Laboratory Activity 1:
System Selection and Definition

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International Organization for Migration Philippines

I. Background of the Organization

Nature of Business

IOM Philippines believe that migration can be a positive force for change, and they are committed to making migration a more humane and orderly process. They work with governments, businesses, and civil society organizations to improve the governance of migration and to ensure that the rights of migrants are protected. They also conduct research and advocacy on migration issues.

They are a valuable resource for migrants and for those who work with migrants. They provide essential services that help to make migration a more humane and orderly process. They are committed to helping migrants achieve their goals and to making a positive difference in their lives.

The Logo

The IOM Philippines logo is a powerful symbol of hope and opportunity. It reminds us that migration can be a positive force for change, and that the IOM is committed to making migration a more humane and orderly process.

Mission and Vision

IOM's vision is a world in which migrants move because of genuine choice rather than desperate necessity, in which the rights of migrants are protected through their journeys, and in which migration is well-governed and a positive force for all the world's peoples and societies.

Overview of the products and services

IOM Philippines is a non-profit organization that helps migrants. They do this by providing a variety of services, such as:

- Helping migrants understand their rights and options
- Helping returning migrants find jobs and re-establish themselves
- Protecting migrant workers from exploitation and abuse
- Assisting victims of trafficking and smuggling
- Providing disaster relief and emergency assistance
- Raising awareness of the challenges and opportunities of migration

II. Functional areas of the organization

IOM Philippines branches out to different departments, each with their specific roles and offered services. However, for this paper, we shall be focusing on The Department of Operations and Emergencies. This department is responsible for coordinating IOM's emergency response activities and for providing assistance to migrants affected by natural disasters, conflict, and other emergencies.

Key Positions During Emergency Response

- Chief of Mission
    - Head of IOM mission in the Philippines
- Resource management officer (RMO)
    - Overseas the financial management of the mission - IOM Philippines
- Emergency Coordinator/Head of office
    - Overseas the typhoon response and operations
- Admin assistant
    - Assist in overseeing the financial management at the sub office level
- Shelter team
    - They distribute the shelter repair kits
- National health officer
    - Implements the mobile health program of the typhoon response
- Logistics
    - Manages the procurement and delivery of humanitarian assistance to typhoon affected areas and beneficiaries
- Camp Coordination Camp Management (CCCM) coordinator
    - Coordinates the provision of services in the evacuation centers
- Shelter coordinator
    - Coordinates the provision of shelter assistance to typhoon affected areas
- Project support unit
    - Assists in project reporting and communications

Organigram
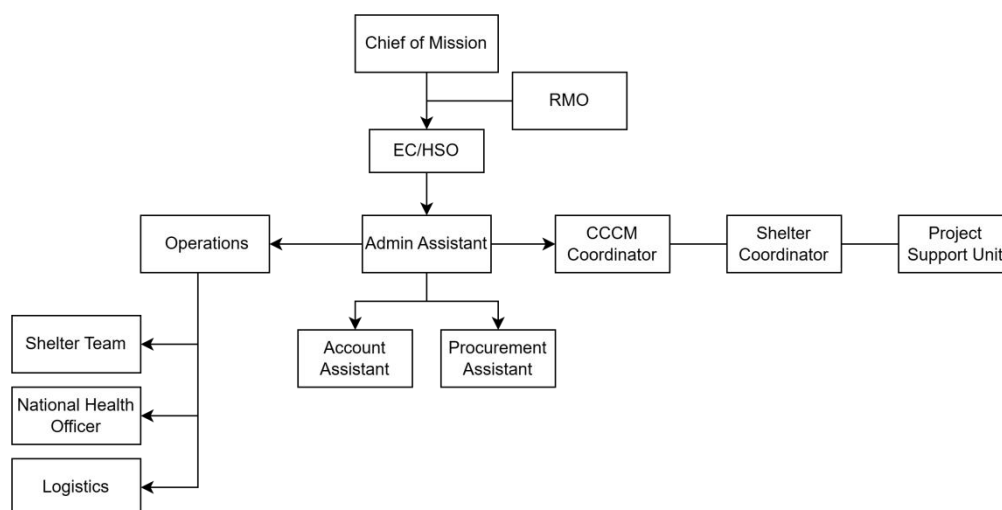
III. Current Approach for Data Storage

The current approach of data storage of the organization during calamity response projects is through the use of excel files and document files, which can be considered a file processing system approach, wherein the information on the current progress of the whole project is being stored and managed in one or more separate files. For instance, during IOM's Typhoon Rai response, their main office was located in Surigao City (Caraga), while also having sub offices in Southern Leyte and Bohol, each having their own progress report files. The main office would then have to update the overall progress report based on the data taken from each office, keeping in mind that each office has their own operation departments, each also having their own progress report files. The main problem in this method, which would also be explained later on, is data inconsistency, because when one office updates their file, they would also need to update all the relevant files, and sometimes, due to human error, this approach would lead to errors in the whole progress report, as can be seen in Table 1, which is taken from actual data during the Typhoon Rai response, wherein some percentages would reach more than one hundred percent.

