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**Working Paper**

## Revisiting Metropolitan Governance: Improving the Delivery of Urban Services through Inter-LGU Cooperation

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# Revisiting Metropolitan Governance: Improving the Delivery of Urban Services through Inter-LGU Cooperation

*Marife M. Ballesteros, Elmer S. Mercado, Amillah Rodil-Ocampo, Tatum P. Ramos, Pauline Joy M. Lorenzo, and Jenica A. Ancheta*



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# Revisiting Metropolitan Governance: Improving the Delivery of Urban Services through Inter-LGU Cooperation

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## **Abstract**

Interlocal cooperation has long been promoted in the Philippines to address resource limitations of local government units; however, there is a lack of discussion on how it can efficiently deliver urban services. This study aims to investigate models of cooperation in the delivery of critical urban services through an evaluation of the management structure, financing strategies, sustainability, and issues/challenges of the interlocal arrangement in relation with operationalization. It focuses on answering the following policy questions: (1) what forms of interlocal cooperation have been utilized in the delivery of urban services; (2) how has interlocal cooperation improved the delivery of urban services; and (3) how can interlocal cooperation work better and be sustained given the decentralized nature of local politics. A closer look through findings from desk reviews and interviews is given to solid waste management and healthcare since they have been identified as services wherein cooperation among LGUs extensively developed. Reforms are then proposed to improve the effectiveness of interlocal cooperation in efficiently delivering urban services.

**Keywords:** interlocal cooperation, Mandanas-Garcia Supreme Court Ruling, metropolitan arrangement, solid waste management, healthcare

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# **Revisiting Metropolitan Governance: Improving the Delivery of Urban Services through Inter-LGU Cooperation**

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## **1. Introduction**

The Local Government Code (Republic Act 7160 of 1990) devolved to the local government units (LGUs) the “efficient and effective” provision of basic services and facilities that includes agricultural production, natural resources and environment, health, solid waste disposal, water supply, infrastructure, social welfare, local transportation, telecommunications, tourism, education and police/fire services, among others.

Subsequent laws have also been passed mandating further responsibilities to LGUs the delivery of basic urban services such as solid waste management (RA 9003 – Ecological Solid Waste Management Act of 2000), water and sewage management (RA 9275 – Clean Water Act of 2004), climate change/disaster risk reduction (RA 9729 – Climate Change Act of 2009 and RA 10121 – National Disaster Risk Reduction and Management Act of 2010).

However, many LGUs have low revenue capacity and are mainly dependent on internal revenue allotment (IRA) from the national government, thus, have limited capacities to provide for basic services adequately and effectively. Moreover, the Philippines, compared to other countries in East Asia, is characterized by higher levels of metropolitan fragmentation (OECD 2015). The country is divided into several administrative areas - there are 82 provinces, 147 cities, and 1,487 municipalities as of the end of September 2022, and each of these areas have their own elected officials (see PSA 2022). Thus, it is common to have cities or urban areas with a population of only 100,000 to 500,000 residents (see Table 1). Metro Manila, which is the primary urban center having a population of about 13 million residents as of 2020, has 17 administrative divisions, each division governed independently by an elected mayor. The small size of administrative operations of each LGU, has become a challenge to achieve economies of scale and operate at cost efficiency.

On the other hand, the 1990 Local Government Code (LGC) (Sec. 35, RA 7160) have encouraged LGUs to engage in inter-LGU cooperation and sharing of resources for the delivery of certain basic services and other tasks required of them under the law. There is also a legal basis for such arrangements in the 1987 Philippine Constitution that enshrined the rights of LGUs (Sec. 13, Article X) to “group themselves, consolidate or coordinate” their efforts, services and resources for their common benefit. Subsequent laws pertaining to waste management, water supply and others also provided for inter-LGU or multi-sectoral arrangements as management approaches or options to deliver common services.

One strategy adopted in the country was the creation of a metropolitan area to be governed by a metro government or metro authority. Under the metropolitan government, contiguous LGUs around a city or core urban area form a metropolitan organization to manage specific



services in the metropolis. It was a model used for Metro Manila even prior to the LGC. A Metro Manila Council was then formed headed by the First Lady as the Chairman of the Board. It was reorganized into the Metro Manila Development Authority (MMDA) after 1986 but after the LGC was enacted, the MMDA's powers and authority was diminished, and the jurisdiction of its authority was confined to only a small area of Metro Manila.

**Table 1. Population in Cities and Municipalities in the Philippines as of May 1, 2020**

RANGE	POPULATION
Less than or equal to 50,000	1,059
Greater than 50,000 and Less than or equal to 100,000	360
Greater than 100,000 and Less than or equal to 500,000	189
Greater than 500,000 and Less than or equal to 1,000,000	17
Greater than 1,000,000 and Less than or equal to 1,500,000	0
Greater than 1,500,000 and Less than or equal to 2,000,000	3
Greater than 2,000,000	1

Source: PSA - 2020 Census of Population and Housing

Despite the weaknesses of the MMDA, other LGUs outside Metro Manila have adopted the model and established metropolitan organizations with a similar structure as the MMDA. Among those formed after the enactment of the LGC are: Metro Naga, Metro Cebu, Metro Davao, Metro Baguio or BLISST<sup>1</sup> and others. Some metropolitan organizations started through a local initiative such as Metro Naga, which organized themselves in response to a need to manage local allocation of gas due to the global oil shortage brought about by the 1990s Gulf War. Others were formed through the support of the national government specifically in response to infrastructure development.

As with the MMDA, despite the institutionalization of these metro organizations, their functions and authority have remained limited. Metro organizations around the country are also faced with financing issues, weak leadership, fragmentation, and lack of technical resources among others (World Bank 2017; Manasan et al 2002).

Given the decentralized nature of local politics and the issues surrounding the creation of a metropolitan authority, there is a need to determine what cooperative arrangements among local government units (LGUs) would work better in the country. The sharing of common services by LGUs through a metropolitan arrangement or a clustering approach becomes more urgent with the full devolution process arising from the implementation of the Supreme Court (SC) Mandanas-Garcia ruling<sup>2</sup>.

<sup>1</sup> BLISST is an agglomeration of the city of Baguio and five municipalities of the Philippines province of Benguet, namely: La Trinidad, Itogon, Sablan, Tuba, and Tublay

<sup>2</sup> The Supreme Court (SC) ruling on the joint Mandanas- Garcia petitions (G.R. Nos. 199802 and 208488) in July 3, 2018 stated that the Internal Revenue Allotment (IRA) given to local government units must be sourced from all national taxes and not only from national internal revenue taxes collected by the Bureau of Internal Revenue (BIR) as defined in the 1987 Constitution. This ruling will mean an additional IRA allotments to LGUs amounting to PhP 234.4 bn beginning 2022.

Unlike previous studies on metropolitan arrangements that delved on the structure of a metropolitan authority, this study examines other models of LGU cooperation or LGU clustering to enable the delivery of specific public services. In particular, we look into the efficacy of existing interlocal arrangements based on functionality, sustainability, and socioeconomic effects.

The specific objectives of the study are:

- a. Investigate models of LGU cooperation in the delivery of critical urban services
- b. Identify existing functional programs/projects of interlocal cooperation for at least three cooperating LGUs
- c. Evaluate the management structure, financing strategy, sustainability and the issues and challenges of the inter-LGU arrangement to operationalize the program/project
- d. Evaluate the service provided as to its coverage and benefits
- e. Propose reforms to improve the effectiveness of interlocal cooperation for an efficient delivery of urban services.

## 2. Overview of Metrogovernance and Interlocal Arrangements

As mentioned in the background introduction, initial desk review, online research and document/report retrievals and referrals, there are very limited document studies and literature on provision of public services, especially urban services, at the metropolitan level in the Philippines. Most case studies have focused on Metro Manila, or metropolitan arrangements and policy, development planning and programming. Outside of Metro Manila, early studies on metropolitan governance or cooperation arrangements in Naga City (R. Mercado and Ubaldo, V, 1998)<sup>3</sup> through the Metro Naga Development Council that was established in 1993 through Executive Order 102.

A lot more literature and documents are available on inter-LGU cooperation and alliances came from project documents of donor-assisted programmes such the Canadian International Development Agency's (CIDA) Local Government Support Programme I/II (LGSP I/II) and Local Governance for Local Economic Development (LGSP-LED), United States Agency for International Development's (USAID) Governance for Local Development Phase I/II, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), United Nations Development Programme (UNDP), Australian Agency for International Development (AusAID) and European Union (EU) decentralization programmes in the early years of the implementation of the 1990 LGC.

One of the notable works done with the help of international organizations is Osorio et al.'s 2010 paper "Critical Ingredients in Building and Sustaining Inter-Local Cooperation", which was developed with the guidance of the Philippine Development Forum's Working Group on Decentralization and Local Government's Sub-Working Group on Inter-Local Cooperation. Technical and financial support were given by the GIZ, commissioned by the

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<sup>3</sup> Mercado, Ruben G; Ubaldo, Victor, B., 1998. **Metropolitan Naga: A Continuing Challenge of Local Autonomy and Sustainability**. Discussion Paper Series No 1998-13 (Revised), Philippine Institute of Development Studies (PIDS), Makati, Philippines. October 1998.

German Federal Ministry for Economic Cooperation and Development, the EU, and the Government of Canada through the Canadian International Development Agency (CIDA).

Osorio et al. (2010) enumerated the various types of metro-governance and interlocal arrangements (see Table 2). One type of arrangement is the natural alliance composed of all LGUs, an example being the Southeast Cebu Coastal Resource Management Council (SCCRMC) (Osorio et al. 2010). The SCCRMC was created in 2005 to enhance activities on the protection of marine sanctuaries and coastal and fisheries resource management through the collaboration of seven municipalities (Coastal Conservation and Education Foundation, Inc. 2019). Other than a natural alliance, there is a type of arrangement wherein the all-LGU alliance takes the form of a new juridical entity. An example of this is the Metro Manila Development Authority (MMDA). The MMDA supports the implementation of an integrated development plan to address issues including those that involve waste management and transportation (MMDA n.d.). There are also alliances wherein national government agencies (NGAs) take a large role, such as the case of the DOH for Interlocal Health Zones, Service Delivery Network, or Province-Wide Health System. Last but not the least, a public-private sector alliance can be created such as the Passi Integrated Solid Waste Management Facility, one of the cases of this research.

**Table 2. Metrogovernance and interlocal arrangements**

ARRANGEMENT	DESCRIPTION
Natural Alliance	All local government units
All-Local Government Unit Alliance with New Juridical Entity	Similar with natural alliance but with new juridical entity
All-Government Alliance	Local government units and national government agencies
Public-Private Sector Alliance	Public and private stakeholders

Source: Osorio et al. (2010)

A lot of the limited but relevant literature on inter-LGU cooperation and governance available online and agency sources were focused on local development and infrastructure planning and coordination. Sectoral experiences were mostly on natural resources and environmental governance, largely because of mandated inter-agency or multi-sectoral management bodies such as protected area management boards (PAMBs) or multi-sectoral watershed management councils (See Table 3).

**Table 3. List of Inter-LGU cooperation arrangements from 1990-2010.**

ALLIANCE	MEMBERSHIP	REASON FOR COMING TOGETHER	MODE OF FORMALIZATION
<b>Iloilo</b> Alliance of Northern Iloilo For Health Development (ANIHEAD) Northern Iloilo Alliance for Coastal Development (NIACDEV) Banate Bay Resource Management Council (BBRMC) Metro Iloilo-Guimaras Economic Development Council (MIGEDC) Southern Iloilo Coastal Resource Management Council (SICRMC) Iloilo Second Integrated Area Development, Inc (2nd IAD)	9 municipalities 10 municipalities 3 municipalities 1 province, 1 city, 5 municipalities 5 municipalities 5 municipalities	Health Development Coastal Resource Management Coastal Resource Management Economic Development Coastal Resource management Economic Development	MOA , 2000 SEC Registration, MOA, December 29, 1999 SEC Registration MOA , February 28, 1996 SEC Registration EO No. 559, August 28, 2006 MOA , 2002 SEC Registration MOA , July, 8, 1997 SEC Registration, March 7, 2007
<b>Negros Occidental</b> Southern Negros Coastal Development Management Council (SNCDMC) Central Negros Council for Coastal Resource Development (CENECCORD) Northern Negros Aquatic Resources Management and Advisory Council (NNARMAC)	1 city, 2 municipalities 1 city, 6 municipalities 5 city, 3 municipalities	Coastal Resource management Coastal Resource management Coastal Resource management	EO 1996 MOA , October 6, 2005 MOA , January 26, 2005 MOA , 2000
<b>Oriental Negros</b> Sta. Bayabas Inter-Local Health Zone (ILHZ)	1 city, 2 municipalities	Health	Per EO 205, 2008
<b>Antique</b> Libertad, Pandan, Sebaste and Culasi Bay Wide Management Council (LIPASECU) Council of Anini-y, San Jose, Tobias Fornier, and Hamtic for Viable Environmental Management (COASTHAVEN)	4 municipalities 4 municipalities	Coastal Resource management Coastal Resource management	MOA , October 3, 1997 SEC Registration MOA , October 15, 2007
<b>Cebu</b> Camotes Sea Resource Management Council (CSRMC) Southeast Cebu Coastal Resource Management Council (SCCRM)	1 city, 4 municipalities 7 municipalities	Coastal Resource management Coastal Resource management	MOA , May 2, 2007 MOA , April 19, 2005

ALLIANCE	MEMBERSHIP	REASON FOR COMING TOGETHER	MODE OF FORMALIZATION
<b>Bohol</b> Maribojoc Bay Integrated Resource Management (MBEMO)  Abatan Rive Development Management Council (ARDMC) PaDaYon Bohol Marine Triangle Management Council (PaDaYon BMTMC)	1 city, 4 municipalities  5 municipalities 3 municipalities	Coastal Resource management  River management, Ecotourism development Environmental Protection	MOA , 2005; EO 23 Series of 2005, December 20, 2005 EO No. 19, November 19, 2005 MOA, June 7, 2007 EO No. 22, Series of 2004, 7 September, 2008 SEC Registration, June 7, 2006
<b>Eastern Samar</b> Alliance of Seven Borongan Inter-Local Health Zone	7 municipalities 5 municipalities (6 RHUs)	Coastal resource management Integrated health services	MOA, 2005 Per EO 205, 2008
<b>Mindanao</b> Lanuza Bay Development Alliance (LBDA) PALMA Alliance (PALMA)  Lake Mainit Development Alliance (LMDA)  Mt. Kitanglad Range PAMB Southwestern Ligawasan Alliance of Municipalities (SLAM).	7 municipalities 7 municipalities 1 province 2 provinces 8 municipalities 8 municipalities 4 municipalities	Natural Resource Management Economic Development  Lake/lakeside management Environmental protection Local Development	MOA , 2004* MOA, 2004**  MOA , March 1999 RA 8978, November 9, 2000 MOA, June 25, 2008
<b>Camarines Sur</b> Metro Naga Development Council (MNDC) Partido Development Administration (PDA)	1 city, 14 municipalities 10 municipalities	Economic Development Economic Development	MOA , April 23, 1993 ; EO No. 102, June 18, 1993 RA No. 7820, November 18, 1994 RA No. 8989, December 31, 2000

MOA – Memorandum of Agreement; SEC – Securities and Exchange Commission; EO – Executive Order; RA – Republic Act

\* Revised in 2005

\*\* Revised in 2008

Source: Osorio, R.E., dela Paz Chan, G., & dela Gente Ferrer, A.J. 2010. Critical ingredients in building and sustaining inter-local cooperation. Deutsche Gesellschaft für Technische Zusammenarbeit, European Union, Canadian International Development Agency, & Philippines Development Forum.  
[https://www.ab.gov.tr/files/ardb/evt/1\\_avrupa\\_birligi/1\\_9\\_politikalar/1\\_9\\_8\\_dis\\_politika/Critical\\_ingredients\\_in\\_building\\_and\\_sustaining\\_inter-local\\_cooperation.pdf](https://www.ab.gov.tr/files/ardb/evt/1_avrupa_birligi/1_9_politikalar/1_9_8_dis_politika/Critical_ingredients_in_building_and_sustaining_inter-local_cooperation.pdf) (accessed on August 18, 2022).

Very limited documented material and studies on inter-LGU cooperation on urban services, outside of common disposal facilities (i.e. sanitary landfills) exist. Nonetheless, the recent findings on the issues and challenges on inter-LGU cooperation and metropolitan governance (Osorio, et.al., 2010)<sup>4</sup> remains the same as those raised by earlier studies (Mercado and Manasan, 1998)<sup>5</sup>.

Experiences from these early attempts for inter-LGU cooperation or governance arrangements were largely successful at the early stages but later faltered and were not advanced or sustained after the change of LGU leadership. Studies made from these early experiences showed that metro organizations around the country faced financing issues, weak leadership, fragmentation, and lack of technical resources among others (World Bank 2017<sup>6</sup>; Manasan, et.al., 2002; Mercado, R and Manasan, R, 1998). Similar findings were presented by reports from donor-funded agencies such World Bank (WB), GIZ, CIDA, USAID, International Council for Local Environmental Initiatives (ICLEI) and UNDP, among others that supported inter-LGU cooperation and alliances also raised the same challenges and issues of financial, institutional, and political sustainability, limited authority and mandates.

Studies on the public services that were accessed by the study team tend to be more sector-focused. Public services, depending on the sector, vary widely in terms of governance, production, financial and cost structures. Different components of a public service may be serviced by different levels of government (e.g. Province, city or municipality), the private sector, or a combination thereof (i.e. joint venture, build-operate-transfer or private-public partnership). They may also be in various stages of fragmentation/ consolidation.

Reported cases of successful and operational inter-LGU cooperation or metropolitan governance arrangements are anecdotal. Interviews with key officials and staff from the League of Cities, National Solid Waste Management Commission (NSWMC) and water management boards informed that there are indeed existing models of inter-LGU cooperation led by cities and key urban areas, and more recently, by provinces, to provide common urban services or shared facilities such as South Cotabato and Bataan.

However, the push to legislate more effective and stronger metropolitan arrangements or broader levels of LGU institutional cooperation beyond those provided under the 1990 LGC to deliver basic services and development to the growing population beyond individual LGU jurisdiction is getting strong policy support in Congress. In the 18<sup>th</sup> Congress, around 37 proposed bills were filed creating development authorities for clusters of LGUs at metropolitan, district, provincial, sub-region and sub-regional levels.

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<sup>4</sup> Osorio, R.E., dela Paz Chan, G., & dela Gente Ferrer, A.J. 2010. Critical ingredients in building and sustaining inter-local cooperation. Deutsche Gesellschaft für Technische Zusammenarbeit, European Union, Canadian International Development Agency, & Philippines Development Forum.  
[https://www.ab.gov.tr/files/ardb/evt/1\\_avrupa\\_birligi/1\\_9\\_politikalar/1\\_9\\_8\\_dis\\_politika/Critical\\_ingredients\\_in\\_building\\_and\\_sustaining\\_inter-local\\_cooperation.pdf](https://www.ab.gov.tr/files/ardb/evt/1_avrupa_birligi/1_9_politikalar/1_9_8_dis_politika/Critical_ingredients_in_building_and_sustaining_inter-local_cooperation.pdf) (accessed on August 18, 2022).

<sup>5</sup> Mercado, Ruben; Manasan, Rosario, 1998. 'Metropolitan Arrangements in the Philippines: Passing Fancy or Future Megatrend?' Discussion Paper Series No. 1998-31, Philippine Institute of Development Studies (PIDS), Makati, Philippines. October 1998.

<sup>6</sup> World Bank (WB), 2017. Philippine Urbanization Review: Fostering Competitive, Sustainable and Inclusive Cities (Full Report). World Bank, Washington, DC., USA. pp.196.

At least 17 of these proposed bills call for the creation of metropolitan or sub-regional development authorities. (See Table 4).

**Table 4. Proposed bills in 18<sup>th</sup> Congress (2019-2022) creating Metropolitan and Sub-regional/Regional Development Authorities.**

Area/Coverage	House Bill No. (HBN)	Senate Bill No. (SBN)
Metro Davao Development Authority	RA 11708	RA 11708
Metro BLISTT Development Authority*	1337/9215	2296
Mega Cebu Development Authority	0011	1037
Metro Bataan Development Authority	0201/8218	544
Metro Cagayan de Misamis Development Authority	0432	
Eastern Visayas Development Authority	1155/6869	2031
Metro Laguna Development Authority	1484	
North Luzon Growth Quadrangle Dev't Authority	1801	
Kapatagan Valley Development Authority	2155	
Siargao Island Development Authority	2966/10683	1840
Northern Quezon Development Authority	2679	
Metro Quezon Development Authority	3384	
Metro Bacolod Development Authority	2688	
Boracay Island Development Authority	6214/9826	17/1914
Metro Davao Regional Development Authority	7579	2116
Catanduanes Urban Development Authority	9195	

Source: [www.congress.gov.ph](http://www.congress.gov.ph) and [www.legacy.senate.gov.ph](http://www.legacy.senate.gov.ph) \* Sent to President for signature 29 June 2022.

In the context of the pandemic response, several inter-LGU arrangements were deemed successful and remains operational specially in the adoption and recognition of common public health, quarantine and emergency response, hospital admissions and patient handling facilities, border controls, movement restrictions and policies. However, none of these ‘success’ stories have been documented nor studied in-depth.

However, initial discussions with key officials and staff from the League of Cities of the Philippines (LCP) and NSWMC as well as local water sector specialists revealed that there are indeed extant and operating inter-LGU governance arrangements that have been sustained beyond the terms of original organizing LGU leaders.<sup>7</sup> They also specifically recognized the need to systematically document and analyze these recent developments and identify key lessons learned and best practices not only because of the absence of actual efforts to document these cases but more importantly with the implementation of the Supreme Court (SC) Mandanas-Garcia resolution that triggered the ‘full devolution’ by the national government of the delivery of basic services by LGUs.

