (BAET) Activation	Orient the beneficiaries, workers and volunteers how the installation BAET is activated through the barangay chairman. The members immediately act on their roles and responsibilities.	PRC Chapter through Barangay Chairman	Livestock Evacuation Guidelines and Livestock IEC	
Recruitment of workers and filling in forms	Hire a team of at least minimum 10 workers to work in setting up 1 fence/corral/ pen for the livestock: - Can be anyone from the barangay who knows basic carpentry skills - Can be those receiving low daily income/monthly income For Beneficiary workers: • Insurance Form (MAAB) • Take a photo of their one (1) valid ID w/ signature • If they don't have a valid ID's: - First, workers should fill-out the Bio-Data - Then, take a photo of the worker. Lastly, Bio-Data should have signed and verified by Brgy. Captain • Fill-out one (1) service contract per Team. Composed of one (1) Team Leader and nine (9) Members • The Team Leader (TL) is the one who signs the contract	Staff, volunteers, BarCom, and workers	MAABs Service Contracts ID/Bio-Data	
Establishing the evacuation/ pooling areas	There is no standardized design for the corral. Materials can be any locally available materials, but the corral needs to be sturdy enough. Take the following into consideration: • Inside a corral, livestock should be segregated per species, and/or per gender • Allocated space per livestock is at least 2 square meters • Goat should be inside an area with roofing •Installation of temporary drainage (if possible) •If no corral was set up, cattle and carabao should be tied in strong tree. •They should be freed from the corral once there is severe strong wind	Logistics (BAET) and workers	Livestock Evacuation Guidelines	
Confirm pick up schedules and needed manpower	Spearheaded by the Barangay Chairman, schedules shall be plotted out, along with the manpower needed to support in the evacuation. Once schedules are determined, it should be announced to the entire community for their information. Manpower should ideally be from the BAET and barangay officials.	Barangay Chairman and BAET	Livestock Evacuation Guidelines	
Transporting the livestock to the pooling area	It is the responsibility of the entire barangay council to do the evacuation, from the early warning, to transporting of the livestock from the pick-up sites towards the evacuation/pooling area. Livestock should be transported in appropriate vehicles and in a manner that does not cause stress throughout the travel and does not predispose them to injury and disease. Extra precautions for sick, distressed or pregnant animals required. Note: if a livestock owner refuses to evacuate, sign a waiver.	Barangay Council and BAET	Evacuation waiver Livestock Evacuation Guidelines	
Registration/ identification of livestock in the evacuation/ pooling area	As soon as the livestock arrives, animals should be registered in various ways (depending on the availability of resources on the ground). Recording and marking are to be done based on species, sex, age/size, and reproductive status.	Record Keeper (BAET)	Master List Livestock Evacuation Guidelines	
Sorting and dispatching	Stockyard boss sorts and dispatches the animals to the holding corral based on species, sex, age / size, and reproductive status.	Stockyard Boss (BAET)	Livestock Evacuation Guidelines	
Payment of workers	Conduct cash-distribution (recommendation is PhP500.00/day/pp.) Workers should sign in the following documents: • Attendance sheet • Acknowledgment receipt Payment should be processed in the end of each day	Volunteers and staff	Attendance sheet Acknowledgement sheet	
Regular monitoring and maintenance of the evacuation/ pooling area	Provisions of feeds/forage/pasture/water will be primarily done by the owner with the supervision of the Nutrition and Water in-charge. Monitoring of health status and reporting to the veterinary any observation that requires intervention. Proper sanitation maintenance and security monitoring needed; at least one person monitoring the animals all the time	Owner Nutrition in-charge (BAET) Herd Health Technician (BAET) Water& Sanitation in-charge (BAET) Security in-charge (BAET)	Livestock Evacuation Guidelines	
Provision of health supplements and drugs	Herd Health technician provides vitamin A, D, E, electrolytes, and antibiotics (broad spectrum) before animals are released.	Health Technician (BAET)	Livestock Evacuation Guidelines	
Release of livestock after end of emergency	Release begins based on the order of the barangay chairman. Owners provide a claim stub to the Record Keeper to claim the animals.	Record Keeper (BAET)	Livestock Evacuation Guidelines	
Restoration of evacuation/ pooling area (clean and fix)	The site must be cleaned from waste to be facilitated by the Water and Sanitation team of BAET, and community people are encouraged to take part as well. Fence installed should be dismantled and stored in a safe place for future use.	WASH (BAET) and Logistics in-charge	Livestock Evacuation Guidelines	
Close out meeting – evaluation and documentation	Gathering feedback from the owners of the animals through a close out meeting, is being encouraged to evaluate the action done and further gather information for improvement. Moreover, all forms will be gathered and collated as basis for the early action done. These forms can be references in any case there'll be same action in the future.	PRC Staff, Volunteers and BarCom	Livestock Evacuation Guidelines	

SECTION 10

Relevant Materials & Further Learning

Relevant Annexes and Documents

- Flood Early Action Protocol
- Annex 1. Return period analysis
- Annex 2. Forecast study
- Annex 3. Flood models skills analysis
- Annex 4. Livestock evacuation guidelines
- Annex 5. Simulation exercises report
- Annex 6. Metadatabase
- Annex 7. BARCOM terms of reference
- Annex 8. Trigger notification
- Annex 9. Alert and trigger message templates
- Annex 10. Alert and trigger detailed protocols
- Annex 11. Service contract sample
- Annex 12. Budget (IFRC format)
- Annex 13. Letter of Approval from PRC Chairman
- Guidelines on Livestock Evacuation

We have created a Google Classroom for Typhoon EAP. It is an online classroom where people can access documents and learning materials related to Typhoon Early Actions, watch training videos and increase their knowledge about the early actions and FbF.

To access Google Classroom:

1. Go to google.classroom (use Chrome browser)
2. Log into your gmail account
3. Click the plus sign at the right corner of the screen and click 'Join Class'
4. Enter the class code: 44mpquf
5. Now you should be in Forecast based Financing & Typhoon EAP Class
6. Click CLASSWORK at the top of the screen. This is where you can find materials

Now you can freely play around the Classroom, go through different learning materials or try out some of the quizzes.

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