CARAGA	CERF	SRK	660	Province of Dinagat Islands	Tubajon	157	10-Feb-22	Diaz	34	-119	779	118%
							10-Feb-22	Mabini	35			
							10-Feb-22	Navarro	40			
							10-Feb-22	Roxas	60			
							10-Feb-22	San Roque	21			
							10-Feb-22	San Vicente (Pob.)	7			
							10-Feb-22	Sta Cruz	32			
				Surigao del Norte	Dapa	150	11-Jan-22	Buenavista	150			
					Surigao City	70	26-Mar-22	Cagniog	70			
						150	24-Mar-22	Rizal	150			
					San Francisco	47	4-Jun-22	Jubgan	47			
					Placer	133	14-Mar-22	Magsaysay	133			
		CBI	660	Province of Dinagat Islands	Tubajon	157	10-Feb-22	Diaz	34	-119	779	118%
							4-May-22	Mabini	35			
							10-Feb-22	Navarro	40			
							4-May-22	Roxas	60			
							4-May-22	San Roque	21			

Table 1. Example of error caused by data inconsistency

This data should always be accurate as this is being closely monitored by the project donors, an accurate data would allow them to assess whether the organization is efficiently utilizing their resources, as well as allow the project head to assess their current progress and performances of the different operations departments.

IV. The Problematic Functional Area

Aside from the current approach of data storage, during the interview with one of the heads of the disaster response projects of IOM, he stated that one aspect that would severely slow down their progress was the supply chain. Most of the time, they would have to procure local materials to be used for the construction of temporary shelters for the internally displaced population. This would prove to be difficult as this was done by boots on the ground, inquiring which vendors have the capacity to supply materials, be it hardware or merchandise, at a large scale. This process is very important because having incomplete materials, the construction of facilities can't proceed, and the project can't proceed, which in turn negatively affects the beneficiaries. In addition to that, these materials would degrade if not in use, and there were even times where they were stolen.

Although this system works in the end, and has worked in their previous disaster response projects, the integration of proper database and database application would make the whole project run more efficiently, this is very important because speed and scale is a very important component in disaster response.

V. The Database Application

The researchers have decided to create a database application that helps the users monitor the whole progress of the supply chain.

The database stores relevant information on vendors, be it hardware or merchandise, in and around the calamity prone areas, and a database application for the ease of storing and managing these data. This part of the database application would have two (2) user types.

First are the procurement teams. During peace times or time without calamities, they will inquire on possible vendors and input their information such as type of materials (hardware or merchandise), location, capacity of supplies, and cost and other types of information as long as it does not go against the Purpose limitation, as stated in The Data Privacy Act of 2012 (DPA).

This can then be managed and updated by the procurement team or, which brings us to the second user type, the vendors themselves, however they will only be able to access and manage their own information.

Afterwards, during a calamity, the user will then be able to input the general area of the destruction caused by the aftermath, and the application will then display an informative list of the possible material vendors near or around the pinpointed area, including how recent each information was updated, as well as display the possible modes of transport for the transportation of the materials, which is also predetermined by the procurement team. The user would also be able to input the estimated amount of materials needed for the project, and the application would narrow down the list of the vendors to the desired details.

The database would also store information on possible proper and secure storage areas since it can be inevitable that some materials will be acquired from different vendors. These materials would then be accumulated before being distributed to the actual relocation sites for construction.

This feature would help the procurement team to be efficient in finding vendors to negotiate with, altogether hastening the whole procurement process, resulting in a faster disaster response.

After the procurement process, the database application would then allow the user to monitor the whole transportation and distribution of goods and services. This is to upgrade the data storage approach to help file consistency and accuracy, as well as minimizing redundancy.

This aspect of the database application would also have two (2) classifications of user types.

First is the sight mapping team. The application allows them to input and manage information on the beneficiaries, However, data on the beneficiaries will only be limited to their name, location, and whether they have received the materials and services provided by IOM, in order to adhere to the data minimization as required in the DPA.

This progress would then be automatically reflected on the overall progress of the project, similar to the information as can be seen on Table 2, which was done through cross referencing different progress files. However, this time, with the help of a database and database application, the information would be managed, updated, and assessed more easily.

Components	Interventions	Overall		
		Target	Current	Percentage
SHELTER	SRK	5,018	4,383	87%
	MPC	4,138	3,947	95%
	Tarpaulin	21,898	12,000	55%
WASH	Water Kits	945	0	0%
	Latrine Repair Kits (LRK)	945	165	17%
	MHM Kits	344	344	100%
	Hygiene Kits	2,853	2,854	100%
HEALTH	MHPSS Kits	1,660	0	0%
	MHPSS Sessions	7,800	588	8%
	Peer Support Techniques	150	0	0%
	Phsychological First Aid	750	270	36%
	Mobile Clinics	6	6	100%
CCCM	CCCM Kits	400	400	100%
	Solar Lamps	1,238	1,238	100%
	Modular Tents	600	600	100%

Table 2. Project progress report taken from Typhoon Rai Response

The database application allows for efficient data access and retrieval. It will allow the user (the project support unit) to classify which type of data to show in an easy to understand and assess summary of data, . For example, the user would be able to only choose data for a specific donor, for a specific region or location, or of a specific operations department such as health services or shelter, and etc. This allows heads of each operation department to narrow down information with ease in order to assess and improve upon each of their own progress. An example of this can be seen in Table 2, where in the health component, there are interventions that are still at zero percent progress. This helps the head of the health department assess their performance.