<sup>7</sup> Interviews separately conducted by study team members (Mercado and Rodil) with LCP Executive Director Veronica Hitois, former NSWMC Executive Director Delia Valdez and Engr. Jay Tecson, water specialist involved in the preparation of the National Sanitation and Septage Management Master Plan.

### 3. Conceptual Framework

The conceptual framework of interlocal cooperation in the Philippines was reflected in Osorio et al.'s 2010 paper "Critical Ingredients in Building and Sustaining Inter-Local Cooperation". The work was developed with the guidance of the Philippine Development Forum's Working Group on Decentralization and Local Government's Sub-Working Group on Inter-Local Cooperation.<sup>8</sup> Given the appropriateness of the document in terms of the context of the Philippines, this section, including Figure 1, largely uses Osorio et al.'s work as a reference. Some literature based on other contexts are also discussed, but with caution. As Teles (2016) points out, the cooperation can take various forms and its nature varies across and within countries. In any case, the identified "critical ingredients" are classified according to inputs, activities, outputs, and outcomes to further illustrate the process of developing functional inter-local cooperations.

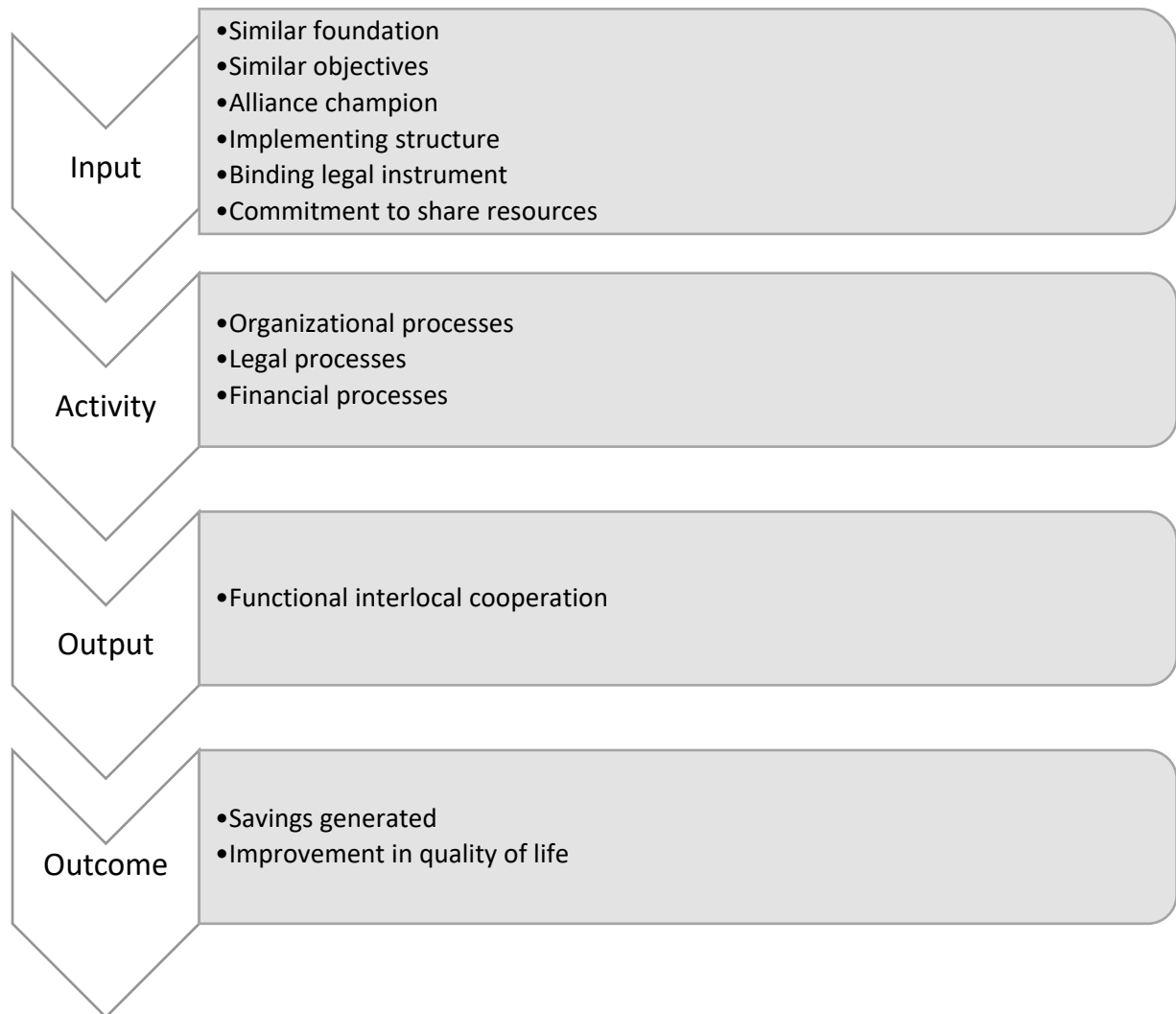
#### 3.1. *Establishing Interlocal Cooperation*

LGUs, which decide to form alliances in the provision of urban services, have similar foundation and objectives. A similar foundation means that there is an adjacent border, collective natural resources, and complementary or similar services (Osorio et al. 2010). The type of service also matters. As mentioned by Teles (2016) in his work on local governance and inter-municipal cooperation in Europe, there is engagement in interlocal cooperation wherein public service delivery has to result in required economies of scale. Shrestha and Feiock (2007) also pointed out that the size of jurisdiction sets limitations, preventing many municipal governments from optimally benefiting from economies of scale, whereas producing at a wider scale enables equipment and labor sharing, resulting in a decline of per unit production cost. Holdsworth (2006) further explains that interlocal cooperation enables optimization of resources that would otherwise be underutilized, and he enumerates the limited service areas where interlocal cooperation can be adopted (see Figure 2). LGUs will engage in interlocal cooperation when there is a reduction in transaction costs of exchange compared with other forms based on the logic of transaction cost economics (Shrestha & Feiock 2007). There are also particular services that result in externalities from which other LGUs benefit from. Excess demand by non-constituents on some services implies overinvestment on the part of the provider (Shrestha & Feiock 2007). Meanwhile, opportunities in having similar objectives are made possible because of territories (Teles 2016). Objectives of these alliances are likely to be brought about by a pressing problem, strict contextual analysis and planning, and vision of the members (Osorio et al. 2010). LGUs are likely to face the same "wicked problems" nowadays, urging collaboration among each other. These wicked problems usually refer to situations that cannot be handled by a single entity on its own or cannot be addressed through a single solution (Teles 2016). The similarities among the LGU-members should be sufficient reason to collaborate with each other.

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<sup>8</sup> Technical and financial support were also given by the Deutsche Gesellschaft für Technische Zusammenarbeit, commissioned by the German Federal Ministry for Economic Cooperation and Development, the European Union, and the Government of Canada through the Canadian International Development Agency.

**Figure 1. Conceptual framework on interlocal cooperation**



Source: Based on reviewed literatures



**Figure 2. Service areas for interlocal cooperation**



Source: Holdsworth (2006)

The objectives have to be promoted and embodied by alliance champions along with the implementing structure. These champions may come in various forms including the local chief executive, another LGU, and a non-governmental organization (NGO) (Osorio et al. 2010). Champions should have the capacity to relay the vision well, develop rapport, influence stakeholders, and increase resources (Osorio et al. 2010). There should be a consensus among stakeholders, and all of them have to be looped in early (Holdsworth 2006). A return-on-investment estimation should be developed to support the agenda (Holdsworth 2006). Champions should also be supported by an implementing structure. Structures can vary across alliances, but it is important to be able to distinguish members from partners, be equipped with visionary local chief executives and practical managers, and have a unit of personnel at the LGU level (Osorio et al. 2010). Stakeholders who will eventually be part of the implementing structure should work with the champions in formalizing the alliance.

The alliance should be formalized with a binding legal instrument. The legal environment describes the cooperation's nature and incentives (Teles 2016). In the Philippines, the local chief executives are allowed to enter into a MOA in forming the alliance through a Sanggunian Resolution (Osorio et al. 2010). The MOA is then signed by the local chief executives or their representatives (Osorio et al. 2010). This MOA should be explicit with the alliance objectives, roles, and powers, and possibly the commitment of the members to share their resources (Osorio et al. 2010). The resources to be shared should be explicitly identified. Holdsworth (2006) enumerates the following: shared equipment and

information, and purchasing. Back at the local level, this MOA should be approved by the Sanggunian (Osorio et al. 2010). Even after the MOA approval, there is still a need to ensure that the alliance becomes functional. As stated by Teles (2016, p.5), “networked governance is much more than simple coalition-building”.

### 3.2. *The Path Towards Functionality*

#### 3.2.1. Organizational Processes

Once the alliance is established, further details should be threshed out on how the vision is going to be achieved and some other preparatory activities have to be conducted. A strategic plan and manual of operations have to be in place (Osorio et al. 2010). The implementation plan has to be feasible (Holdsworth 2006). The manual should lay out the structure, stakeholder rights and responsibilities, financial and personnel policies, and monitoring and evaluation (Osorio et al. 2010). Despite the detail put into how the agenda is going to be achieved, alliances should be flexible in terms of adapting to changes and confronting challenges (Osorio et al. 2010). Local chief executives should be on top of things through actions including attending, or at least sending their representatives, to alliance meetings (Osorio et al. 2010). Meanwhile, implementers on the ground have to be capacitated through trainings to keep up with the changes.

#### 3.2.2. Legal Processes

Legal mechanisms are still at work even after the alliance establishment through a MOA. In fact, the MOA should be reviewed to determine whether there should be amendments that would have to be approved by the alliance and the respective Sanggunian of the members (Osorio et al. 2010). Apart from that, alliances should adopt joint resolutions covering the decisions and agreements among the majority (Osorio et al. 2010). Through the resolutions, the issuance of appropriation ordinances within each member will be triggered, and there will be facilitation of financial and non-financial resource sharing (Osorio et al. 2010). The decisions and agreements are ratified by the Sanggunian of each LGU through ordinances, resolutions, or adoption of alliance programs in the Local Development Plans or executive-legislative agenda of each LGU (Osorio et al. 2010). Legal mechanisms should also be in place to address non-conformities, and these may include having mutually agreed upon penalties and dispute settlement through arbitration, conciliation, or mediation (Osorio et al. 2010).

#### 3.2.3. Financial Processes

The implementation of services through the alliance requires resource sharing. LGUs will have to share in expenses such as for particular activities or programs, office-related resources, human capital, meals, and travel (Osorio et al. 2010). They can source the funds internally based on the Annual Investment Plan and externally, whereby external financial sources include grants from the public and private sectors (Osorio et al. 2010).

Holdsworth (2006), meanwhile, enumerates the following potential financial sources: donations, contributions, grants, third-party payments, user fees, special assessments, property taxes, and general-fund revenues. Alliance members should agree on the financial contribution formula (Osorio et al. 2010). Osorio et al. (2010) enumerated potential formulas including an equal annual fixed amount, equal minimum amount, agreed amount given planned activities, differentiated amount, and a percentage of the internal revenue allotment development fund. Holdsworth (2006) also enumerates the following: fees based on weights and percentage shares, percentage share given usage, average cost pricing with annual fee, annual fee, and average cost pricing. Regardless of the formula used, the alliance should ensure a timely contribution collection following a feasible schedule (Osorio et al. 2010). The schedule should be indicated in a legal document and be reminded to members (Osorio et al. 2010). Incentives for compliance and sanctions for non-compliance should be in place albeit with caution (Osorio et al. 2010). To ease the pressure on contributions, alliances may also generate their own resources (Osorio et al. 2010). One of the LGUs can be assigned as a trustee of the pooled contributions, or the alliance can have a corporate identity and have its own accounting system with the fund flow under the control of a Board of Trustees (Osorio et al. 2010). Use of the funds should be based on guidelines (Osorio et al. 2010). There should be transparent financial transactions backed up by financial reports with impact indicators (Osorio et al. 2010).

### **3.3. *Describing Functionality and its Benefits***

A functional interlocal cooperation, one that is operational and sustainable in terms of finance and organization, is expected to result from the processes employed by the alliance. The organizational aspect is important in ensuring that the structural elements work together. LGUs involved in the provision of the service should be members of the alliance preferably starting from the legal establishment to facilitate collaboration. Meetings should be regularly conducted. Stakeholders from the public and private sector should be actively participating in the activities. There should be plantilla positions for personnel working specifically on the operations of the alliance. Amendments to the strategic plan and MOA should also exist if there are contextual changes. In terms of the financial aspect of functionality, the agenda is to ensure that the alliance has sufficient resources to achieve the outcomes. Financial resources should be regularized and sustainable, while revenue generation is also welcome. The members should be complying with the agreed contribution formula. Resources should fully cover the operational costs. For transparency purposes, there should be audited financial reports.

Of course, savings from engaging in inter-LGU cooperation can be generated as an outcome of a functional interlocal cooperation. This is where the aspect of efficiency comes in. Increases in efficiency, as well as in the outcome of effectiveness, is enabled largely by the removal of redundant assets and operations (Holdsworth 2006). It is possible, nevertheless, that cost savings are not immediately realized and some alliances may not even come across appreciable cost savings, but they may be able to gain other outcomes (Holdsworth 2006).

A functional alliance will bring about an outcome in the form of improvements in the quality of life, which signify the effectiveness of interlocal cooperation. Indicators of

improved quality of life can vary depending on the services provided through the inter-LGU cooperation. For example, health-related outcomes can include lower rates of infection and higher immunization coverage. Regardless of the sector, there should be an increase in the number of constituents to which the service is delivered and the addressed complaints. Holdsworth (2006) adds outcomes of interlocal cooperation in terms of community relations including increase of equity in access to services and the mitigating the issue on interjurisdictional competition. Other potential outcomes include increased training and employment opportunities, economic development, conducive environment for future joint ventures, and addressed issues of jurisdictional boundaries (Holdsworth 2006). These outcomes should be reflective at the regional level. Holdsworth (2006) points out interlocal cooperation as a regional endeavor, the actual objective being to benefit a region and not just be confined within city boundaries.

#### 4. Methodology

*Case Study approach.* As mentioned in early studies, there are specific public services, which have been considered by LGUs as critical for metropolitan cooperation. These are public services on: solid waste management (SWM), water supply and sanitation, emergency response for climate change, traffic management, and infrastructure planning (Manasan et al. 2002). We selected solid waste management and health systems for case study given the presence of “matured” or *Galing Pook* Awardees for interlocal cooperation in these services.

For solid waste management, a scoping study was initially done to be able to select the case study. This included a review of the enabling laws and the range of experiences of interlocal cooperation in the SWM sector. Based on this scoping study, it was identified that the shared management of a common waste disposal facility was the main avenue for inter local partnership in the provision of this urban service.

The case study on solid waste management was conducted through a combination of desk reviews of documents and available reports (i.e., published, reports and online), circulation of a baseline information checklist distributed to both host and partner LGUs, selected key informants interviews (KII) with national<sup>9</sup> and local SWM and LGU officials and technical staffs and private sector partners, and, focus group discussions (FGDs) with selected representatives from the host and participating LGUs from the selected cluster LGU case study site – Surallah, South Cotabato and Passi City, Iloilo. Field visits and interviews were done face-to-face (F2F) from October 18-21, 2022 for the Surallah LGU cluster and from November 9-12, 2022 for the Passi City LGU cluster. The FGDs for Surallah was held on October 20 in Koronadal City, South Cotabato and for Passi City was held on November 10. Prior to the field activities, several technical consultations and discussions were held with the Department of Environment-Solid Waste Management Division (DENR-SWMD) and League of Cities of the Philippines (LCP) Secretariat to obtain their inputs to the selection of possible case study sites as well as technical inputs to the case study’s inquiry areas.

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<sup>9</sup> Parallel interviews were also done with key officials of the DENR-Environment Management Bureau (EMB)-Solid Waste Management Division (SWMD), that serves as secretariat to the National Solid Waste Management Commission (NSWMC), League of Cities of the Philippines, and Basic Environmental Services and Technologies, Inc (BEST Inc), private sector joint-venture partner of Passi City LGU.

This case study on solid waste management is limited by the data/ reports provided by the cluster member LGUs and management; availability of key LGU technical staff members of local environment and natural resources offices (ENRO); and coordination arrangements and networking challenges. For the focus group discussion, not all member LGUs were present and some sent representatives who were not fully familiar with their SWM operations. In the case of the Passi FGD, only as sample representation of the 38 LGU cluster members were invited. Separate interviews were made with key LGU SWM technical officials and staff from the host LGU, LGU province and DENR-EMB regional representatives.

For the health system case study, we examined the national government's program to create health systems among LGUs. A scoping report was prepared to gain insights into the background. Apparently, opportunities to complement services through a referral system are attractive given limitations in attending to patients' needs. Monitoring reports from the Department of Health (DOH) were assessed and already existing literature was reviewed.

The case study approach was intended to provide in-depth examination of the pathways of partnerships and functionality of the interlocal arrangements. To better understand the inputs, activities and outputs including the key decisionmakers of the processes, the team developed a semi-structured questionnaire for the FGDs and KIIs. This is critical given the lack of documentation and limited monitoring systems in LGUs. It is also important to examine the challenges and issues and link them to key processes, which provides better understanding of the processes that are binding constraints to the development and sustainability of interlocal arrangements.

In the case of the interlocal health service delivery system, the fieldwork has not been carried out due to the unavailability of the key informants within the timeframe set by the study. We also noted that there have been several changes over time in the interlocal health delivery system initiated by the Department of Health and recently under the Universal Health Act of 2019, a new system has been launched, which would require a different approach for analysis. In lieu of a case study, a review of the previous system was carried out based on reports from the DOH and review of existing studies. The review will provide the springboard for the assessment of the "new" interlocal arrangement for health services delivery.

## **5. Case Study on Solid Waste Management: Background**

### **5.1. *LGU mandate for SWM services and LGU clustering for common SWM facilities***

The Ecological Solid Waste Management Act of 2000, in accordance with the Local Government Code, mandates that: "...all provinces, cities, municipalities and barangays, through appropriate ordinances, are hereby mandated to consolidate, or coordinate their efforts, services, and resources for purposes of jointly addressing common solid waste

management problems and/or establishing common waste disposal facilities (Republic Act 9003, Section 44)”

The Ecological Solid Waste Management Act of 2000 or RA 9003 has mandated that ALL local government units are primarily responsible for the implementation of solid waste management in their localities from waste segregation, collection and disposal. This law further strengthens the devolution of basic services, including solid waste, to LGUs as provided for by the 1990 LGC. Similarly, RA 9003 and its Implementing Rules and Regulations (IRR) (Department Administrative Order 2001-34) also recognizes the option for LGUs to cooperate on solid waste management services, particularly on sharing common disposal facility, by allowing the “clustering” of municipalities and/or cities.<sup>10</sup>

The law also empowers LGU Provinces through the Provincial Solid Waste Management Board (PSWMB) to “allow the clustering of LGUs” for the solution of identified common solid waste management problems and provide logistic and operational support to LGUs within its jurisdiction.<sup>11</sup>

DENR has also issued Department Administrative Order (DAO) 2019-21 on guidelines governing waste-to-energy (WTE) facilities for the “integrated management” of municipal solid waste. This DAO allowed the LGUs to implement “clustering and/or form partnership with private sector” in the establishment, construction and operation of WTE facility.<sup>12</sup>

## 5.2. *Typology of SWM management arrangements by cluster LGUs*

Latest NSWMC data (as of April 2022) shared to the study team showed that among 327 sanitary landfill (SLF) sites in the country, only 28 are shared by more than one local government unit<sup>13</sup>. Of these, 14 are privately-managed/operated, 13 are LGU-managed/operated; and, 1 – public-private partnership (PPP) (see Table 5).<sup>14</sup> Further analysis of the NSWMC data showed several typologies/sub-typology of inter-LGU cooperation and management arrangements of shared SWM services (i.e. common disposal facility) (see Table 6).

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<sup>10</sup> RA 9003 Implementing Rules and Regulations (IRR), Rule VII, Section 3 (h).

<sup>11</sup> RA 9003 IRR, Rule VI, Section 2 (I).

<sup>12</sup> DENR Administrative Order (DAO) No. 2019-21, Sec. 5(d).

<sup>13</sup> NSWMC List of Sanitary Landfill Sites, 2022

<sup>14</sup> Since RA 9003 was enacted into law in 2001, only 524 or 32% of the 1,634 cities and municipalities in the Philippines currently have access to a sanitary landfill (SLF) as a final disposal site for residual waste as mandated by law.

**Table 5. Shared Sanitary Landfill Sites in the Philippines (2022)**

Arrangement	SLF Category				LGUs Served				
	Category 1	Category 2	Category 3	Category 4	Less than or equal to 5	Greater than 5 and less than or equal to 10	Greater than 10 and less than or equal to 15	Greater than 15 and less than or equal to 20	Greater than 20
LGU	7	4	1	1	11	1	0	1	0
Private	0	5	0	9	4	5	4	0	1
PPP	0	0	0	1	0	0	1	0	0

Source of basic data: National Solid Waste Management Commission (2022)

Note: See Annex 1

**Table 6. Typologies of LGU cluster arrangement for SWM**

Partnership Arrangement	Description	SWM Management Arrangement	Example
Province + LGU cluster	Province + cluster LGUs (district-wide)	LGU-managed	Surallah, South Cotabato Albuquerque, Bohol
LGU cluster	LGU cluster	LGU-managed	Traditional
		PS-managed	Traditional
LGU (host) + PS	PPP	Contract/MoA with LGU host/PS partner	Passi City, Iloilo
Private/Corporate	Commercial/business	Contract of Services	Metro Clark Waste Management Corporation

Source: Generated by case study team from NSWMC 2022 data provided on types of SWM facilities.

According to a study by Atienza (2020), there are three (3) types of inter-LGU cooperation arrangements for common disposal facilities in the Philippines: a) the inter-government or inter-LGU partnership; b) private enterprise utilized by LGUs; and c) public-private partnership<sup>15</sup>. This can also be gleaned from the NSWMC data on shared SLFs of clustered LGUs.

Most of the inter-LGU arrangements applies the LGC provision on inter-local cooperation based on agreements (through signed MoAs and ordinances) by clustered LGUs with an identified host city/municipality and cooperating LGUs. However, operations and management of shared facility falls under two types: LGU-managed (e.g. San Carlos City SLF) and private sector-managed (contracted by either host LGU or by cluster LGU). This

<sup>15</sup> Atienza, V. (2020). Promoting Local Collaboration on Waste Management: Lessons from Selected Cases in the Philippines. (M. Kojima, Ed.) *Regional Waste Management Inter municipal Cooperation and Public and Private Partnership*, ERIA Research Project Report FY2020 no. 12, p. 126.

is the typical arrangement for inter-LGU cooperation for SWM facilities where a cluster or group of LGUs, normally geographically linked with each other, have agreed to cooperate/partner to share resources to operate and manage a common disposal facility.

The designated/agreed host LGU ensures the establishment, operation and maintenance of the SLF facility in accordance with established rules and guidelines and ensures that partner LGUs and their designated collection providers (either LGU-administered or privately contractor) have access and disposes waster to the common SLF. The cooperating LGUs, on the other hand, provides their own waste collection/transport vehicles and equipment, materials recovery facility and transfer station, and implements and conforms with agreed waste segregation, collection and disposal schedules, and regularly pays the tipping fee/charges.<sup>16</sup>

Another typology for inter-LGU cooperation is those initiated by the Provincial government. This approach is provided for under Sec. 11 (12) of RA 9003 and Sec. 2(I), Rule VI of the IRR (DAO 2001-34) on the power of the LGU Province, through its Provincial Solid Waste Management Board (PSWMB), “to allow” the clustering of LGUs) within its jurisdiction to solve common SWM problems. This approach was the approach taken by the provinces of South Cotabato, Bohol and lately Bataan. In the case of Surallah (+ 6 LGUs), South Cotabato, the inter-local arrangements was initiated by the Provincial government of South Cotabato and identified cluster of LGUs that have common SW management requirements.<sup>17</sup> The same approach was successfully adopted by Bohol province in the case of the Albuquerque shared SLF facility where it now services around 17 other LGUs. The province of Bataan is reportedly pursuing the same district-wide covering the areas of Dinalupihan, Hermosa, and Orani.<sup>18</sup>

An emerging approach is the public-private partnership (PPP) or joint-venture (JV) arrangement of a host LGU with the private sector. The first operating model for this PPP arrangement is the Passi City Integrated Waste Management Facility. The host LGU and private sector partners enter into MoAs with other cooperating or contracting LGUs to dispose of their waste and pay for tipping fees for the service. For the purpose of the case study, the last two typology – Province-initiated LGU clustering as exemplified by Surallah LGU cluster and public-private partnership (PPP) arrangement of Passi City cluster arrangement were selected for its innovative approach and opportunity for replication.

As early as 2006, the National Economic Development Authority (NEDA) together with the National Solid Waste Management Commission (NSWMC) conducted a detailed study on LGU investments needed to implement SWM services. Findings showed that for LGUs to comply with the mandated provisions of RA 9003, it would “eat up most if not all of the net operating incomes of LGUs”. It estimated that for cities, the additional investments would be as much as 23% of the Internal Revenue Allotment (IRA) and as much as 45% of net operating income. For municipalities, the new investments would require as much as

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<sup>16</sup> Ibid. p. 127.

<sup>17</sup> This is an application of RA 9003 IRR, Rule VI, Section 2 (I) which empowers the Provincial SWM Board to allow the clustering of LGUs in its jurisdiction to solve common SWM problems.

<sup>18</sup> Based on separate follow-up discussions with the League of Cities of the Philippines (LCP) Secretariat and EMB-National Solid Waste Management Commission (NWSMC) Secretariat conducted by the Study team on 03 August 2022 and 04 August 2022, respectively.



25% of IRA and as much as 160% of their net operating income.<sup>19</sup> The 2006 NEDA considered the idea of LGU clustering for common SWM facilities. It is not only practical but prudent for LGUs, especially lower income LGUs, to cluster with other LGUs for a common SWM facility.

## **6. Surallah LGU Cluster, South Cotabato – a Province-led LGU-managed common SWM facility**

### **6.1. *Situationer***

The Surallah Cluster Sanitary Landfill was chosen for this case study because it is the first province-led SLF program in the country, and has been operating since 2011. It also received a Galing Pook Award for this initiative in 2014. It originally serviced six LGUs in the Upper Valley area of the province: Surallah, Banga, Lake Sebu, Norala, Sto Niño and T'boli. By 2022 it was servicing seven LGUs (with Tantaran added) and five local companies. It also serviced Koronadal City briefly from 2016 to 2018, when Koronadal was constructing its own SLF.

#### **6.1.1. SWM situation in the South Cotabato Province and cluster LGUs**

In a waste assessment conducted in 2010 for the 10 municipalities and 1 city in the province it was estimated that total residual waste generation was about 48.2 tons daily, out of 996.96 tons per day generated daily (estimated by author to be about 17,593 tons out of 363,890 tons annually) by the whole province. Majority of the waste (72.5%) came from industries and agricultural plantations, with households only contributing 23.85%, and public markets 1.38% (Provincial Environment Management Office).

Prior to the establishment of the partnership for the Surallah Cluster Landfill among the province and municipalities, the following were cited by the province as common problem in member LGUs:

- Environmental programs were not a top priority of some local government units (some LGUs also did not have any dedicated Municipal Environment Officers).
- Lack of personal, equipment, budget and facilities to implement SWM plans and programs
- Lack of technical capability of personnel to handle/ implement SWM programs particularly on engineering components; and
- Partial compliance of municipalities to RA 9003 particularly on disposal management due to financial constraints and technical capability (Provincial Environment Management Office).

In 2016, the Ombudsman ordered officials of at least seven Mindanao local government units to answer accusations that they violated of the provisions of RA 9003 specifically for continued operation of open dumpsites following the DENR's aggressive campaign to

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<sup>19</sup> NEDA, 2008. Cost Sharing Framework for Solid Waste Management. <https://nswmc.emb.gov.ph/wp-content/uploads/2017/05/cost-sharing-framework-for-swm.pdf>. Accessed 05 December 2022.

enforce LGU compliance to the provisions of the solid waste management law, particularly the non-operation of open dumpsites<sup>20</sup>. Included among these LGUs was the city of Koronadal, located in South Cotabato. This led to Koronadal temporarily using the Surallah Cluster SLF until it built its own landfill recently. This brings to three the total cluster sanitary landfills in the province.

The other municipalities in South Cotabato were spared from Ombudsman cases as they were already using the Surallah Cluster SLF by 2016. In 2008 Polomolok had already co-established with DOLE Philippines its own sanitary landfill, which also services Tupi. Together with the new Koronadal Sanitary Landfill, these make up the three cluster sanitary landfill sites in the province (see Figure 3). Due to this all the LGUs in the Province are now compliant to the requirement for disposal sites in RA 9003. The Province also operates a Health Care Waste Treatment Facility (on a separate site from the Surallah Cluster Landfill Facility) which caters to both public and private hospitals and medical facilities across the province.

**Figure 3. South Cotabato Cluster Landfill Sites**



Source: 2014 Ten Outstanding Local Government Programs, Galing Pook 2014

### 6.1.2. Overview of South Cotabato Province and Surallah

South Cotabato is a province in the Philippines situated in the SOCCSKSARGEN<sup>21</sup> region occupying the southern-central section of Mindanao. The province has a land area of 3,793.90 square kilometers. Its population according to the 2020 Census was 975,476. Its capital is the City of Koronadal, which has a population of 195,398. The municipality with

<sup>20</sup> "Ombudsman orders Mindanao execs to answer trash accusations", <https://newsinfo.inquirer.net/775987/ombudsman-orders-mindanao-execs-to-answer-trash-accusations>. 24 March 2016. Accessed 10 December 2022.

<sup>21</sup> SOCCSKSARGEN stands for the region's four provinces and one highly urbanized city (South Cotabato, Cotabato, Sultan Kudarat, Sarangani and General Santos)

the largest population is Polomolok (172,605), followed by T'boli (101,049), and Surallah (89,340) (See Table 7). The fastest growing areas in terms of population are Koronadal (2.36%) and Polomolok (2.63%). In terms of density Koronadal and Polomolok also top the list at 705 and 508 persons per sq.km respectively. Surallah is 6<sup>th</sup> in terms of population growth rate and 7<sup>th</sup> in terms of population density.

**Table 7. 2015, 2020 Population of LGUs in South Cotabato Province**

Name	Type	Population (2020)	Population (2015)	Annual Population Growth Rate (2015-2020)	Area (2013), in km <sup>2</sup>	Density (2020), per km <sup>2</sup>
Banga	municipality	89,164	83,989	1.27%	240.35	371
Koronadal	city (CC), capital, regional center	195,398	174,942	2.36%	277.00	705
Lake Sebu	municipality	81,221	87,442	-1.54%	702.00	116
Norala	municipality	46,682	46,642	0.02%	188.11	248
Polomolok	municipality	172,605	152,589	2.63%	339.97	508
Santo Nino	municipality	39,796	40,947	-0.60%	85.01	468
Surallah	municipality	89,340	84,539	1.17%	297.93	300
Tampakan	municipality	41,018	39,525	0.78%	390.00	105
Tantangan	municipality	45,744	43,245	1.19%	149.70	306
T'boli	municipality	101,049	91,453	2.12%	895.83	113
Tupi	municipality	73,459	69,976	1.03%	228.00	322
<b>South Cotabato Total</b>		975,476				

Source: <https://www.philAtlas.com/mindanao/r12/south-cotabato.html>

Surallah is a first-class municipality which lies on the southwestern quadrant of Cotabato province and is about 20 kms. from the capital city of Koronadal. In 2021 it had a total income of about Php464 million, with about 68 percent coming from the internal revenue allotment (Table 8). Its central location was the reason it was chosen to be the site of the cluster SLF. It acts as a service center for municipalities in the Upper Allah Valley, namely T'boli, Lake Sebu and Banga and Sto Nino. It has 17 barangays and has a total land area of 31,110 hectares (4.16% of the total area of South Cotabato). About 65% of its total land area is used for agriculture.<sup>22</sup>

Among the 17 barangays, two are considered urban – Poblacion and Centrala. These urban barangays comprises 33% of the LGU's total population. The LGUs waste collection services only the Poblacion; the rest are covered by barangay-based waste collection services. The LGU's composting site and MRF are in Barangay Centrala while the SLF is located in Barangay Colongulo, considered a rural barangay.

The main economic sector in the municipality is agriculture, with more than half of the land area of the municipality devoted to farming. Major agricultural products are corn, rice, mango, sugarcane, coconut, cassava, banana, and pineapple. Poultry and hog raising are also major sources of income. The major agro-industries such as Dole Philippines Surallah

<sup>22</sup> Municipality of Surallah, 2015. 10-Year Solid Waste Management Plan 2015-2024

Operation, Dole Stanfilco, and Sumifru provide substantial employment opportunities. Dole and Sumifru produce and exports bananas and pineapple. The milling industry (rice mill, sugar mill, and saw mill) is also an important economic sector. The agro-industries are major contributors to the growth of Surallah's economy, which has also led to increased migration from other municipalities who want to take advantage of the economic opportunities in Surallah.<sup>23</sup>

**Table 8. Income and revenue sources of the municipality of Surallah, in Php Million (2016-2021)**

<i>Fiscal Year</i>	<i>Total Income (Local Sources) (in Php million)</i>	<i>Internal Revenue Allotment (IRA + other External) (in Php million)</i>	<i>Total Current Operating Income (IRA+Total Income) (in Php million)</i>
2016	66.65	191.53	258.18
2017	80.8	221.70	301.78
2018	95.97	237.16	333.13
2019	105.82	260.27	366.09
2020	116.44	319.21	435.65
2021	145.66	318.81	464.47

*Source: Bureau of Local Government Finance (BLGF): Statement of Receipts and Expenditures 2016-2021*

Based on the waste analysis and characterization study (WACS) conducted by municipality for its 2015 Solid Waste Management Plan, the waste generated per person per day was about 0.39 kg (not including agricultural wastes) close to the NSWMC's 0.40 kg/capita average volume estimate for the country

With this data, the projected average waste generation for the municipality in 2015 would be 31.47 tons per day and 11,484 tons per year (See Table 9), increasing to 45.8 tons per day and 16,728 tons per year in 2024. Of these, around 5.2% (around 1.6 tons/day and 591.47 tons/year) are considered as wastes for disposal in a sanitary landfill. Due to projected waste diversion, this is projected to be reduced to 7% (3.2 tons/day and 1,169 tons/year) in 2024 (see Table 10).<sup>24</sup>

**Table 9. Quantity of Wastes Disposed of by Sector in Kilos/ Day, Surallah, 2015**

SECTOR	%	Kgs/ Day	Kgs/Year	Tons/Year
Residential	79	24,857.48	9,072,978.89	9,072.98
Commercial	5.23	1,645.63	600,654.17	600.65
Institutional	2.4	755.16	275,634.80	275.63
Industrial	13.37	4,206.89	1,535,515.54	1,535.52
<b>Total</b>	100	31,465.16	11,484,783.40	11,484.78

*Source: Surallah 10 – Year Solid Waste Management Plan, 2015 - 2024*

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

**Table 10. Composition of Waste Generated in Kilos/ Day, Surallah, 2015**

Waste Classification	%	kgs/ day	kgs/year	tons/year
Biodegradable	87.50%	27,532.02	10,049,185.48	10,049.19
Residual	5.15%	1,620.46	591,466.35	591.47
<i>Residual for diversion</i>	2.57%	808.65	295,158.93	295.16
Recyclable	3.47%	1,090.27	397,947.74	397.95
Special	1.32%	413.77	151,024.90	151.02
	100.00%	31,465.16	11,484,783.40	11,484.78

*Source: Surallah 10 – Year Solid Waste Management Plan, 2015 - 2024*

Aside from the cluster SLF, the LGU also manages a two-hectare Ecological Park in Brgy. Centrala which serves as the Central Material Recovery Facility where wastes generated and collected are diverted into usable products. In 1995 the LGU was awarded as the country's cleanest and greenest municipality.

#### 6.1.3. Establishment of the Surallah LGU SWM Cluster for Common Sanitary Landfill Facility

The Surallah Cluster Sanitary Landfill is a Category 2 landfill located in Barangay Colongulo, Surallah (See Figure 4) with a total lot area of 6 hectares (See Figure 5). The total area of the existing Cell 1 is 1.1 hectares, with a total capacity of 75,000 cu.m. It was designed to handle around 23.5 tons of waste daily, with an estimated lifespan of 14 years (See Table 11). The construction of Cell 2 is ongoing.

The landfill is about nine kilometers from the Surallah town proper. Eight kilometers of the road to the facility is paved with concrete while the remaining one kilometer is an all-weather road. The municipalities of Lake Sebu and Banga are nearest to the facility with approximate distances of 14 and 18 kilometers, respectively. Norala is the farthest with a distance of around 31 kilometers (See Figure 3).

The discussion to start a cluster sanitary landfill was started after the Province of South Cotabato initiated the updating of the SWM programs of its member municipalities in 2005. The SWM planning process as well as dialogue and consultations led to the proposal to build a cluster sanitary landfill in 2006, with Surallah chosen as host. A Memorandum of Agreement for the cluster SLF was signed by six LGUs and the province in 2008, with construction starting in 2009. Operations started in 2011 and was still operating till the time of this study. Table 12 shows the timeline of the Surallah cluster SLF (2005-present) from its formation in 2005 and existing operation.

**Table 11. Profile of Surallah Cluster SLF**

<b>Location</b>	<b>Sitio Columbasinong, Barangay Colongolo, Surallah</b>
<b>Land Area</b>	6 hectares
<b>Landfill Category</b>	2
<b>Number of Cells</b>	2 (Cell No. 2 under construction)
<b>Total Area of Cell 1</b>	1.1 hectares
<b>Design Capacity (Cell 1)</b>	75,000 cu.m./ 23.5 tons per day
<b>Start of Operations</b>	2011
<b>Estimated Lifespan (Cell 1)</b>	14 years
<b>Investment Cost (Cell 1)</b>	Php 12 million (includes cost of lot, treatment pond, and other support structures)
<b>Member LGUs</b>	Surallah, Banga, Sto Nino, T'boli, Lake Sebu, Norala, Tantaran
<b>Member Industries</b>	Dole Philippines, Sumifru Phils., Stanfilco – Lambontong, STANFILCO – Upper Sepaka, IPEMC
<b>Distance of Member LGUs from Host Municipality</b>	10 – 31 kms

*Source: Author's summary from Surallah Sanitary Landfill Brief Profile*





Fig

Source: Surallah Sanitary Landfill Brief Profile



**Table 12. Surallah Cluster SLF Timeline**

2005	Province and component LGUs start cooperation for formulation of 10-year SWM plans
2006	Signing of partnership MOA for SWM plan updating; selection of Surallah as host and dialogue with LGUs
2007	Creation of Provincial Environment Office for continuing technical assistance to LGUs; Consultative meeting results in proposed cluster approach
2008	Six LGUs sign a MOA with provincial LGU to establish SLF
2009	Start of SLF construction; scaling up of provincial technical assistance to other municipalities on SWM planning
2011	Start of SLF operations
2014	Surallah SLF receives Galing Pook Award for Environmental Initiatives
2019	Cluster MOA renewed; tipping rates updated
2020	Start of construction Cell No. 2
2021	Tipping fees of P650/cu.m for LGUs and P1,500/ cu.m for industries imposed in March 2021
2022	Projected start of operation of Cell No. 2

*Source: Author's summary*

#### 6.1.4. Surallah Cluster Landfill Member LGUs

The landfill originally serviced six LGUs in the Upper Valley area of the province: Surallah, Banga, Lake Sebu, Norala, Sto Niño and T'boli. By 2022 it was servicing seven LGUs and six local companies (Figure 3 shows Tantangan being serviced by Koronadal, but by 2014 it had transferred to the Surallah SLF). It also serviced Koronadal City briefly from 2016 to 2018, when Koronadal was constructing its own SLF. Table 13 shows that the original six LGUs have been using the landfill for 12 years, along with Dole Philippines and Sumifru.

For the LGUs using the Surallah Cluster SLF, the total projection in 2011 for residual waste was about 3,076 tons (Cost and Revenue Analysis Surallah Cluster Sanitary Landfill, 2010), about 17.5% of the total annual residual waste generation for the whole province (see Table 14).

**Table 13. Surallah Cluster Landfill Member LGUs**

LGU	Classification	Income Class	Number of Years Using the SLF (Based on Actual Disposal)
Koronadal City	City	3rd	3
Banga	Municipality	1st	12
Lake Sebu	Municipality	1st	12
Norala	Municipality	3rd	12
Santo Niño	Municipality	3rd	12
Surallah	Municipality	1st	12
Tantangan	Municipality	3rd	8



T'Boli	Municipality	1st	12
Others			
DolePHIL	Plantation		12
Sumifru	Plantation		12
Stanfilco Lambontong	Plantation		8
Stanfilco -Upper Sepaka	Plantation		3
IPEMC	Plantation		6

*Source: Author's summary from Surallah Cluster Sanitary Landfill Summary Of Deliveries as of August 2022*

**Table 14. Projected Volume of Residual Wastes for Disposal in Tons and Cubic Meters, Surallah SLF Cluster LGUs (2011)**

SLF Users	In Tons	In Cubic Meters
<b>a. MOA Signatories</b>		
Surallah	365.0	1,825.0
Norala	310.0	1,550.0
Sto. Niño	310.0	1,550.0
Banga	328.5	1,642.5
T'boli	438.0	2,190.0
Lake Sebu	149.7	748.5
<b>b. Other Potential Users</b>		
Tantangan	62.0	310.0
Koronadal	1,095.0	5,475.0
Plantations	18.0	90.0
<b>TOTAL</b>	<b>3,076.2</b>	<b>15,381.0</b>

*Source: Cost and Revenue Analysis, Surallah Cluster Sanitary Landfill, November 2010*

In terms of income, among the municipalities, Surallah has the largest operating income (Php464.47 million in 2021), followed by T'boli (Php438.64 million) and Lake Sebu (Php372.87 million). Koronadal, as a city had an income of Php 1,204.85 in 2021 (See Table 15). Koronadal was originally not intended to be part of the cluster, as it had the capacity to construct its own landfill and the volume of its wastes far exceeded that of the other LGUs. The Cluster Board allowed it to use the landfill for three years while it was constructing its own landfill.