The application will be utilizing a distributed database system as this provides faster response, given that most of the sight mapping is done in rural areas where the connectivity is low. In addition to that, this system is robust since projects that include multiple regions require different types of disaster response, one location would need construction of temporary shelters, while other regions only require shelter repair kits.
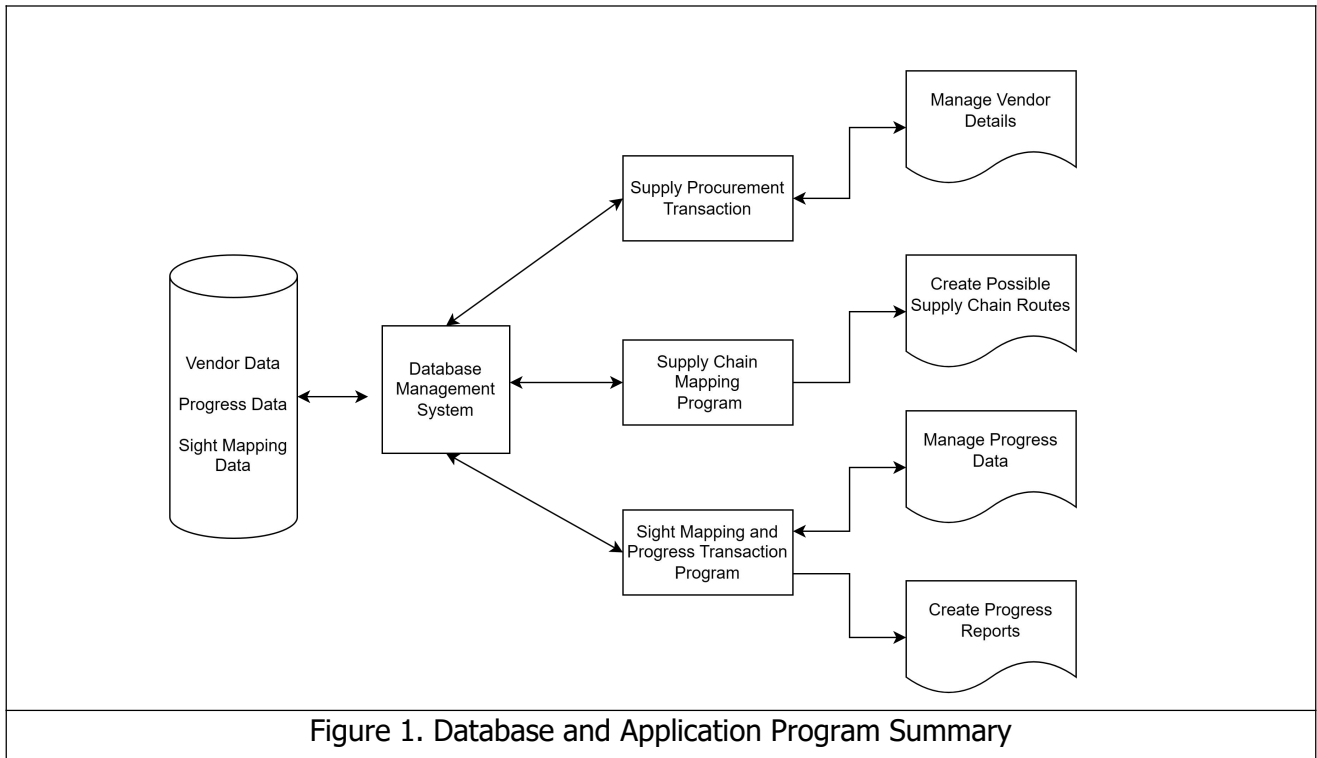
VI. Conclusion

Figure 1. Database and Application Program Summary

In conclusion, the database application would provide the organization with a consistent and efficient system which would allow the user to input, manage, and update information on progress of the whole supply chain, from the procurement and transportation of materials to the distribution. The user can then pinpoint the general location of a calamity, and the application provides possible vendors that can provide the required materials of the project, and help map out the entire process. This would help the disaster response team to provide the materials and services more efficiently and at a bigger scale, while ensuring that the data remains consistent and available even in the presence of concurrent transactions and system failures. It would also allow the different operation departments assess their performance and progress, constantly updated by the sight mapping team through the database application, as the application provides a summary of data that can be modified by the user depending on which types of information is needed.

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