**Table 15. Annual Sources of Income and Expenditures of Surallah Cluster Landfill Member LGUs, 2019 - 2021**

STATEMENT OF RECEIPTS AND EXPENDITURES BY LGU														
FY 2019 – 2021 (Final) in Php millions														
LGU	Classification	Income Class	2019				2020				2021			
			Local Income	IRA (+ other external sources)	Total Current Operating Income	Total Operating Expenditure	Local Income	IRA (+ other external sources)	Total Current Operating Income	Total Operating Expenditure	Local Income	IRA (+ other external sources)	Total Current Operating Income	Total Operating Expenditure
Koronadal City	City	3rd	338.01	746.66	1,084.67	755.87	325.33	959.93	1,285.25	948.41	303.24	901.61	1,204.85	925.90
Banga	Municipality	1st	36.98	210.03	247.01	185.13	36.59	258.16	294.75	230.05	42.51	253.42	295.93	226.04
Lake Sebu	Municipality	1st	55.43	291.14	346.57	260.74	22.19	355.00	377.19	324.43	21.01	351.86	372.87	318.64
Norala	Municipality	3rd	21.44	129.80	151.25	126.14	16.79	159.10	175.88	125.94	22.09	157.77	179.86	125.67
Santo Niño	Municipality	3rd	21.74	114.70	136.45	102.86	20.73	142.04	162.77	120.47	43.65	139.58	183.24	140.19
Surallah	Municipality	1st	105.82	260.27	366.09	263.18	116.44	319.21	435.65	293.12	145.66	318.81	464.47	269.41
Tantangan	Municipality	3rd	15.67	122.37	138.04	148.20	12.15	152.37	164.51	147.16	15.86	147.49	163.35	158.67
T'Boli	Municipality	1st	34.23	329.45	363.68	290.98	66.98	401.75	468.73	386.83	41.18	397.46	438.64	399.32

Source: BLGF LGU Annual Statement of Receipts and Expenditures 2019-2021.

## 6.2. Key elements in the establishment of the Surallah LGU cluster arrangement

### 6.2.1. Enabling Environment and Policy

Aside from the enabling laws, a number of factors on the ground contributed to the organization of the alliance and the eventual establishment of the cluster SLF. Foremost amongst this is the role of the Province, who rallied the LGUs towards a common purpose and established a clear rationale. Technical assistance as well as institutional capacity building were also key ingredients to the process. Table 16 below summarizes the steps in the clustering process; however this does not show the groundwork that was done prior to the mapping and agreement to cluster. These are further discussed in the key lessons and experiences below.

**Table 16. Steps in Clustering Process for SLF**

1	Provincial mapping study to determine clustering options
2	Agreement among LGUs to cluster and identification of host LGU
3	Initial community consultation and acceptability in host LGU
4	Final selection of site, host LGU and cluster members
5	Site acquisition
6	Engineering design, fund sourcing and ECC application
7	Site development
8	Formation of SLF Management Board and MOA among members
9	Cost and Revenue Analysis, development of SLF Operations and Maintenance manual
10	SLF operation

Source: Author's summary

*Role of the Province LGU.* The Provincial Government of South Cotabato played a large role in setting up the alliance by acting as facilitator, technical assistance provider, advocate, and funder. It laid the groundwork initially by establishing a partnership with component municipalities to assist them in the formulation of their SWM plans. This partnership was formally established in April 2006, when the province signed MOAs with its 10 component municipal LGUs. This MOA provided for the Province to assist the LGUs in completing and implementing their SWM plans; formulating policy instruments to support effective implementation of SWM; and in assessing and establishing common waste facilities by cluster.

The Province, in the course of the SWM technical assistance, then highlighted the need to establish and operate a common sanitary landfill following standard requirements. With limited sites available for SLF construction and residual waste generation of most LGUs being relatively low in volume, the Provincial Government decided that SLF clustering was the most appropriate strategy. It proposed a clustering strategy to the Mayors on December 5, 2006, explaining the strategy's advantages (benefits from economies of scale) and disadvantages (complications from inter LGU alliances). After this dialogue, six LGUs agreed to support the strategy.

Siegfried Flaviano, head of the PEMO, cites that the planning for the SLF it was a long process of “pagpapaintindi” (making people understand). Making the process transparent and participatory, he cites, helped greatly (Flaviano, 2022). Although it took a lot of work,

he believes that this process has built a better relationship between and among the Provincial LGU, Municipal LGUs, and national agencies such as the DENR and EMB.

*Building up the inter-LGU cooperation through synchronized planning.* The province decided to synchronize the SWM assistance to the LGUs because it was more economical, manageable and focused – since only a limited number of LGUs were assisted at one time. But another major benefit of the collective SWM planning process and the continuing assistance was that it enabled the interlocal cooperation that eventually led to the joint decision to establish the Surallah Cluster Sanitary Landfill. According to the Province, the multi-LGU training approach facilitated sharing of information and experiences among LGUs in the group and even created healthy competition among them.

*Emphasis on economies of scale.* The argument on economies of scale, cites Flaviano, was the key to convincing the mayors on the clustering strategy. The establishment, operation, and maintenance of an SLF would require a sizeable amount of financial resources due to technical and environmental requirements and criteria for establishment, including land acquisition cost. This massive financial requirement was not practical/ affordable for many LGUs, particularly lower-class municipalities. By constructing a cluster SLF, the proposed cluster members expected a total savings of Php46M compared to a situation where every municipality constructed its own SLF at a cost of about Php7.5M to Php12M.

*Need for compliance to RA 9003.* Aside from the financial benefit of the strategy, based on the focus group discussion with member LGUs, compliance was their main reason for their joining the cluster. Section 37 of RA 9003 mandates that within three years after the effectivity of said law, all open dumpsites shall have been closed or converted into a controlled dumpsite; and within 5 years after the effectivity of the law, no controlled dumpsite shall be allowed to operate, and a sanitary landfill shall be the primary alternative disposal facility. In the case of South Cotabato, there was no SLF at that time and most LGUs were still operating open dumpsites. The municipality of Lake Sebu also added that they could not build their own SLF because the municipality is located within a Protected Area Strict Protection Zone, where landfills are not allowed to be built by law (Dongon, 2022). The national government via DENR also offered assistance for the closing and rehabilitation of old dumpsites of municipalities to ensure compliance to RA 9003.

*Technical assistance in solid waste management.* The Province was assisted by the Philippine Environmental Governance 2 Project (EcoGov 2) project in providing technical assistance initially to the five most highly-urbanized municipalities (Polomolok, Tupi, Tampakan, Surallah, and T'boli). The technical assistance focused on the following:

- SWM Planning (orientation, waste characterization, plan formulation, plan legitimization)
- SWM Implementation (information and education campaign (IEC), ordinance formulation and enforcement, waste diversion through waste segregation, composting and recovery of recyclables)
- Waste disposal management (development of a clustering strategy, SLF engineering design, SLF Operation and Maintenance and performance monitoring)
- SWM Cost and Revenue Analysis (Provincial Environment Management Office)

In 2009, the Province scaled up assistance to remaining municipalities (Sto Nino, Banga, Norala, Tantangan, and Lake Sebu). Due to its efforts in assisting the municipalities, in

2015, the Provincial Government of South Cotabato together with its component LGUs were the first in the country to have completely presented and have the SWM plans approved as one by the National Solid Waste Management Commission (NSWMC). In 2022, the Philippine League of Local Environment Officers – South Cotabato Chapter (PLENRO-SC) in partnership with the Provincial Environment Management Office (PEMO), facilitated a retooling and planning workshop for the preparation and updating of the South Cotabato LGU's 10-Year Solid Waste Management Plans.

*Institutional capacity building and establishment of regular local technical implementation unit/office.* To be able to continue the technical assistance on SWM to other municipalities, the LGU Province strengthened its institutional capacity. In 2007, it created the Provincial Environment Management Office (PEMO). Prior to its creation the ones coordinating the assistance on SWM was the Planning and Engineering Offices. PEMO is now headed by a biologist and environmental management specialist as its Provincial Environmental and Natural Resources Officer.

An Environment Management Division was created under PEMO specifically to handle solid waste management, air and water quality, and health care waste. PEMO now has a total of 52 personnel with 13 assigned to the SWM Program. Aside from assisting municipalities on their SWM plans, the SWM program is focused on information and education and maintaining awareness on good practices in SWM, by organizing the Clean and Green Awards among the LGUs, and regular Waste Fairs, where waste buyers are invited. The SWM program has a budget of about Php5.5M, most of which goes providing incentives/ awards and prizes to its Clean and Green program.

*Previous experience in forming Inter-Local Alliance.* Prior to the Surallah Cluster SLF experience, the province of South Cotabato had experience in the creation of inter-local alliance. The Allah Valley Landscape Development Alliance (AVLDA) (created in 2003) brought together the provinces of South Cotabato and Sultan Kudarat, 13 LGUs, 5 national government agencies, and non-government organizations and people's organization's coalitions in the area to help address the conservation and environmental management of the 252,034-hectare Allah Valley watershed. This alliance also won a Galing Pook Award in 2008, and as of writing was still active, funded by annual contributions from the provinces and with its own project management office.

*Conduct of Situational Analysis.* The selection of the host municipality was based on a rational analysis of the existing conditions. To identify common SLF sites within the Province, a map analysis was done by the SWM- Provincial Technical Working Group, with technical assistance from Eco Gov 2, Mines and Geosciences Bureau, and the Environmental Management Bureau. The initial clusters identified were Koronadal SLF cluster (accommodating Tampakan, Tantangan, and Tupi), and Surallah SLF Cluster (Banga, Sto Nino, T'boli, Kae Sebu, and Norala). Those proposed to be part of the Surallah Cluster were about 10 to 31 kilometers in distance from the host municipality. Polomolok LGU decided to construct its own SLF in partnership with Dole Philippines.

*Willing host and funding commitments.* The then-mayor of Surallah, Mayor Solivio, also volunteered/ agreed to make Surallah the host municipality. He wanted Surallah to achieve the distinction of being the first. Also key in the establishment of the landfill was the funding commitment from the Province and host LGU. The total investment cost for the

SLF was Php12.2 million, which included the land acquisition and development of the first cell and treatment pond. The Province contributed Php6.5M and Surallah contributed PHP 5.7 million.

Key issues and challenges:

*Length of process of alliance forming and landfill establishment.* The Surallah Cluster Landfill took almost six years from the joint updating of municipal SWM plans to the design, construction and operation of the cluster landfill. The extended length of time may be disadvantageous in areas when there are changes in political leadership. In South Cotabato and Surallah's case, the continuous support of the political leadership and institutional capacity-building was instrumental in pushing the process forward.

*Social acceptability and land acquisition.* The original proposed location of the landfill was supposed to be in Barangay Centrala, which would have been more conducive since the site already contained their Central Materials Recovery Facility, which is also a key component of the solid waste management of the municipality. It had also already passed the site requirements for the landfill. But there was community opposition in Barangay Centrala – because the locals thought it would be just another dumpsite, and viewed it negatively. So the LGU had to look for an alternative. The barangay captain in Barangay Colongulo offered another site, which also passed the environmental requirements. The site, however, was mortgaged in the bank, so the Mayor and the Council contributed the amount needed to settle the mortgage and ensure a clean transfer of title to the LGU. After payment the landowner paid back the officials for their contributions. There was less community opposition in Barangay Colongulo since the barangay captain owned the lot, and the LGU also conducted a more intensive IEC campaign to ensure acceptability (Emboltorio, 2022).

## 6.2.2. Institutional and Governance/ Management Arrangements

In 2008, a Memorandum of Agreement (MOA) for the cluster SLF was signed by six LGUs and the province. party. Section 33 of RA 7160 allows local government units through MOA to consolidate or coordinate efforts, services, and resources for purposed commonly beneficial to them. This MOA set down the reasons for establishing the cluster sanitary landfill, the governance mechanism, and the roles and obligations to be played by each. This MOA was renewed in 2016 and again in 2020. The 2020 MOA is effective for three more years.

The landfill is governed by a Board which is composed of the Local Chief Executives of the municipalities that are part of the cluster; a representative from the Provincial Government; a representative from the host barangay; and a representative of the host LGU – Chairman, Committee of Environment. In 2020 the board membership was expanded to include representatives of industries. The Technical Working Group (TWG) elects among themselves the Chairman, Vice Chairman, and Secretary. The term of office of the Board shall be three years (co-terminus with the terms of the mayors) with quarterly meetings.

The Board is the highest policy making body of the cluster, in charge with reviewing and updating the rules and regulations on the use and maintenance of the sanitary landfill. The Technical Working Group (TWG) provides the technical and administrative support.

According to the MOA, the following are the roles to be played by each party:

- Provincial Government of South Cotabato – provide technical and financial assistance in access road improvement; assist host LGU in developing/ maintaining the landfill and securing necessary permits and approvals from national government; provide technical assistance; assist cluster members in their info campaigns; and lead monitoring of cluster members in implementing SWM programs; and assist in formulation of rules and regulations and determination of tipping fees; and conflict mediation
- Surallah LGU – host, maintain and operate the landfill according to legal and technical requirements required by law; allow access to LGUs; monitor and evaluate landfill operations and provide cluster members status reports; and issue billing statements to LGUs
- Cluster members – patronize the landfill and dispose only residual wastes; provide own transport units; maintain their own Materials Recovery Facilities, and pay tipping or disposal fees.

The MOA does not limit the services of the landfill to the MOA signatories – it says that other LGUs or private entities may indicate their commitment and intention to avail of services subject to rules and regulations established by the Board.

*Cluster SLF management as a cooperation – not a business – arrangement.* The governance mechanism that the MOA setup includes members which do not, investment wise, have a share in the establishment and operation of the landfill. Based on financial contribution only the Province and Surallah who have invested in the landfill. The other members – LGUs and industries – would, in a business setting, be considered clients as they have no share in the income. Thus, the Board and TWG is largely setup as a coordination mechanism, with the final decision still resting with the Chairman, who, since inception of the Board, has remained the Mayor of Surallah.

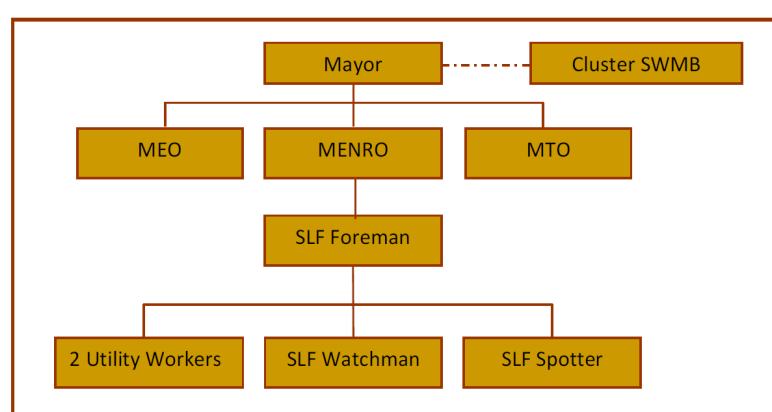
This setup is advantageous for the member LGUs because they have a say in the rules and regulations, as well as the determination of tipping fees. For example, tipping fees were set at a level that was affordable to the LGUs. The disadvantage is that this could negatively impact the cost recovery and income generating potential of the landfill. Still, the project was designed as a public service with partial cost recovery, not as an economic enterprise, so the setup works for service provision. The financial sustainability of the project is further discussed in detail in the next section.

Based on the focus group discussion with member LGUs, the Board members are able to attend meetings regularly and there has been no major dispute or conflict among the members. Outside of the Board meetings, the cluster members (via their MENROs or MENRO-designates) are also able to interact regularly via the Philippine League of Local Environment Officers - South Cotabato Chapter (PLENRO-SC) which meets more regularly.

### Key issues and challenges:

*Inadequate personnel for landfill operation.* According to the administrative organization described in the Operations Manual, the local government of Surallah is responsible for the operation and maintenance of the SLF. Day-to-day activities should be performed by trained personnel including a Foreman who will serve as the on-site supervisor, a Watchman, a Spotter and two Utility Workers. The Municipal Environmental and Natural Resources Officer (MENRO) will provide overall supervision of the operations and will act as the Pollution Control Officer (PCO); the Municipal Treasurer's Office (MTO) will take charge of the billing and collection of fees; and the Municipal Engineering Office will make available manpower and equipment for the operations.

**Figure 6. Proposed SLF Organizational Structure**



Source: Surallah Cluster SLF Operational Guidelines

During the time of the study, the SLF only had two dedicated personnel – one foreman in charge of supervision, and a watchman/ spotter. The MEO has an assigned an engineer to overseeing the landfill expansion (See Figure 6). But he is on-call and not fully dedicated to the site. The MENRO monitors the SLF and also acts as Pollution Control Officer, while the MTO bills for and collects the tipping fee. The current MENRO believes that it would be more ideal for the landfill to have its own in-house/ dedicated Admin Officer and Pollution Control Officer. Budgetary constraints are preventing them from hiring dedicated staff for the SLF. In Surallah LGU, solid waste management is lumped under the MENRO. Of the 21 staff for the MENRO, only two have permanent positions while the rest are contractual.

Changes in administration has made it difficult for them to retain trained personnel, not just in the SLF but also in their Eco-Park, a separate facility that acts as Material Recovery Facility for the town. The Surallah MENRO Officer also cited that it has been a challenge for them to supervise the landfill on top of their other duties and would prefer to have dedicated administrative personnel for the landfill.

### **6.2.3. Technical and Operational arrangements**

The Province of South Cotabato and the Surallah municipal government cooperated to be able to design and construct the sanitary landfill, with technical assistance from the USAID



EcoGov project in terms of design and DENR-EMB for site assessment. Operational standards and guidelines were also formulated through joint Province and host LGU cooperation.

*Joint design and construction team.* An in-house Design and Monitoring Team was setup in the implementation of the project to ensure its proper design and construction. This team consisted of representatives from the Surallah Municipal Government, Provincial Environment Management Office, Provincial Engineering Office, as well as the DENR-EMB. Aside from the landfill design, the team also conducted the initial environmental impact assessment, topographic mapping and hydro-geological study as part of the site selection and preparation. During construction, the Provincial Engineering Office and the Department of Public Works and Highways also provided equipment. This enabled them to cut costs on consultancy and construction, as well as build up their own technical capacity.

*Technical assistance in landfill design.* A consultant was hired under the USAID EcoGov 2 project to assist the Design Team in the SLF design. Including the SWM plan preparation, the EcoGov2 technical assistance program lasted from 2005 to 2011 (about 6 years). Three engineers from the Province and three engineers from Surallah underwent the training on SLF design which took about 8 to 10 sessions. The engineers did the design while the consultant checked their output and conducted inspections during construction. The Surallah municipal engineer involved described the process as a challenging one because at that time, there were few places in the Philippines they could benchmark for the design. The DENR-EMB at the time also did not have the capacity to provide technical assistance on landfill design, so their inputs during the planning stage was mainly focused on site analysis and evaluation for the landfill (Roldan Eusoya, 2022).

The training and experience gained by the municipal and provincial engineers in the SLF design and construction proved to be valuable in their capacity building. They learned the technical know-how in analyzing the contours, wastewater outfall, and rainfall data for the landfill design. They are now being invited as resource persons for the design of SLF in other cities. The design and construction of the SLF expansion cell no. 2 was solely done by the municipal engineer. Aside from Surallah, the PEMO also assisted Koronadal in its SLF construction by being a part of the TWG that will evaluate the contractor.

*Landfill construction by administration.* The construction was done by administration under the Municipal Engineering Office of Surallah, supervised and monitored by the Design Team. According to the MEO, the decision to do the construction themselves was because they were not equipped to contract out the work because they were unsure of the technical specifications and possible revisions/ variations in the work that they would experience. They used their own equipment as well as borrowed from the Provincial Engineering Office and DPWH. Though this enable them to cut costs, they could not use the equipment full time and was dependent on the schedule of use of the equipment, resulting to delays in the work. The construction took almost a year.

*Standards for Landfill Operation.* These were established early on by Technical Working Groups who were created to study the future operation of landfill and ensure its sustainability. This TWGs consisted of local officials and technical staff and partner agencies, including the USAID Philippine Environmental Governance 2 Project

(EcoGov 2), the Provincial Environment and Management Office (PEMO) and the Provincial Engineering Office (PEO).

One group focused on the conduct of a Cost and Revenue Analysis, to look into the financial and economic details of the project to ensure cost efficiency, recovery, and sustainability. Another working group developed an SLF Operations and Maintenance Manual, which contains information on how the facility should be safely operated and maintained. Members of these groups went on to become part of the landfill management and operations team. Due to their experience, they were able to conduct another CRA in 2020 to be able to update the tipping fees.

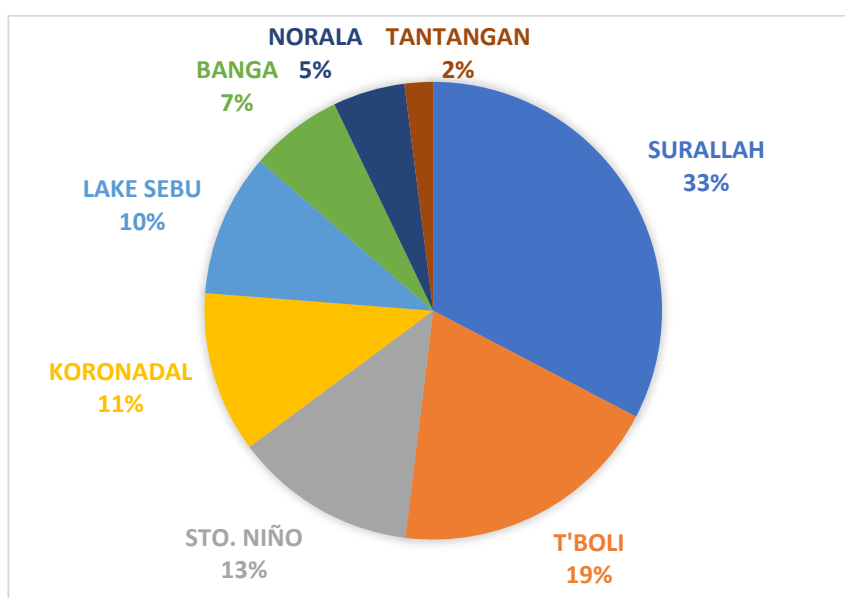
The Operations Manual includes regulatory and performance standards, detailed operations, performance and environmental monitoring, health and safety, staffing, responsibilities, and capability building, recording and reporting system, visitor management, complaints, and investment and operating costs. Detailed operational steps include entry control, inspection and recording of collection, cell management, leachate management, among others. Included in its annexes also are the monthly report forms to be filled up regularly.

The Cluster SLF Board also developed financial guidelines on the collection, disbursement, recording, reporting and utilization of cluster sanitary landfill (SLF) special account. The document provides a uniform guide in the administration of the Cluster Sanitary Landfill (SLF) Account, and includes general and basic policies in the management of the Cluster SLF Funds, as well as some details in the handling of its book of accounts.

*Benefits from landfill operation.* The following have been identified by the cluster members as benefits from the establishment of the cluster SLF:

- *Compliance to RA 9003.* The clustering helped all LGUs to comply with RA 9003, which requires closure of all sanitary dumps in favor of SLF facilities. The total bulk of wastes in the SLF come from Surallah, Tboli, and Sto Nino (See Figure 7). In terms of waste disposal, the host LGU has benefitted the most. Surallah is still the largest contributor to the tipping fee, and it subsidizes the tipping fee for its own barangays to encourage dumping in the SLF. The Surallah LGU believes that 100% of its residual waste collected from their barangays are delivered to the SLF (Emboltorio, 2022).

**Figure 7. Percent of Waste Delivered to SLF 2011 -2022, Member LGUs**



Source: Author's computation from the Surallah Cluster Sanitary Landfill Summary Of Deliveries as of August 2022

- *Surallah Cluster SLF as learning site.* This has become a learning site for LGUs around the country to explore the benefits of sharing a common disposal facility. The prestige and recognition of being the first cluster SLF led by the province is a source of pride for Surallah and the Province.
- *Proper management of emissions and leachate from residual wastes.* The availability of Surallah SLF ensured proper management of approximately 23.5 tons/ day of residual wastes. With SLF Cluster regularly monitored, pollution from emissions and leachate from residual wastes were monitored.
- *Promotion of waste segregation and diversion at source in cluster LGUs.* Since the MOA provides that only residual wastes will be received in the Surallah SLF, cluster LGUs were motivated to fully enforce proper waste segregation at source and effectively implement waste diversion strategies, including composting at source and recovery of recyclable wastes. Surallah in particular compels its barangays to deliver residual wastes to the SLF (with the barangay covering transport cost) and Surallah LGU subsidizing the tipping fee.
- *Easier monitoring* – the presence of just one SLF for the cluster makes it easier to monitor for the province and DENR.
- *Improved relations among member LGUs.* The association of MENROs for South Cotabato also meets once a month and this is also their venue to coordinate and address any issues.

### Key issues and challenges:

*Lack of dedicated landfill equipment.* At the time of site visit (October 2022), the required waste placement and daily soil cover as stated in the Operations and Maintenance Manual was not being followed. This was due to the lack of a dedicated backhoe for the SLF site. The backhoe being used to ensure proper waste placement and cover was being shared by the LGU with other projects and could be only be used at the SLF when available. At the time of the study, a new backhoe was being purchased that would be dedicated for the SLF only.

*Compliance to environmental monitoring standards.* It has also been a challenge for Surallah LGU to comply with the DENR's environmental monitoring standards. EMB has asked for a regular water quality assessment, closed-circuit television (CCTV) camera and weighbridge. The MENRO said that the water quality assessment may not be necessary since they do not have any effluent discharge in the site. The cost of the regular water quality monitoring is also an issue, which has led them to ask for further assistance from the DENR. They believe that the DENR's approach should be more facilitative/ mentoring (Emboltorio, 2022).

#### 6.2.4. Financial sustainability and economic benefits

The Cluster Board's decisions on the fees to charged for the service was based on a Cost and Revenue Analysis conducted in 2010, as well as the need to provide an affordable service to its member LGUs. The host, Surallah LGU, does not view it as an economic enterprise, but rather as a public service to its fellow LGUs, settling for a break-even scenario for several years. This sense of 'pakisama' or neighborliness has prevailed in how the cluster SLF has been operated so far in terms of its finances.

The SLF was to earn its revenues from the tipping fees (computed per cubic meter of waste disposed) to be collected from the LGUs and industries/ plantations. In the CRA, the first option was full cost recovery of the capital and operational expenses within five years – and this necessitated a Php324/ cu.m. tipping fee. But this rate was deemed unaffordable for the LGUs.

The second option was to exclude the province's Php6.5M in the investment cost, which led to a tipping fee of Php237/ cu.m, which was more affordable for the member LGUs. The tipping fee was eventually settled at Php250 to include the costs for the development of Cell 2. Under the Php250 tipping fee, the projected income for Surallah came up to about Php850K total for five years. Surallah LGU accepted this minimal income scenario.

According to the projections, the SLF was projected to operate for five to six years before the first cell would be filled up. The computation of the tipping fee was based on the 5-year projection, and it would have enabled the Surallah LGU to recover costs at least a year before the first cell was closed down. But the actual waste disposal has allowed them to keep operating the SLF for seven more years.

In 2020 rising operational costs and the need to finance the completion and purchase of equipment for the landfill led Surallah to conduct a new Cost and Revenue Analysis, and the tipping fee was raised to Php650 per cu.m for the member LGUs, and P1,500 per cu.m. for the industries/ plantations. This was approved by the Cluster Board and implemented in March 2021. This higher rate for industries is beneficial for Surallah as based on data, the waste

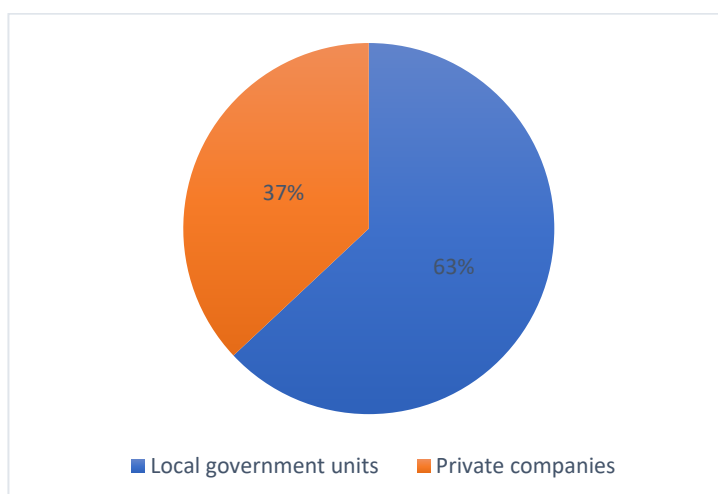
from the industries/ plantations constitute a substantial percentage (about 37%) of the total waste disposed so far.

The Province and Surallah LGU recognize the challenges of operating the SLF. Aside from the fee increase, they are also exploring the possibility of converting the site into a waste-to-energy (WTE) facility via a public-private partnership (PPP).

*Savings from investments costs per SLF.* The investment costs per SLF ranges from Php7.5 million to Php12million, amounting to an estimated total of Php 54 million for six LGUs, not including management and operation costs. With the establishment of the Surallah Cluster SLF, the province generated a savings of at least Php46 million. What would have been resources used for landfill establishment have also been put to other use in other LGUs. For example, in Tboli, the planned area for their SLF has been allocated to other services such as a transport terminal

*Inclusion of private commercial and industrial establishments.* The inclusion of private companies in the users of the sanitary landfill was advantageous to Surallah. Private companies have so far contributed about 37 percent of the total waste disposed from 2011 to 2022 (See Figure 8). They contribute substantially to the landfill's revenue due to their large volume of wastes and higher tipping fees (industries started with the same rate at Php250/ cum, but later raised to Php1500/cum). Currently only those companies located in Surallah are allowed to use the landfill.

**Figure 8. Percent of Waste Deliveries by LGU and Private Sector, 2011 -2022**



Source: Author's computation from the Surallah Cluster Sanitary Landfill Summary Of Deliveries as of August 2022

*Visibility to investors.* The presence of the SLF has made them more visible to investors, such as waste-to-energy (WTE) companies. A WTE company has submitted a proposal to South Cotabato and Surallah where the WTE company will take over the management of the SLF, finance the construction and operation of a WTE facility, and any future expansion of the SLF. In this scheme the province and LGU will get a share of the gross revenue. The benefits to other LGUs of such an arrangement could be a decrease in their tipping fees.

*Key issues and challenges:*

*Low waste disposal.* A comparison of the waste projections of the Cost and Revenue Analysis conducted in 2010 and the actual record of waste delivered to the facility from 2011 (see Table 17) reveals that the actual waste disposed at the SLF was at a much lower volume than that projected. This allowed them to keep operating the SLF for seven more years, but it also extended their cost recovery period, and delayed the construction of Cell No. 2. The waste delivery data shows that the original 2015 target of about 65,000 cum was only achieved around the end of 2021(See Table 18).

*Delayed payment of fees and non-imposition of penalties.* Another major challenge for Surallah aside from the lower waste volume has been the delayed payments from the member LGUs, with some having arrears dating back several years. According to the MOA, a two percent (2%) penalty per month shall be imposed for accounts not paid five (5) days after receipt of the billing statement, and unpaid accounts for three months will disallow the member LGU to dispose their residual wastes at the Surallah cluster SLF. Member LGUs are also supposed to pay a minimum amount of 60% of their quarterly target of residual solid waste delivery regardless if their targeted residual solid wastes are delivered or not at the Surallah SLF to sustain the operation.

Based on an interview with the Surallah MENRO officer, however, the suspension of disposal and the 2% penalty have not been imposed. The issue of late payments has been discussed at the Cluster Board level, as well as elevated to the Provincial Environment Management Office.

The Cluster Board has actually recommended suspending the waste delivery of delinquent LGUs.

Ultimately the decision to allow delinquent LGUs to keep using the landfill has been with the Mayor of Surallah, who is the head of the Cluster Board. The Surallah LGU's understanding of the member LGUs' limited capacity and friendly relations with the other LGUs are cited as factors for the decision. As long as the member LGUs ultimately pay (remaining balances are typically carried over to the next year's budget), Surallah has been allowing them to keep using the landfill.

Despite the low waste volume and delayed payments, a comparison of their annual revenue and operational costs from 2017 - 2022 reveals that the cash flow has been sufficient to cover expenditures, except for 2018 when there was a large outlay on the construction for Cell No. 2 (see Table 19). According to the SLF Financial Guidelines, the total estimated revenue from tipping fees shall not be fully programmed for operations and maintenance.

An amount of at least forty three percent (43%) of the total income should be set aside for back-end costs and for the construction of Cell #2. Further analysis is necessary to determine actual income, but this overview indicates that the increase in tipping fees have provided Surallah with revenues necessary to continue work on expanding the landfill and invest in equipment.

**Table 17. Summary of Waste Deliveries for Surallah Cluster SLF in Cubic Meters as of August 2022**

CLUSTER MEMBER	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	TOTAL (cum)	PERCENT
	Aug-Dec	Jan-Dec	Jan - Dec	Jan - Dec	Jan - Dec	Jan - Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Dec	Jan-Aug		
<b>SURALLAH</b>	93.97	548.18	887.42	1,904.57	824.65	757.1	511.53	982.54	1,466.61	4,081.79	454.44	1913.66	14,426.47	20.58%
<b>NORALA</b>	0	57.13	70.76	103.37	104.91	175.41	224.43	165.6	161	147.2	763	275.68	2,248.49	3.21%
<b>LAKE SEBU</b>	0	18.24	50.96	57.74	241.15	360.8	449.16	654.77	847.86	742	349.6	686	4,458.28	6.36%
<b>BANGA</b>	17.34	143.43	78.69	168.14	211.66	279.22	372	275.28	520.8	223.2	245.9	364.56	2,900.22	4.14%
<b>STO. NIÑO</b>	84.8	81.21	83.08	129.47	56.84	168.94	366.04	296.58	229.28	363.4	3639.39	199.36	5,698.39	8.13%
<b>T'BOLI</b>	119.19	337.33	723.1	856.81	700.95	777.71	795.9	843.39	863.52	964.66	802.88	733.79	8,519.23	12.15%
<b>DOLE PHIL</b>	18.38	153.9	104.94	248.14	305.45	313.7	694.68	403.02	459.22	474.95	205.02	323.78	3,705.18	5.29%
<b>SUMIFRU</b>	106.1	225.76	341.05	1,366.59	1,996.25	887.87	1,952.12	768.33	1,307.40	1,304.05	6460.23	272.23	16,987.98	24.23%
<b>TANTANGAN</b>				66.73	36.66	83.47	140.61	133.38	96.39	119.64	0	215.75	892.63	1.27%
<b>STANFILCO-Lambontong</b>					139.48	125.46	142.12	103.88	38.63	42.93	401.51	9.44	1,003.45	1.43%
<b>STANFILCO - Upper Sepaka</b>					28.92	0	0	0	2,573.00	0	846.97	0	3,448.89	4.92%
<b>Koronadal</b>						1,031.70	1,574.66	2,421.42	0	0	0	0	5,027.78	7.17%
<b>IPEMC</b>						35.28	321.71	244.29	162.65	5.2	13.62	0	782.75	1.12%
<b>Total</b>	439.78	1,565.18	2,340.00	4,901.56	4,646.93	4,974.74	6,809.00	7,292.48	8,726.36	8,469.02	14,182.56	4,994.25	<b>70,099.74</b>	<b>100.00%</b>

Source: Surallah Cluster Sanitary Landfill Summary Of Deliveries as of August 2022, Surallah MENRO



**Table 18. Comparison of Projected 5-Year Waste Disposal Volume and Actual Waste Deliveries in Cubic Meters, 2012 -2015**

LGU / Year	1	2012	2	2013	3	2014	4	2015	5	2016	Total Projected (5 Years)	Total (Waste Deliveries 2012 - 2015)
Banga	1,642.50	143.43	1,724.60	78.69	1,810.90	168.14	1,901.40	211.66	1,996.50	279.22	9,075.80	881.14
Lake Sebu	748.5	18.24	785.9	50.96	825.2	57.74	866.5	241.15	909.8	360.8	4,135.90	728.89
Noralla	1,550.00	57.13	1,627.50	70.76	1,708.90	103.37	1,794.30	104.91	1,884.00	175.41	8,564.70	511.58
Sto. Nino	1,550.00	81.21	1,627.50	83.08	1,708.90	129.47	1,794.30	56.84	1,884.00	168.94	8,564.70	519.54
T'boli	2,190.00	337.33	2,299.50	723.1	2,414.50	856.81	2,535.20	700.95	2,662.00	777.71	12,101.10	3395.9
Surallah	1,825.00	548.18	1,916.30	887.42	2,012.10	1,904.57	2,112.70	824.65	2,218.30	757.1	10,084.30	4921.92
Tantangan	310	0	325.5			66.73		36.66		83.47	635.5	186.86
Koronadal	5,475.00	0.00	5,748.80								11,223.80	0
Plantations	90	379.66	94.5	445.99	99.2	1614.73	104.2	2470.1	109.4	1362.31	497.3	6272.79
<b>Total</b>	<b>15,381.00</b>	<b>1,565.18</b>	<b>16,150.10</b>	<b>2,340.00</b>	<b>10,579.60</b>	<b>4,901.56</b>	<b>11,108.60</b>	<b>4,646.92</b>	<b>11,664.00</b>	<b>3,964.96</b>	<b>64,883.20</b>	<b>17,418.62</b>

Source: Author's computation from the Cost and Revenue Analysis for the Surallah Cluster SLF and the Surallah Cluster Sanitary Landfill Summary Of Deliveries as of August 2022, Surallah MENRO

**Table 19. Surallah Cluster SLF Annual Revenue and Operational Costs in Php (2017 - 2021)**

Year	Tipping Fees Collected (Php)	43% For Backend Costs	Balance for Operations	Annual Expenditures (Php) <sup>a</sup>
2017	1,584,387	681,286	903,101	354,500
2018	1,779,776	765,304	1,014,472	3,539,500
2019	1,498,155	644,207	853,948	523,140
2020	1,683,155	723,757	959,398	298,600
2021	5,507,329	2,368,151	3,139,178	2,355,700
<b>Total</b>	<b>12,052,802</b>	<b>5,182,705</b>	<b>6,870,097</b>	<b>7,071,440</b>

a. Includes outlay for Cell No. 2 expansion for 2018 and 2021

Source: Author's computation from submitted LGU SWM Baseline Information Checklist

*Low priority and budget allocation for SWM services.* Based on the focus group discussion with member LGUs, one reason for the lower than projected waste volume is the limited budget allotted by their municipal government for tipping fees, which has led them to also minimize their trips to the landfill. Wastes that don't end up in the landfill are temporarily stored in Residual Containment Areas (RCAs).

To overcome the budget constraints, LGUs such as T'boli and Lake Sebu have enacted an ordinance for a separate allocation for their SWM fund. Although in the case of Lake Sebu, where the allocation is supposed to be 20% of the budget this ordinance has not yet been implemented - the tipping fees are still being charged to the general fund, which is shared with other LGU maintenance and operating expenses. Data from 2019 - 2021 shows that Lake Sebu and T'boli, the SWM budget ranges from only 0.2% to 1.3% of total LGU income, while the budget for tipping fees ranges from 10 to 24% of the SWM budget (see Table 20).

**Table 20. Percent of SWM Budget and Tipping Fees in Total Income, Lake Sebu and T'boli 2019 -2021**

LGU	Lake Sebu					T'boli				
	Total Current Operating Income (in Php million)	SWM Budget(in Php million)	% of Income	Tipping Fees (in Php million)	% of SWM Budget	Total Current Operating Income (in Php million)	SWM Budget (in Php million)	% of Income	Tipping Fees (in Php million)	% of SWM Budget
2019	346.57	2.05	0.6%	0.25	12%	363.68	1.05	0.3%	0.1	10%
2020	377.19	2.04	0.5%	0.35	17%	468.73	1.15	0.2%	0.12	10%
2021	372.87	2.05	0.5%	0.5	24%	438.64	5.75	1.3%	0.6	10%

Source: Author's computation from the BLGF LGU Annual Statement of Receipts and Expenditures 2019-2021

*Challenges in waste collection.* The member LGUs also cited challenges in waste collection in remote areas as a reason for the lower rates of waste disposal. Lake Sebu, for example, only has a 5% collection efficiency in its 15 remote barangays, with 4 out of 19 barangays with no collection at all. T'boli has also mentioned it only collects at most, once a month from its remote barangays.

*Low garbage collection fees and collection rate.* A key factor in the limitation of cluster LGUs to allocate funds or generate resources is the differing rates and charges applied by LGUs and local waste generators. The member LGUs usually charge a fixed fee per residential, commercial or industrial unit, regardless of volume of waste generation (See Table 21).

**Table 21. Sample Garbage Collection Fees Collected by Surallah Cluster LGUs in Php, 2022**

<i>Categories</i>	<i>Lake Sebu</i>	<i>T'boli</i>	<i>Tantangan</i>
<b>Household</b>	200/ month	400 – 500/ yr	100/ month
<b>Commercial</b>	413/ month	100	100/ month
<b>Industrial</b>	413/ month	1500	

*Source: LGU SWM Baseline Information Checklist*

## 7. Passi City Integrated Waste Management Facility (PIWMF) – a PPP approach for delivering common SWM services

### 7.1. Situationer

#### 7.1.1. SWM situation in Iloilo Province and Passi City

Table 22 shows the estimated and projected total annual waste generation for Iloilo province and key LGUs, including Iloilo City and Passi City (Annex 2 shows data from other LGUs in the province). From 2015-2020 total annual waste generated by Iloilo progressively grew by 11 % from 404,714 tons to 449,771 tons over the last 5 years and is expected to increase to 482,194 tons. Most of the increase is attributed to the explosive growth experienced in the province, particularly from its urban areas and increase in population.

As early as 2010, the Provincial government of Iloilo has acknowledged the growing challenge of addressing its growing solid waste, largely in complying with the closure of “open dumpsites” and establishment of an environmentally-compliant final disposal facility or engineered sanitary landfill.<sup>25</sup>

**Table 22. Total and projected annual waste generation for Iloilo Province and other areas in tons (2015-2025)**

LGU	Daily Average/capita <sup>26</sup>	2015	2020	2021	2022	2023	2024	2025 <sup>27</sup>
Iloilo Province	774.56	282,714 <sup>28</sup>	449,771	456,076	462,470	468,953	475,528	482,194
Iloilo City	300	122,000	122,257	123,878	125,521	127,186	128,873	130,582
City of Passi	32.21	11,757	22,093	22,409	22,730	23,055	23,384	23,719
Others	742.35	270,958	305,421	309,789	314,219	318,712	323,271	327,893

Source: National Solid Waste Management Commission (NSWMC) for 2020-2025 projection. <https://nswmc.emb.gov.ph>. 2015 data computed by author (i.e. PSA 2015 population census data; DENR-EMB: National Solid Waste Management Status Report 2008-2018. <https://emb.gov.ph/wp-content/uploads/2019/08/National-Solid-Waste-Management-Status-Report-2008-2018.pdf> Accessed 02 December 2022.

Data from the National Solid Waste Management Commission (NSWMC) showed that 40 out of 44 LGUs in the province, including Iloilo City and City of Passi, have an approved 10-year Ecological Solid Waste Management Plan (ESWMP), only 2 have an operational sanitary landfill - Lambunao town in the 3rd District and Passi City in the 4th District, outside of Iloilo City. Iloilo City is planning to convert the existing controlled dumpsite in Bgy Calaunan into a 20-hectare engineered sanitary landfill.

<sup>25</sup> Sec. 37, RA 9003.

<sup>26</sup> 2015 data was computed by author using NSWMC (2018) estimate of average Philippine weighted per capita waste generation/day of 0.40 kg/capita x PSA 2015 census of population data/1000kg = daily tons/day. Lower estimate will be generated if average per capita waste generated for all LGUs (outside of MetroManila) = 0.34 kg/capita is used. For total annual waste generation daily per capita (in tons) waste generated was multiplied with 365 days/year.

<sup>27</sup> Project annual waste generated per year from 2020-2025 was generated from projection data from NSWMC website. <https://nswmc.emb.gov.ph> Accessed 02 December 2022.

<sup>28</sup> 2015 total annual waste generated does NOT include Iloilo City. For projected t annual waste generated from 2020-2025 includes Iloilo City.

According to Ms. Mitzi Peñaflorida, senior environmental management specialist of the Provincial Government Environment and Natural Resources Office (PGENRO), majority of the LGUs do not have their own sanitary landfills for the following reasons<sup>29</sup>:

- non-availability of lot/land for the facility;
- lack of funds; a budget of approximately P15 million is required for a Category 1 sanitary landfill having a carrying capacity of 15 tons per day
- insufficient equipment;
- lack of manpower;
- in some cases, absence of a permanent environment officer specifically tasked with addressing environmental issues caused by improper waste disposal

However, the biggest challenge faced by LGUs in establishing sanitary landfills are social or community acceptability. Even if an LGU has identified a suitable area that complies with the rigid site and environmental criteria imposed by the government, local residents still express reluctance to host a disposal facility or the NIMBY syndrome (not in my backyard) because of its perceived environmental, health, physical and, largely, social cost to them. Based on the guidelines of the Department of Environment and Natural Resources, LGUs should conduct first a public hearing within the proposed site before it could establish a solid-waste management facility. LGUs should also seek the approval of the residents living in the area.

She also said a sanitary landfill is labor-intensive and requires workers to operate, which is why most LGUs in the province opt to dispose their residual wastes at the Passi City sanitary landfill and pay only a tipping fee of P700 per ton. At the moment, 37 out of the 43 LGUs in Iloilo and 1 from Capiz have signed a Memorandum of Agreement (MoA) with the City of Passi to dispose their residual waste at the P408-million Integrated Waste Management Facility in Passi City.

These towns are San Joaquin, Tigbauan, Oton, Igaras, Tubungan, Zarraga, Sta. Barbara, San Miguel, New Lucena, Pavia, Leon, Leganes, Alimodian, Badiangan, Bingawan, Cabatuan, Calinog, Janiuay, Mina, Pototan, Anilao, Banate, Dingle, Dumangas, Barotac Nuevo, Dueñas, San Enrique, San Dionisio, San Rafael, Concepcion, Carles, Barotac Viejo, Balasan, Batad, Sara, Lemery, and Ajuy. The remaining five municipalities that did not sign the MOA are Guimbal, Miag-ao, Maasin, Estancia, and Lambunao (which operates their own landfill).

The renewed campaign of the Department of Environment and Natural Resources – Environmental Management Bureau (DENR-EMB) to enforce the provisions of the Ecological Solid Waste Management Act of 2000 or RA 9003, including the filing of charges against erring local officials, i.e. local chief executives and environment officials, have increased pressure from LGUs to fulfill their local mandates on provisioning solid waste management (SWM) services from segregation, recycling, collection and disposal. Both the Local Government Code (RA 7160) and ESWM Act (RA 9003) mandates that LGUs are primary responsible for waste segregation and disposal.

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<sup>29</sup> Herrera, John Noel E., 2022. "95% of Iloilo LGUs still lack sanitary landfills", <https://www.panaynews.net/only-2-igus-in-iloilo-province-have-sanitary-landfills/> <https://www.dailyguardian.com.ph/95-of-iloilo-igus-still-lack-sanitary-landfills/> 28 September 2022. Accessed 30 November 2022.

In 2016, at least 4 Iloilo LGU officials were identified as among the initial batch of 600 local officials and staff from 50 LGUs that will be charged in the Environmental Ombudsman, an extension of the office of the Ombudsman, for violation of environmental protection laws, particularly non-implementation of the provisions of RA 9003 specifically for continued operation of ‘open dumpsites’. These Iloilo LGUs include the municipalities of Banate, Ajuy, Sara and Sta. Barbara.<sup>30</sup>

By 2018, as part of its campaign to support LGUs in its jurisdiction to comply with RA 9003, the Iloilo Provincial Government, in cooperation with the DENR-EMB Region VI, promised to allocate funds for the establishment of sanitary landfills compliant to environmental standards in cluster areas of the Province.<sup>31</sup> An initial PhP 10-15 million seed fund would be provided by the Province for the purchase of land to the LGU that would serve as host of the common SWM facility.<sup>32</sup>

Seven local governments units (LGUs) in the province intends to setup their own sanitary landfills to address garbage collection and disposal problem. According to the Iloilo Provincial Government’s Environment and Natural Resources Office (PG-PENRO), these towns include Miag-ao, Janiuay, Mina, Dingle, San Rafael, Igaras, and Maasin.<sup>33</sup> Aside from the seven towns, the municipalities of Tigbauan and New Lucena also aired their plans to have a sanitary landfill that could also cater residual waste from neighboring towns. However, as of this writing, only one LGU – New Lucena, have managed to identify a potential site for its cluster SLF and have received the fund support from the provincial government.<sup>34</sup>

#### 7.1.2. Overview of Passi City and its environs

The City of Passi is situated on the heart of Panay Island and can be reached via the New Iloilo-Capiz Highway which starts from Iloilo City up to Roxas City, and goes all the way to the town of Kalibo and Caticlan Jetty Port at Malay, Aklan. It is 50 kilometres (31 mi) from Iloilo City (around 45 minutes by land transport) and 66 kilometres (41 mi) from Roxas City, Capiz Province (around 1 hour by land). In March 14, 1998, it became the only component city within the Province of Iloilo with the passage R.A. 8469<sup>35</sup>. It is a landlocked city and is surrounded by the town of Dumarao in the north, San Rafael in the east, San Enrique in the southeast, Duenas in the south, Calinog in the west and Bingawan in the northwest.<sup>36</sup>

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<sup>30</sup> “Environmental Ombudsman to file cases vs violating LGUs”.

<https://www.sunstar.com.ph/article/96998/environmental-ombudsman-to-file-cases-vs-violating-lgus>. 08 September 2016. Accessed 01 December 2022.

<sup>31</sup> UNTV News and Rescue. 2018. “Iloilo officials charged over illegal dump site operations”, <https://ph.news.yahoo.com/iloilo-officials-charged-over-illegal-032009220.html>. 01 June 2018. Accessed 01 December 2022.

<sup>32</sup> Notes from personal interview with Ms. Mitzi Penaflorida, SWM division chief, Iloilo Province Government Environment and Natural Resources Office (PG-PENRO) conducted by study team on 11 November 2022 in Iloilo City. The fund assistance from the Iloilo Provincial Government is being continued under the current administration of Gov. Arthur R. Defensor, Jr.

<sup>33</sup> Sornito, Ime. 2019. “Sanitary landfills in 7 Iloilo towns mulled,” <https://www.panaynews.net/sanitary-landfills-in-7-iloilo-towns-mulled/> 20 October 2019. Accessed 30 November 2022.

<sup>34</sup> Notes from interview with Ms. Mitzi Penaflorida, PG-ENRO SWM Lead Focal Person on 11 November 2022 in Iloilo City.

<sup>35</sup> Iloilo City is classified as a highly urbanized city (HUC) and is not under the jurisdiction of the Province of Iloilo.

<sup>36</sup> <https://passicity.gov.ph> Accessed 30 Nov 2022.

It has a total land area of 251.39 sqkm or 25,139.13 hectares and a total of 51 barangays composed of 36 rural and 15 urban barangays. In terms of land area, the City of Passi is the largest LGU in the whole province of Iloilo. Around 21,822.59 hectares or 87% of the city's total land area are considered rural while 3,316.54 hectares are considered urban areas (13 urban barangays).

Based on its approved Comprehensive Land Use Plan (CLUP) 2001-2010, a total of 416.67 hectares or 12.6% of the city's urban land are devoted to residential use. These are concentrated in Barangay Arac, Bacuranan, Sablogon and Tubod. The city's central business district or main commercial and business areas are located in Bgy Poblacion, Ilawod, Bacuranan, Gines Viejo, Imbang Grande, Man-it and Sablogon covering an area of 119.52 hectares of 3.61% of total urban land.

On the other hand, some 1,002.02 hectares and 800 hectares, or around 54.3% of the total urban land, are allocated for agricultural use and agro-industrial uses, respectively. They are mostly located in Bgy Agdahon, Cadilang, Gemat-y, Gines Viejo, Libo-on and Man-it. Among the major agro-industrial operation in the city is the Central Azucarera de San Antonio (CASA) which operates a 20-hectare sugar mill in Bgy Cadilang. Another 567.72 hectares or 17% are designated as economic zone or "EcoZone" area while the rest are for institutional, forestland and socialized housing.<sup>37</sup>

As of 2020, the Philippine Statistics Authority (PSA) estimates the city's total population is to be 88,873 or an increase of 2.09% from its 2015 population. In 2015 its total population was around 80,729 with a total household of 19,288 or an average of 4.16 members per household.<sup>38</sup> The population density for the city is around 354 persons/sq km or 3 persons per hectare. Iloilo province's population density (2020) is 411 persons/sq km.

The population of Passi grew drastically upon its conversion into a component city in 1998. Its population increased by 10,062 from 59,539 in 1995 to 69,601 in 2000 or an average annual growth rate of 3.17%. From 2000-2010, the city's annual population growth rate was around 1.36%. Around the same period (2000-2010), the city's urbanization rate showed dramatic increases of around 27.6% or 26,400 increase in the urban population. This was due to the reclassification of 11 rural barangays into urban barangays increasing it to 13 barangays.<sup>39</sup>

The City of Passi is classified as a 4<sup>th</sup> class (by income) city with an annual operating income of PhP 808.01 million as of December 20, 2021. Table 23 shows the total current operating income of Passi City in the last 5 years from 2016-2021.<sup>40</sup>

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<sup>37</sup> Ibid, p.50

<sup>38</sup> PhilAtlas. <https://www.philatlas.com/visayas/r06/iloilo/passi.html> Accessed 30 November 2022.

<sup>39</sup> PIWMF, p. 66.

<sup>40</sup> BLGF LGU Statement of Revenue and Expenditures. <https://blgf.gov.ph/lgu-fiscal-data/> Accessed 01 December 2022.



**Table 23. Income and revenue sources of the City of Passi in Php million from 2016-2021**

<i>Fiscal Year</i>	<i>Total Income (Local Sources)</i>	<i>Internal Revenue Allotment (IRA)</i>	<i>Total Current Operating Income (IRA+Total Income)</i>
<b>2016</b>	108.69m	430.25m	538.94m
<b>2017</b>	97.92m	479.50m	577.42m
<b>2018</b>	98.06m	515.09m	613.15m
<b>2019</b>	123.25m	571.07m	694.32m
<b>2020</b>	109.26m	640.91m	803.58m
<b>2021</b>	120.10m	686.91m	807.01m

Source: Bureau of Local Government Finance (BLGF): Statement of Receipts and Expenditures 2016-2021.

Based on the waste analysis and characterization study (WACS) conducted by city in September 2014, showed that the per capita waste generated by the city was around 0.48kg/person, a little above the NSWMC's 0.40 kg/capita average volume estimate for the country. With this data, the projected average waste generation for the city in from 2017-2026 would be around 39.7tons/day and 14,501 tons/year in 2017 and will grow to 44.6tons/day and 16,274 tons/year in 2026.<sup>41</sup> The city's approved 10-year Ecological Solid Waste Management Plan 2017-2026 (EWSMP) identified the reasons for the increase volume of waste from the increase in population, economic activity, tourism, capita income, and increase in the number of industries and commercial establishments.<sup>42</sup>

Of the total, around 31% are considered residual wastes and would have to be disposed through a sanitary landfill (SLF). Table 24 shows the breakdown of the quantity and composition of wastes generated and disposed in Passi City from its WACS study.

**Table 24. Volume and composition of waste generated and disposed in Passi City in kilograms, 2014**

Sector	Waste Disposed based on WACS			Percentage
	kg/ day	kg/ year	tons/ year	
Residentials	20,678.76	7,547,746.35	7,547.75	52.05%
Commercials	4,735.65	1,728,513.67	1,728.51	11.92%
Public market and slaughter house	2,844.57	1,038,268.28	1,038.27	7.16%
Institutions	5,144.86	1,877,873.49	1,877.87	12.95%
Industry	4,735.65	1,728,513.67	1,728.51	11.92%
Hospital and Clinic	1,589.15	580,038.14	580.04	4.00%
<b>Total</b>	<b>39,728.64</b>	<b>14,500,953.60</b>	<b>14,500.95</b>	<b>100.00%</b>
<b>Population 2017</b>				<b>82,768</b>
<b>PCG residential level:</b>				<b>0.480</b>

**Table 9 Waste disposed by composition**

Classification	Disposed Waste			
	Kg/day	Kg/year	Tons/year	Percentage
Biodegradables	18,334.77	6,692,190.09	6,692.19	46.15%
Recyclables	8,712.49	3,180,059.12	3,180.06	21.93
Residuals	12,284.10	4,483,694.85	4,483.69	30.92
Special Waste	397.29	145,009.54	145.01	1.00%
<b>Total</b>	<b>39,729.64</b>	<b>14,500,953.60</b>	<b>14,500.95</b>	<b>100%</b>

Source: Passi City 10-year Ecological Solid Waste Management Plan 2017-2026, p. 44

<sup>41</sup> City of Passi, 2017. 10-year Ecological Solid Waste Management Plan 2017-2026 (approved), p.45

<sup>42</sup> Ibid.



### 7.1.3. Establishment of the Passi City cluster LGU for common SWM Facility

The Passi City Integrated Waste Management Facility (PIWMF) is located Brgy. Aglalana with a total lot area of 96,398 square meters or 9.6 hectares. It was originally intended to be a Sanitary Landfill (SLF) Project Category 1 in 2017 but later one was upgraded to a SLF Project Category 4 in 2019. It can handle an estimated capacity of 250-350 tons/per day.

Passi City's current and approved ESWMP 2017-2026 has identified the establishment of a SLF to manage the projected increases in waste generated by the city in the next 10 years as well as to be compliant with the provision of RA 9003. Under this updated plan, the city targeted wanted to dispose by 2017 around 50% or 20,120 ton annual waste in the city's and by 2026 only around 32% or 14,232 tons/year in the city's proposed SLF.

The establishment of a SLF was part of the key SWM programmes adopted in the updating of its previous ESWMP 2004-2013 that was enacted in 2004 through City Ordinance No. 2004-012 and approved the City's 10-year SWM Plan. However, the City's vision however has not been translated into systematic and self-sustaining strategies for reducing the generation of waste at source such as prohibition of plastic products, imposing higher tax on waste producers, avoidance of the use of non-biodegradable packaging materials, and similar effort.<sup>43</sup>

From 1998-2008, the city's been managing a 2-hectares 'open dumpsite' leased in Bgy Agdayao that is located 8.2 kms. away from the city center. However, since the leased site was only good until November 2007 and had to comply with the provision of the ESWM Act of 2001 to 'close open dumpsites', the city needed to upgrade its final disposal facility to an engineered SLF in the city's updated EWSMP 2014-2023. Table 25 shows the timeline of the Passi City cluster LGU SLF timeline.

**Table 25. Passi City Cluster LGU SLF timelines**

Year	Activity
1998	Passi City launched "LinisBayan Program" as the city's solid waste management program and created an implementing unit under Office of the Mayor City operates an 2.5 hectare open dumpsite in Bgy Agdayao that was leased from private landowner
2000	City Ordinance (C.O) 2000-008 creating the City Environmenta and Natural Resources Office (City ENRO) RA 9003 – Ecological Solid Waste Management Act of 2000 was passed into law
2004	City of Passi formulated and approved it 1 <sup>st</sup> 10-year Ecological Solid Waste Management Plan 2004-2013. One of the priority projects identified in the Plan included the establishment of its own sanitary land fill (SLF) as final disposal facility to replace 'open dumpsite' in Bgy Agdayao; Established City's Ecological Solid Waste Management Board (EWSMB)
2006	City of Passi bought 9.7 hectare land in Bgy Aglalana as site of the city-managed Category 1 SLF; FS was conducted and initial development of the Bgy Aglalana SLF was started (with initial funding requirement of Php 20 million); City of Passi obtained ECC to operate Bgy Aglalana as SLF Category 1

<sup>43</sup> Ibid.,p. 35

<b>1998-2008</b>	City of Passi was operating Bgy Agdayao as an 'open dumpsite'
<b>2012</b>	City of Passi with DENR-EMB conducted technical hearing for the closure and rehabilitation of Bgy Agdayao 'open' dumpsite; Bgy. Aglalana was identified as 'transition' as 'temporary containment area' for city waste. At this time Bgy Aglalana SLF 1 was technically operated by the LGU as a 'controlled dumpsite' because of the lack of resources and limited LGU personnel and capacity. The LGU only 3 staff (1 supervisor; and 2, sweepers) operating the SLF.
<b>2014</b>	Mayor Jesry T. Palmares attended a technical briefing by BEST Inc., a private sector SWM operator, sponsored by the Iloilo Province and the local LGU Leagues on SLF operations and possible financing. Mayor Jesry volunteered to pilot a PPP arrangement for the Passi City SLF facility and entered into technical discussions on how to do a PPP scheme; City of Passi passed its local PPP ordinance (S.O. 2014-042) after seeking technical assistance and support/guidance from the PPP Center, BEST Inc., DENR-EMB and Iloilo Province;
<b>2016</b>	Conduct of continuous technical discussions, research, studies, field visits, and reviews between City of Passi and BEST Inc., with support from Province, and DENR-EMB; and consultation with potential LGU cluster members BEST Inc., prepared a feasibility study (FS) for possible PPP for the re-design, construction, operation and maintenance of the existing 9.7 hectare Passi City SLF in Bgy Aglalana into a Category 4 SLF; with the prospect of servicing an initial cluster of 27 Iloilo LGUs in 2 <sup>nd</sup> , 3 <sup>rd</sup> , and 4 <sup>th</sup> districts of Iloilo
<b>2017-2019</b>	BEST Inc, submitted the unsolicited proposal (Stage 1) for a PPP joint-venture agreement to the LGU; the City of Passi created as dedicated PPP technical working group (TWG) that would handle the technical, legal, financial, budgetary, administrative and operational review of the PPP JVA proposal; BEST, Inc. and City of Passi detailed discussions and negotiations of the JVA (Stage 2), and upon acceptance to the terms; City of Passi offered the PPP JVA to a Swiss challenge (Stage 3); throughout this period the City of Passi was being guided by NEDA PPP Center.
<b>2019</b>	City of Passi and BEST Inc. signed PPP JVA on 25 September 2019 Amended ECC for Bgy Aglalana to operate as SLF Category 4 was issued; Groundbreaking ceremonies for start of construction of Bgy Aglalana SLF Cat 4;
<b>2020-2021</b>	Notice to Proceed (NTP) issued on January 2020 COVID outbreak, quarantine and mobility restrictions imposed for the next 2 years; construction in Passi City SLF stopped (March 2020-onwards) JVA continued technical discussion and meetings with other 27 potential cluster LGU members (to draft MoAs and procurement processes); signing and approval of MoAs
<b>2021</b>	Construction restarts with easing of COVID quarantine and mobility restrictions Construction completed and opening of Passi City Integrated Waste Management Facility (PIWMF) on 9 July 2021 Dingle - 1st LGU to dispose waste on 10 July 2021; Passi City was able to disposed waste only in August 2021.

Source: Author's summary

In 2006, the city identified a 9.7hectare site in Bgy Aglalana from the four (4) sites were considered for the proposed SLF. The Aglalana site was selected as the city's proposed engineered SLF site because it satisfied not only the technical and environmental criteria imposed by the DENR but also because of its social acceptability to the local community. It was assessed and passed the minimum requirements for a NSWMC SLF Category1 and obtained an Environmental Compliance Certificate (ECC) as SLF Category 1 and Waste Management/Recycling Center.

However, the LGU failed to effectively operate and manage the sanitary landfill due to funding constraints and its lack of technical expertise in the construction, design, management and operation of an SLF.<sup>44</sup> Instead, the LGU-managed SLF facility operated as a 'controlled dumpsite'<sup>45</sup>. By 2012, the LGU conducted a technical hearing for the closure and rehabilitation of its open dumpsite in Bgy Agdayao.

In order to properly address the previous technical and operational problems of encountered by the LGU-managed SLF, the city re-evaluated the implementation of its identified programs and project of its approved 2014-2023 ESWMP and sought technical assistance from the DENR-EMB and private sector professionals with expertise in Sanitary Landfill Projects to properly design, construct and operate a Category 4 Sanitary Landfill and its support facilities. The concept of clustering with other nearby municipalities was also being considered in this aspect.

By 2014, then Mayor Jesry T. Palmares, attended a League of Mayors' technical briefing by private sector waste management facility operator Basic Environmental Services and Technologies, Inc (BEST) that was sponsored by the Provincial Government and DENR-EMB regional office on the establishment, compliance and operation of SLF for Iloilo LGUs. This technical briefing, included discussions on the concept of public-private partnership (PPP) arrangement as a modality for establishing SLF and for LGU's to comply with requirements of the law. The City of Passi, through the instigation of Mayor Palmares, volunteered to be the first pilot PPP project for an SWM facility.

On the same year, the City of Passi passed its local ordinance on Private Public Partnerships (PPP), Special Ordinance (SO) No. 2014-042, with assistance to the City LGU and Sanggunian from the PPP Center of the Philippines and private sector resource persons. The city's PPP ordinance provided for joint-venture arrangements (JVAs) that the LGU can enter into with the private sector.

In the next two years, the LGU officials and technical staff were involved in technical discussions, training and capacity building on the proper design, construction, management and operations of SLF. They also underwent technical benchmarking and field visits to different operating SLFs and controlled dumpsites in the country. They also underwent legal and technical capacitation in formulation of procurement, bid documents and preparation of specifications and terms of references/scope of works for project proposals and feasibility studies.

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<sup>44</sup> City Waste Management Office (CWMO), Passi City, "Passi City Integrated Waste Management Facility – a brief history" (PowerPoint Presentation). November 2022.

<sup>45</sup> Notes from Interview with Passi City councilor and City Solid Waste Management Office head Jorace Anthony Panes on 10 November 2022 in Passi City.

By 2017, an unsolicited proposal for a joint venture agreement (JVA) was submitted by BEST, Inc. for the design, construction and management of an engineered SLF Category 4 and other waste facilities to the City of Passi. These underwent detailed negotiations between the proponent and the City Government (which created a separate technical negotiating team composed of LGU officials and lawyers and further advise from the PPP Center) before the proposal was accepted by the LGU and submitted to a Swiss challenge, as provided for by the PPP Code.<sup>46</sup>

In 2019, the City of Passi signed a JVA with BEST, Inc. to design, construct and operate an SLF Cat 4 in Passi City. The City of Passi's share in the JVA was the land of the SLF site, acquisition of all road right of ways (RROWs) leading to and easements in the site, and the construction and rehabilitation of the two-way paved access road and as well as procurement of additional land for the expansion of the site, among others. The city shall also "coordinate, facilitate and ensure" compliance by cluster of LGUs, who have entered Memorandum of Agreements (MoAs) with Passi City to dispose of their waste in the city's SLF, particularly in the payment of their tipping fees.

BEST Inc, on the other hand, shall undertake the "financing, designing, construction and installation of the SLF" as well as its operation and maintenance. The private sector partner shall also provide "all necessary machineries, equipment and logistics" for the operation and maintenance of the project.<sup>47</sup> The JVA was also able to obtain an amended ECC for the upgraded SLF Category 4 to be operated in the site. Groundbreaking for the facility also happened on the same year.

However, it took almost two years for the PIWMF to become operational. Partly because of the COVID-pandemic quarantine and movement restrictions that delayed construction works in the facility. More importantly, process of securing individual agreements (i.e., MoAs) between Passi City (as host LGU) with cluster LGU members on their commitment to dispose of their waste at the PIWMF.

Likewise, separately, the PIWMF management office under BEST, Inc. as an entity also has to submit individual proposals, depending on the procurement arrangements approved by the individual cluster LGU partners, and successfully win in the bidding of the disposal services for each LGU. The PIWMF have to secure individual contracts with individual LGUs who have entered into a MoA with Passi City and intended to dispose of waste in the Passi City SLF. On the other hand, participating LGUs will have to "strictly comply" with the technical standards and operating policies in their use of the facility, including:

- Correct specification, identification, registration and roadworthiness of LGU vehicles or contracted service providers used for the transport and disposal of waste;
- Qualification and list of designated drivers and assistants;

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<sup>46</sup> The proposal of BEST was reviewed by the LGU PPP Selection Committee and a Letter of Acceptance was sent to the President of BEST last October 19, 2018 (Annex C). In December 3, 2018 the PPP Selection Committee of the City Government of Passi granted of the Original Proponent Status to BEST (Annex D) citing the rights and privileges as "Original Proponent" under the City Ordinance No. 2014-042, otherwise known as the PPP Ordinance Code of the City of Passi". On the 14th of February 2019 a Joint Certification between the City Government of Passi and BEST was made that it was successfully negotiated and agreed on the terms and conditions for the Passi City Integrated Waste Management Facility. As part of the PPP Process a Notice of Invitation for Comparative Proposal (Publication of the First, Second and Third Notices for Swiss Challenge were made dated, March 23, 2019, April 2, 2019 and forthcoming publication (Third Notice).

<sup>47</sup> Signed Joint Venture Agreement (JVA) for the Design, Construction and Operation of the Passi City Integrated Waste Management Facility, 25 September 2019, 35pp.

- Conformity with the type of residual wastes that are to be disposed (no mixed waste); among others.

That's why when the facility was inaugurated in 09 July 2021, only 4 LGUs were initially allowed to dispose their waste at the PIWMF in the first few months of its operations.

#### 7.1.4. Passi City cluster LGUs

The proposed facility was initially intended to serve Passi City and an initial 29 municipalities, mostly from the 3rd, 4th and 5th Districts, from the Province of Iloilo comprised the Passi City LGU cluster or around 67% of all the towns in the province. By the time it started operation some 30 LGUs have already signed MoAs with Passi City.<sup>48</sup> As of this reporting, 36 Iloilo LGUs have approved MoAs (with 3 others in the finalization and approval process) with the PIWMF but only 20 LGUs have signed contracts and allowed to dispose at the facility. Table 26 shows the distribution of LGUs that are part of the Passi City LGU cluster. Figure 9 shows the location map of the Passi City LGU cluster that would dispose their wastes to the proposed facility.

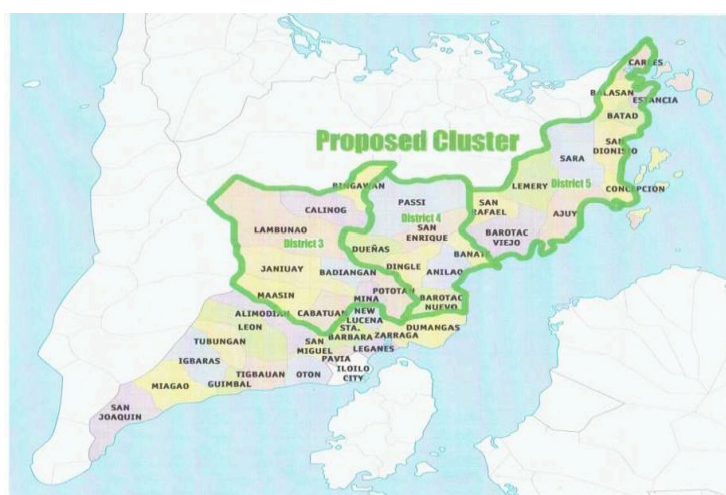
**Table 26. Distribution of LGUs comprising the Passi City LGU cluster**

District	Total LGUs	LGUs with MoAs	Coverage of LGUs w/ MoAs (%)
1st	1	7	14%
2nd	3	8	38%
3rd	7	9	77%
4th	7	8	100%
5th	11	11	100%
Total	29	43	67.4%

*Source: PIWMF Management*

<sup>48</sup> Momblan, Gail, 2019. "30 Iloilo LGUs to use sanitary landfill in Passi", 7 December 2019. <https://www.pna.gov.ph/articles/1088192> Accessed 01 December 2022.

**Figure 9. Map of Passi City LGU cluster**



Source: Passi City Integrated Waste Management Facility (PIWMF), Environmental Performance Report and Management Plan, p. 41-42.

Total waste projects for the initial 28 LGU cluster members would have an average total of 373.83 tons/per day or an annual total waste of 136,447 tons. The expected daily volume capacity of the Passi SLF is between 250-300 tons/day. Table 27 shows the estimated daily waste generation per day and per annum of the initial 28 Passi SLF LGU cluster. Table 28 shows the total income and expenditure of the cluster members from 2019 to 2021.

**Table 27. Estimated waste generation of Passi City cluster LGUs, in tons**

CITIES and MUNICIPALITIES	DISTRICT	WASTE DISPOSAL SYSTEM	WASTE GENERATION			
			TPD (Tons Per Day)	TPA (Tons Per Annum)	TPD (Tons Per Day)	TPA (Tons Per Annum)
			Gross Amount		Net of 35% Diversion	
1. Badiangan	3rd		8.85	3,230	5.75	2,100
2. Bingawan	3rd		4.53	1,653	2.94	1,075
3. Cabatuan	3rd	ODOperating	30.9	11,279	20.09	7,331
4. Calinog	3rd	CDFOperating	30.61	11,173	19.90	7,262
5. Janiway	3rd		35.45	12,939	23.04	8,411
6. Lambunao	3rd		38.82	14,169	25.23	9,210
7. Maasin	3rd		11.83	4,318	7.69	2,807
8. Mina	3rd		7.35	2,683	4.78	1,744
9. Pototan	3rd		39.9	14,564	25.94	9,466
10. Anilao	4th		9.27	3,384	6.03	2,199
11. Banate	4th		9.97	3,639	6.48	2,365
12. Barotac Nuevo	4th	ODOperating	29.17	10,647	18.96	6,921
13. Dingle	4th		14.61	5,333	9.50	3,466
14. Duenas	4th		11.36	4,146	7.38	2,695
15. Dumangas	4th	ODOperating	37.18	13,571	24.17	8,821
16. Passi City	4th	ODOperating	62.72	22,893	40.77	14,880
17. San Enrique	4th		10.94	3,993	7.11	2,596
18. Ajuy	5th		26.57	9,698	17.27	6,304
19. Balasan	5th		10.03	3,661	6.52	2,380
20. Barotac Viejo	5th	ODOperating	13.99	5,106	9.09	3,319
21. Batad	5th		6.54	2,387	4.25	1,552
22. Carles	5th		35.25	12,866	22.91	8,363
23. Concepcion	5th		13.37	4,880	8.69	3,172
24. Estancia	5th		23.99	8,756	15.59	5,692
25. Lemery	5th		9.26	3,380	6.02	2,197
26. San Dionisio	5th		11.35	4,143	7.38	2,693
27. San Rafael	5th		4.94	1,803	3.21	1,172
28. Sara	5th		26.37	9,625	17.14	6,256
TOTAL			575.12	209,919	373.83	136,447

\* CDF - Controlled Dumpsite Facility  
\*\* OD - Open Dumpsite

Source: PIWMF, Environmental Performance Report and Management Plan, p. 41-42.

**Table 28. Annual Sources of Income and Expenditures of Passi City LGU cluster members, in Php million, 2019-2021**

STATEMENT OF RECEIPTS AND EXPENDITURES										
by LGU										
FY 2019-2021 (Final), in PhP Millions										
		2021			2020			2019		
LGU	Income Class	IRA	Total Current Operating Income	Total Operating Expenditure	IRA	Total Current Operating Income	Total Operating Expenditure	IRA	Total Current Operating Income	Total Operating Expenditure
Ajuy	2 <sup>nd</sup>	177.66	189.90	94.17	165.76	190.15	115.49	147.36	159.72	106.50
Alimodian	3 <sup>rd</sup>	144.21	158.73	112.32	134.55	149.30	102.80	119.65	134.99	102.84
Anilao	4 <sup>th</sup>	116.21	132.98	89.89	108.42	126.81	89.29	96.45	110.38	79.39
Badiangan	4 <sup>th</sup>	108.38	118.24	79.95	101.12	115.12	71.20	89.97	110.43	69.08
Balasan	4 <sup>th</sup>	115.80	143.60	88.82	108.04	143.52	93.45	96.12	124.51	84.70
Banate	4 <sup>th</sup>	124.32	141.32	83.82	115.99	133.16	103.01	103.17	122.15	99.76
Barotac Nuevo	2 <sup>nd</sup>	165.33	208.81	120.37	141.41	179.28	116.61	137.15	171.66	101.44
Barotac Viejo	3 <sup>rd</sup>	166.92	193.85	86.70	155.74	186.78	116.89	0.00	0.00	0.00
Batad	5 <sup>th</sup>	92.29	115.19	88.54	86.11	106.91	73.01	76.64	89.03	67.07
Bingawan	5 <sup>th</sup>	86.59	92.90	72.62	80.79	92.71	79.62	71.92	77.21	63.69
Cabatuan	2 <sup>nd</sup>	177.46	207.83	150.82	165.58	205.46	134.03	147.20	174.48	128.86
Calinog	1 <sup>st</sup>	213.32	259.67	172.85	199.03	255.22	183.30	176.90	217.28	165.01
Carles	2 <sup>nd</sup>	194.90	212.49	144.91	181.85	209.97	162.56	161.65	184.01	134.00
Concepcion	3 <sup>rd</sup>	141.98	188.76	136.11	132.48	207.76	151.93	117.81	160.59	122.89
Dingle	3 <sup>rd</sup>	148.70	203.71	103.53	138.75	267.14	101.79	123.38	162.94	100.62
Dueñas	4 <sup>th</sup>	125.25	161.45	112.25	116.86	137.59	90.37	103.94	116.82	86.55
Dumangas	1 <sup>st</sup>	201.64	231.87	170.19	188.14	230.05	161.98	0.00	0.00	0.00
Estancia	2 <sup>nd</sup>	141.40	185.54	107.92	131.93	182.71	138.90	117.33	152.36	96.40



Guimbal	4 <sup>th</sup>	115.33	176.40	133.61	107.61	172.00	105.43	95.73	114.33	86.37
Igbaras	3 <sup>rd</sup>	132.33	153.14	91.37	123.47	147.55	94.37	109.82	122.34	87.30
Janiuay	1 <sup>st</sup>	201.34	240.09	152.75	187.85	233.66	143.72	166.98	198.47	129.26
Lambunao	1 <sup>st</sup>	234.00	262.03	201.24	218.33	266.86	181.40	0.00	0.00	0.00
Leganes	4 <sup>th</sup>	110.23	146.09	109.31	102.85	143.41	107.76	91.51	120.44	87.88
Lemery	4 <sup>th</sup>	124.36	171.81	105.12	116.03	134.64	82.43	103.21	109.93	78.37
Leon	2 <sup>nd</sup>	165.94	193.14	124.03	154.83	188.54	120.05	137.66	165.30	110.47
Maasin	3 <sup>rd</sup>	138.07	155.61	112.89	128.82	153.14	98.83	114.56	125.89	82.69
Miagao	1 <sup>st</sup>	204.15	241.90	172.11	190.48	242.96	162.92	169.31	197.38	136.06
Mina	5 <sup>th</sup>	94.81	110.21	77.11	88.46	107.16	73.40	78.73	90.99	63.36
New Lucena	4 <sup>th</sup>	94.34	103.09	79.46	88.02	96.96	62.50	78.34	86.37	27.70
Oton	1 <sup>st</sup>	232.80	347.78	220.24	217.21	316.71	190.73	193.04	278.64	173.81
Pavia	2 <sup>nd</sup>	152.58	383.76	197.69	142.37	344.58	0.00	126.59	309.53	165.28
Pototan	1 <sup>st</sup>	207.17	248.76	162.63	193.30	243.06	139.23	171.81	210.82	131.41
San Dionisio	4 <sup>th</sup>	141.42	153.35	106.98	131.95	151.41	107.44	0.00	0.00	0.00
San Enrique	3 <sup>rd</sup>	128.50	146.03	109.14	119.89	144.05	104.37	106.64	157.84	92.20
San Joaquin	2 <sup>nd</sup>	188.64	206.67	99.40	176.01	207.02	100.21	156.46	174.06	91.38
San Miguel	4 <sup>th</sup>	100.72	139.63	96.47	93.98	135.91	87.57	83.63	111.28	80.70
San Rafael	5 <sup>th</sup>	85.63	88.52	46.46	79.90	90.01	46.43	71.13	74.13	46.50
Santa Barbara	2 <sup>nd</sup>	184.73	256.52	161.39	172.36	237.13	166.86	153.22	209.51	131.98
Sara	2 <sup>nd</sup>	177.08	209.96	131.94	165.22	204.56	120.73	146.88	166.55	135.61
Tigbauan	2 <sup>nd</sup>	180.10	208.79	112.21	168.04	202.06	129.21	0.00	0.00	0.00
Tubungan	4 <sup>th</sup>	100.90	108.39	83.12	94.15	101.80	65.20	83.78	91.97	69.97
Zarraga	4 <sup>th</sup>	101.06	135.47	95.71	94.30	128.61	83.93	83.91	111.59	76.71

Source: BLGF LGU Annual Statement of Receipts and Expenditures 2019-2021.



## 7.2. Key elements in the establishment of the Passi City LGU cluster for SWM facility

### 7.2.1. Enabling Environment and Policy

It could be said that the enabling environment for clustering of LGUs for common SWM services is well established and mandated by existing laws, particularly the Local Government Code of 1991, Sec.33 (RA 7160) and Ecological Solid Waste Management Act of 2000 (RA 9003), Sec. 11 and Sec. 44. Both laws and its implementing rules and regulations (IRR) provide for options for LGU clustering or banding together, with help from the provincial government or national agencies concerned, to deliver common services on SWM. In this case, largely for establishment and use of a common disposal facility that is mandated by RA 9003. This mandate as well as the threats of cases filed against erring LGUs and their officials and strong enforcement of national agencies to impose the law provides the enabling environment to move for clustering of LGUs for SWM.

*Role of the LGU Province.* In the development of the Passi City LGU cluster, the Provincial government played a major facilitating and supportive role by actively exercising its mandates provided for under the Local Government Code of 1991 (RA 7160) and Ecological Solid Waste Management Act of 2000 (RA 9003) that gave Provinces the power to support and initiate the ‘clustering of LGUs’ to deliver common services. Iloilo Province was responsible for convincing Passi City to be the host LGU for the SWM facility and other surrounding LGUs to be part of the cluster. Using its political influence, the Province was also instrumental in convincing participating LGU officials and their local councils in securing their MoAs with Passi City. Accordingly, the governor personally discussed and talked to local leaders on the need to comply with existing laws and avoid being held in court.

*Implementation and funding of approved ESWM Plans.* At least 40 out of the 44 LGUs in Iloilo province have approved 10-year ESWM Plans that served as the basis for the implementation and budgeting of SWM programs and projects in the LGU. A key component of in the approval by the NSWMC of an LGU’s 10-year ESWM Plan is the identification of a final disposal facility for its residual waste. Because of the PIWMF, cluster LGUs that have MoAs with the Passi SLF were able to comply with RA 9003 and approval of their respective ESWM plans.<sup>49</sup> As result, LGUs are compelled to utilize the Passi SLF aside from being relieved of the difficulty funding and acquiring their own land as well as operating their own disposal facility.

In the case of Passi City, it has two approved 10-year EWSMP (2004-1013 and 2014-2023/2017-2026<sup>50</sup>) that it implemented and later on updated to address key limitations and challenges of their SWM programs, including the limited technical capacity to effectively design, operate, maintain and manage their own SLF. The approved ESWMP provided the LGU the main roadmap for its SWM strategy including the establishment of its own SLF,

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<sup>49</sup> Notes from Passi FGD conducted on 10 November 2022 and interview notes with DENR-EMB Region 7 FGD participants.

<sup>50</sup> 2017-2026 was an updating of the approved 2014-2023 following a review of the previous plan and the limited success in the implementation of the identified SWM programs and projects in the 2014-2023 plan.

initially from a SLF Category 1, that was LGU-managed as envisioned in the 2014-2023 ESWMP, to an SLF Category 4 as indicated in the updated 2017-2023 ESWMP.

Passi's approved EWSMP also paved the way for the establishment of the City Environment and Natural Resources Office (City ENRO)<sup>51</sup> and Ecological Solid Waste Management Board (ESWMB) chaired by the city mayor in 2000 and the creation of a dedicated LGU office to handle SWM – City Solid Waste Management Office (SWEMO) in 2018.<sup>52</sup> Under the LGC, a local environmental and natural resources office (ENRO) is an optional position that could be created by an LGU subject to local budget limits and revenues set by the LGC for personnel services (PS).

Passi also approved its own local PPP Code (Special Ordinance 2014-042) in 2014 that provided the pathway for the LGU to engaged in joint venture arrangement (JVAs) with the private sector, which they have identified as the main approach to properly operate and management an SLF with the least financial and technical burden on the LGU while still having its own engineered SLF and remain compliant with the law. Iloilo City is also exploring a PPP arrangement in the expansion and upgrading of its SLF in Bgy Calahunan and an unsolicited PPP proposal for a waste-to-energy (WTE) project.<sup>53</sup> The DENR has also supported LGU PPP arrangements for the construction of the needed 300 SLFs nationwide as alternative for LGUs to establish their own disposal facility.<sup>54</sup>

*Strong enforcement by national agency and push for compliance by LGUs of existing SWM laws.* Most of the LGUs (province and local) consulted by the case study team and DENR-EMB representatives stated that the 'strong enforcement' and threat of Ombudsman cases filed against erring LGUs that did not comply with the ESWM law "forced" many local mayors and LGU officials to ensure that they comply with the law, particularly on identifying a 'final disposal facility' of their residual waste.

As early as 2011, the NSWMC has already issued warnings to LGUs operating 'open dumpsites' that they would be prosecuted. In 2016, the NSWMC filed the first batch of cases with the Ombudsman against 50 erring cities and municipalities nationwide, implicating more than 100 local officials and other individuals.<sup>55</sup> By 2021, the DENR reported that it has shut-down almost ALL of the 335 illegally operating open dumpsites in the country.<sup>56</sup>

*Limited resources, lack of suitable site and limited technical capacities of individual LGUs.* On the other hand, the real challenge faced by many LGUs, particularly 3-5<sup>th</sup> class

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<sup>51</sup> Created through City Ordinance (CO) 2000-008.

<sup>52</sup> Created through CO 2018-026.

<sup>53</sup> Panay News, 2022. "Waste to Energy Project Proposed; Iloilo City welcomes another PPP proposal", 9 August 2022. <https://www.panaynews.net/waste-to-energy-project-proposed-iloilo-city-welcomes-another-ppp-proposal/> Accessed 03 December 2022.

<sup>54</sup> DENR, 2020. "DENR aims to build 300 more SLFs by 2022", 30 December 2020. <https://www.denr.gov.ph/index.php/news-events/press-releases/2140-denr-aims-to-build-300-more-sanitary-landfills-by-2022> Accessed 03 December 2022.

<sup>55</sup> Teves, Catherine, 2018. "More LGUs to be charged over open dumps, waste law violations", 13 April 2018. <https://www.pna.gov.ph/articles/1031857>. Accessed 03 December 2022.

<sup>56</sup> DENR, 2021 "DENR shuts down 100% of all illegally operating dumpsites nationwide", 23 May 2021. <https://www.denr.gov.ph/index.php/news-events/press-releases/2606-denr-shuts-down-100-of-all-illegally-operating-dumpsites-nationwide> Accessed 03 December 2022.

municipalities, of limited resources, lack of suitable site and limited technical capacities and/or lack of LGU technical staff maybe seen as a situation that facilitated decisions to enter into clustering arrangements. Inputs from LGUs met by the team, identified that their main reason for clustering with Passi City SLF is due to their lack of resources and inability to establish their own sanitary landfill and operate one aside from the threat of cases being filed against local officials.

*Provision of incentives and support to cluster LGUs.* The Provincial government of Iloilo provided incentives and support to local LGUs that would opt to cluster for their common SWM facility. PhP 15 million was allocated by the Provincial government of Iloilo as seed money for land acquisition to the host LGU of a cluster SWM facility<sup>57</sup>. At least one LGU, New Lucena has agreed to be a host LGU for a cluster SWM facility.

#### Key issues and challenges:

*Absence of operating guidelines for clustering.* While existing laws provide the enabling environment for LGU clustering for SWM facilities, there remains an absence of clear guidelines and established processes, either from the DILG or NSWMC on clustering of LGUs, particularly for SWM facilities. At the moment, clustering efforts by LGUs for SWM are currently organically initiated by either Provinces or LGUs themselves or previously by a facilitating donor project (i.e., USAID EcoGov and GIZ SWM4LGUs). Several provinces such as South Cotabato, Bohol, Iloilo, and, lately, Bataan province have been reported to be facilitating clustering of LGUs. But most of these are local initiatives, not deliberate and systematic.

*Need for incentives and support to LGUs.* More incentives and support for cluster LGUs and individual members are needed for them to overcome the continuing challenge of limited resources and technical capacities. With the full devolution of basic services to LGUs as triggered by the SC Mandanas-Garcia ruling, lower classed LGUs will have greater difficulty in fulfilling their SWM functions because of the resources needed to provide this service and remain compliant to the law.

#### 7.2.2. Institutional and governance/management arrangements

Public-private partnership (PPP) arrangement – Host LGU (Passi City) and BEST, Inc. – an LGU-private sector joint venture agreement (JVA). The PPP arrangement between Passi and their private sector partner, BEST Inc. have relegated the institutional arrangements of the cluster LGUs to a business transaction or agreement. Outside of these individual agreements between the partner LGUs with the host LGU and private sector partner, no other role and responsibility is given to the operations and management of the common SWM facility.

As mentioned in the earlier section, the PPP-JVA agreement between Passi City and BEST, Inc. took almost 3 years of technical, legal, financial, policy and public discussion and engagement before the JV agreement was entered into by the two parties. The JVA was for the design, construction and operation of the Passi City Integrated Waste Management Facility

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<sup>57</sup> Passi City had already bought the 9.6-hectare Bgy Aglalana SLF site with local funds as early as 2006.

(PIWMF) that shall be involved two phases: 1) construction of the PIWMF which shall include the planning, preparation, development, financing, engineering, construction, procurement and installation of the PIWMF; and, 2) management, operation, maintenance and physical closure, including transfer to the LGU, of the PIWMF.

Under the JVA, the role of Passi City (as LGU JV partner) was to shoulder the land acquisition costs for the site, road right-of-ways (RROWs), legal rights and possession of easements and access roads, approvals for siting and zoning requirements, water/power and other utility connections, among others. The City would also “coordinate, facilitate, and ensure compliance by the cluster LGUs” on the provisions of its MoA (by Passi City) with cluster LGUs and terms of agreement in the JVA particularly in the “payment of required tipping fees”.

On the other hand, aside from being solely responsible for the construction, management, operation, and maintenance of the facility including all costs and expenses, the private sector JV partner, would remit the share of the LGU its share of the profits from the operations of the SLF.

Outside of the MoA and service contract, all the management and operation policies and decision on the SWM facility is decided by the City of Passi and BEST, Inc. A Project management and monitoring team composed of representatives of both parties, through the City SWMO and BEST Inc Project Team, reviews and monitors the implementation of the JVA, including SLF management and operations. BEST, Inc., on the other hand, maintains a Project Operations office with around 15 technical and administrative staff hired by BEST, Inc. and oversees the day-to-day operation and management of the facility. None of the cluster LGUs with MoAs with Passi City and service agreements with BEST Inc. have any role in the direct operations and management of the PIWCF. This responsibility is sole exercised by BEST Inc and Passi City.

LGU cluster arrangement – a business or contract arrangement between host LGU (Passi City) and cooperating cluster LGU. Whilst the Passi cluster LGU was facilitated by the Province, the actual participation of the partner LGUs in the common SWM facility is largely covered and governed by the individual MoAs entered into by each LGU with the City of Passi and its joint venture partner, BEST Inc. The two-page MoA is a straightforward document which identifies both parties (partner LGU and Passi City) to bind themselves to the ff:

- Use of PIWMF as final solid waste disposal facility;
- Determination of type of ‘solid waste’ to be disposed in the facility;
- Ensure the passage of necessary ordinances, resolutions, budget appropriations, timely issuance of necessary permits and licenses, and, provision of rights-of-way (ROW); and,
- Compliance with technical specifications, registration, listing, roadworthiness, identification and standards of vehicles and routes that would be used to transport waste in the facility, among others.

The MoA also stipulates the tipping fees (PhP 792.24/metric ton) to be paid and provisions to extend the use of the facility to other LGUs in the province and outside the province to “comply with the mandate for clustering of LGUs” as solution to common SWM problems. Likewise, whilst the MoA provides partner LGUs to use the PIWMF as common SWM disposal facility,

it (PIWMF) will have to bid and win a service contract with each of the participating LGUs through the government's approved bidding and procurement process. Only after an agreed service contract will the participating LGUs be allowed to finally dispose their waste in the PIWMF.

The responsibility of partner LGUs is to ensure that they fulfill their obligations and commitments to their MoA and signed service contracts. Partner LGUs has no direct hand in the management and policies of the facility outside of properly transporting their collected waste to the facility, ensuring that the waste disposed compliant and timely payment of tipping fees.

This arrangement seems to be acceptable to partner LGUs. Local staff of Tubungan<sup>58</sup> and Dingle shared during the case study FGD in Passi that they have lesser administrative and operational problems to handle with the direct management and operation of the SLF by the Passi JVA. They said at least 30%-50% of their workloads have been reduced with their involvement in the cluster.

Province SWM cluster coordinating group. Upon the establishment of the LGU cluster, the Province largely plays a supporting role to the LGU clusters in terms of sharing and learning session, technical and equipment support. The Province created a SWM cluster coordinating council (through an Executive Order issued by the Governor) for the different LGU SWM clusters in the province as venue to discuss and exchange experiences and issues confronted by Iloilo LGUs in implementing their local SWM plans and the province's SWM programs. In the case of Passi City cluster, they have become role model for other LGUs on local PPP for SWM.

Within the PG-ENRO SWM unit, an SWM cluster coordinator is assigned to monitor and coordinate the province's SWM programs and projects to the different LGUs concerned. The SWM cluster council take turns in discussion key SWM issues and challenges confronted by their member LGUs and identify and recommend possible actions, including support and assistance needed from the Province, NGAs and other LGUs and groups.

Role of NGAs (DENR-EMB). The role of DENR-EMB in the Passi City cluster LGU arrangement is mainly on its regulatory function on monitoring and ensuring LGU compliance to the SWM law. The aggressive exercise its regulatory and monitoring function provided the external environment, if not urgency, for non-complying LGUs to consider clustering with other LGUs for their final SWM disposal facility. During the FGD conducted by the study team with Passi City cluster LGU and DENR-EMB representatives, both LGU partners and DENR-EMB representatives admitted the complementation of the 'threat' poised on LGU officials and staff by the NGA for non-compliance with the ESWM law and DENR's own need to report compliance by LGUs. The daily waste disposal data and information generated by the PIWMF from the cluster LGUs using the facility eases the burden of the DENR-EMB from individually monitoring and tracking the waste disposed by each LGU.

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<sup>58</sup> The municipality of Tubungan is one of the southernmost LGU in Iloilo that transports its waste some 100kms to Passi. Dingle is one of the closest municipality to the PIWMF.

### Key issues and challenges:

*Legal, financial and reputational risks.* Whilst, the MoAs and service contracts of the Passi City LGU SWM cluster can be seen as business transaction that would ensure professionalism, adherence to standards, and operational efficiency, it can also be a legal, financial and reputational risk to the LGUs concerned as well as the private sector partner.

At the moment, it is reported that not all of the 20 LGUs that have signed contracts with the facility are actually disposing their waste to the facility. This affects the financial viability of the JV because the revenue it generates depends on the daily volume of waste disposed by the partner LGUs. Data shared by the PIWMF Project office showed that for the entire 6 months operation of the facility, average daily volume of waste disposed in the facility only amounts to 33 tons or a little over 10% compared to its estimated 250-300tons daily capacity.

Likewise, payments by several LGUs of their tipping fees (i.e., PhP 792.24/metric ton) that are contained in a state of account issued and collected monthly are delayed which would be subject to fines and penalties. However, this is not fully applied and a grace period is given to LGUs to fulfill their obligation. Whilst, most will be able to pay their fees, others do not. More often, LGUs cite of limited budget for SWM or no budget was allocated for their tipping fees. The MoA specifically stipulates the responsibility of the LGU partners on the use of the facility and timely payment of their dues.

Should PIWMF apply the provisions of the MoA and their contract, this might result to a legal case and could also affect the good inter-LGU relationship in the cluster LGUs. On the other hand, since the private sector JV partner is shouldering all the daily operational expenses in the facility, it is suffering financial losses as a result. If it (private sector JV partners) insists on collecting the amounts due it might also affect its engagement with other LGUs use the facility and its services.

*Separate and individual bidding and procurement process.* Whilst, the MoA provides the partner LGUs the opportunity to use the common SWM facility in Passi City, this does NOT automatically allow them to immediately transport and dispose of their waste to the PIWMF. Because the arrangement with the PIWMF is considered a service contract, this process will have to undergo local bidding processes in each LGU.

Depending on the technical, legal and procurement/bidding modality to be adopted by an LGU, separate and distinct bid proposals will have to be submitted to the local LGU's bidding committee. This process along with the local council and mayor's authority to enter into a contract takes between 9-12 months and causes delay in the actual waste disposal and use by the partner LGU in the PIWMF. It also affects the estimated revenue stream from tipping fees that would have been collected from the 38 LGUs with MoAs to the PIWMF. As of this report, only 20 of the 38 LGUs with MoAs have actually signed service contracts with PIWMF and therefore allows them to actually transport and dispose waste in the facility. Eight (8) of these 20 contracts were recently approved and signed in 2022.<sup>59</sup>

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<sup>59</sup> PWIMF Data (as of 07 November 2022) on Status of Municipalities who will enter and sign MoAs with Passi City for use of PIWMF.

### 7.2.3. Technical and operational arrangements

One of the critical reasons for the clustering of LGUs for SWM services is to address the acknowledge limited, if not lack, of technical, operational, and management capacities of most LGUs in operating and managing SWM facilities. This was stressed not only by Passi City but by almost all of the LGUs representatives, including Iloilo Province, interviewed by the case study team as well as by the DENR-EMB. The fast development of SWM technologies and processes make it difficult for LGUs to appropriately adopt and implement the most appropriate SWM solutions to their SWM problems. Coupled with the limited access to information, resources, training and knowledge on these new ‘technology’ and limited manpower and budget to recruit technically-capable or trained personnel, many LGUs and their technical staff will always be disadvantage and lagging behind. LGU clustering and partnering with a private sector group through a PPP arrangement is a way forward for LGUs to address those technical, manpower, management and resource gaps in solving their SWM issues.

Under the JVA, BEST Inc. established a project operations office at the site and hired 16 regular technical and administrative staff that handled all the administrative, management and technical operations of the PIWMF. A project technical coordination and monitoring group composed of the City SWMO and BEST Inc project operations team regularly meets to discuss technical, operational and administrative concerns encountered by the PIWMF.

The also identify relevant social and community activities that the PIWMF will implement with the neighboring communities and host barangay. BEST Inc. also provided all the necessary vehicles and equipment, including an automated weigh bridge and ticketing system, to properly handle, monitor, record and measure the disposed waste delivered by other LGUs to the facility. All of these are costs borne by the private sector JVA partner.

*Access and adoption of latest SWM facility design, technology and equipment and skills training.* The main benefit of the PPP or JVA arrangement for the PIWMF is the access and adoption by the cluster LGUs (both host and partner LGUs) to the latest SWM facility engineering design and technology that normally they would not be able to obtain even from the national government. Because of the PPP arrangement, the Passi City LGU officials and technical staff were given an opportunity to study, understand, internalize and review the different technological options, design, construction and operational approaches to the proposed SLF facility, including visiting other similar SLF operations, in order to identify the best approach. This opportunity was not available to Passi City when they first tried to do an LGU-managed SLF Category 1 operation in Bgy Aglalana in 2006. Without the access and information provided by private sector partner on these technologies, they would have incurred more costs and waste of resources similar to their failed experience in an LGU-managed SLF operation.

*Access to professional and competent managerial and technically-capable operations team.* Part of the responsibility of the private sector JVA partner in the PIWMF is the day-to-day operation and management of the facility by a team of professional management and technical

staff. Prior to the JVA, the City ENRO has 3 LGU personnel– 1 supervisor and 2 utility personnel, manning the Bgy Aglalana SLF operations. The SLF staff are either contractual or job order hires and do not possess the necessary technical skills or training to properly operate much more managed a Cat 1 SLF.

*Reduced workloads and budget savings.* Another advantage that the assignment of a regular, permanent and competent technical and managerial staff by the private JVA partner in the PIWMF is the reduced workload, resource savings and other SWM activities that the City Solid Waste Management Office (SWMO) can focus on strengthening and implementing basic SWM strategies of reduce, reuse and recycling (3Rs) programs, improve community waste segregation and collection, improving waste diversion.

As a result of the JVA, the City SWMO saves around PhP 600,000-750,000/year from their budget that they are able to use to fund other city SWM programs. Other LGU partners also reported local budget savings from their participation in the cluster. The municipalities of Tubungan and Dingle reported that between 30%-50% reduced workload and resources allocated for doing their own waste collection and disposal.

*Improved technical capacity and knowledge of LGU SWM staff.* Similarly, LGUs (host and partner LGUs) express the enhanced technical knowledge and capacity obtained working with a private JVA partner, especially in the fulfillment and compliance with the operational standards, requirements and disposal procedures being implemented by PIWMF. These included ensuring the type of wastes disposed; equipment and transport safety and roadworthiness standards; accreditation of LGU transport staff; and continuing technical capacity and training of partner LGU staff in handling and management of waste.

For the host LGU, the city SWMO's close interaction and active engagement with the private JVA partner's project operations unit also provides them an insight and understanding into the whole operational, management, administrative and technical handling of the facility which they would normally will not learn on their own or even hiring consultants to assist them. In fact, the city SWMO has now become a frequent technical resource person and lecturer being tapped by other LGUs, the provincial government and DENR-EMB to share their experiences and knowledge with other LGUs.

*Implementation of high standard and innovation in SLF operations systems.* Passi City SLF JVA showed them a 'real world' view of a professionally-managed, systematic, environmentally-compliant and technically-attuned SLF operations. As mentioned earlier, the existing PIWMF site was previously operated by the LGU as a Category 1 SLF. However, because of their admitted limited technical capacity and knowledge of assigned LGU staff in the design, construction, management and operations of an SLF, the LGU-managed SLF in Bgy Aglalana instead operated as a controlled dumpsite or "waste containment area"<sup>60</sup>. This resulted not only in failure of improving their SWM programs and collection but also made the LGU non-compliant with existing laws.

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<sup>60</sup> PIWMF, Environmental Performance Report and Management Plan, p.75.



The JVA arrangement provided a better solution to the LGU-managed approach to the SLF because it introduced among others technical operational standards and processes, detailed in its PIWMF SLF Operation and Maintenance Manual, these include: waste inspection, weighing, dumping and soil cover; facility maintenance; technical monitoring and maintenance systems for leachate collection; ground and storm water, air quality and odor; and regular reporting and compliance to requirements of local and national regulatory bodies, i.e., DENR-EMB. The facility also constructed methane gas vents, waste water sewage treatment plant (STP), and, use of biological deodorizer, when needed.

Operationally, the facility applied a robust accreditation registration of ALL vehicles and drivers/staff that will be used by partner LGUs to dispose waste in the facility, use of personal protective equipment (PPEs) by facility staff and visitors, traffic scheduling and speed controls, perimeter and facility security, among others. An innovative daily trip ticketing and digital waste volume measuring systems was also introduced to confirm, track, receipt, record and validate actual trips and actual volume of waste disposed by LGUs in the facility. This system ensures clear, accurate, transparent and validated tracking and tipping fee billing system.

*Compliance to existing regulations and standards.* Because of its JVA arrangement, the PIWMF is not only legally and physically compliant with existing environmental and waste management laws and regulations but it is also compliant with other standards and practices for engineered SLF. The strong JVA partnership of Passi City and its private sector partner and their application and adherence to existing environmental and technical standards, almost ALL of the partner LGUs have received NSWMC approval of their 10-year ESWM Plan.<sup>61</sup>

*Role model and learning showcase to other LGUs and agencies.* Even if the PIWMF has only been barely 1 year in operation, the PIWMF along with the City SWMO have become learning centers for other LGUs on how to properly operate and managed an SLF and conduct a PPP/JVA arrangement for local services. Technical staff of the City SWMO and PIWMF Project Operations Office have regularly hosted field visits and exchanges with interested LGUs not only in the province but in the region. The DENR-EMB has regularly cited the PIWMF experience as a model for common SWM services.

#### Key issues and challenges:

Absence of regular LGU environment and/or solid waste management office. The performance of environmental functions and services, including solid waste management services, is a devolved function to LGUs. However, the position and creation of a local environment and natural resources office is an optional under the LGC. In the discussion by case study team with Passi City and its partner LGUs, Province and even, DENR-EMB representatives, they cannot overemphasize the critical need to creation of a regular LGU environment and natural resource office (ENRO). In the case of Passi City, it even created a regular City SWMO, separate from the city ENRO to perform the specific functions and duties on solid waste management.

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<sup>61</sup> As confirmed by DENR-EMB regional representatives to the Passi city FGD conducted by the study team in 10 November 2022 and interview with PG-ENRO SWM focal person in 11 November 2022.

No amount of training, capacity building and sharing of experiences can be provided to LGUs, especially lower income LGUs, by NGAs, donor institutions, CSOs/NGOs, academic/research and even the private sector will be sufficient without a stable and regular LGU staff responsible for environment and/or SWM services. In the case of LGUs with designated ENROs, they are always overwhelmed with the amount of work and responsibilities given to them performing their tasks, which is mostly technical and regulatory, especially on SWM. This situation largely explains the limitation and technical challenges of LGUs to effectively delivery and perform their basic environment and/or SWM services.

Continuity and improvement of service. A key challenge on the technical and operational aspect is the continuity of improving the delivery of services beyond the JVA is terminated. In the case of the PIWMF JVA its duration depends on the active operational lifespan of the facility which estimated to be between 7-10 years. Past experiences in the turnover of previously privately managed entities and services to the public sector have not been as successful as its previous arrangement. Bureaucratic controls, budgetary constraints, institutional restrictions, procurement limits, among others are some of the reasons that burdens many publicly managed facilities. In the case of an SLF facility, the past experience of Passi City managing an SLF facility and the inability of other LGUs to effectively implement their SWM programs are examples.

More presently, the limited revenues generated by the facility in its first year of operations also poses a threat to the viability and subsequently continuity of the delivery of services by the facility and availability of an acceptable common SWM facility for Passi City cluster LGUs.

### **7.3. *Financial sustainability and economic benefits***

Aside from institutionalization, the most critical element in the effectiveness of an LGU clustering approach to deliver urban services such as SWM is its sustainability. Whilst, sustainability has been an issue observed in many inter-LGU alliances or LGU clusters, its significance is more pronounced in using PPP as a mode of delivering agreed urban services such as SWM services. Whilst, a PPP arrangement such as JVA similar to the PIWMF addresses technical and legal concerns of cluster LGU members, it remains a business arrangement between the LGU and private partner and its financial viability and sustainability is a paramount interest. This is largely different from an LGU-delivered service which is considered public service and is provided to citizens even at a cost to the LGU and no cost to the citizenry.

*Resource savings and augmentation.* The most important value for cluster LGUs of the PPP arrangement for SWM facilities is the financial savings (or 'avoided cost') and augmentation it provides to LGUs had it actually managed the facility itself as well as compliance to existing laws. For Passi City cluster LGUS (i.e., Dingle, Tubungan and Passi) between 30-50% of their budget and workload are reduced, if not saved, to be used for other SWM priority programs because of their use of the Passi SLF common facility.

For the host LGU, the financial savings and non-monetary savings from the JVA arrangement is more pronounced and expansive. Under the JVA agreement, the host LGU receives a

‘proportionate share’ of the net income after taxes from the operation of the SLF. The JVA equity participate rate is distributed as 18% for Passi City and 82% for BEST, Inc. The additional revenue potential of the JVA to Passi City is yet to be fully realized because of low volume of waste disposed in the facility and its barely on its first year of operation.

Aside from the cost of land acquisition, which the LGU has purchased even before the JVA and treated as part of its equity contribution to the JVA, the only cost for the LGU in the operation and management of the PIWMF is the rehabilitation and maintenance of the two-way access roads of the facility. The avoided cost for Passi City in operating and managing a Category 4 SLF would have run into around PhP 10-12 million/year aside from the PhP 286.7 million estimated cost to construct the facility in 2019.<sup>62</sup>

As JVA partner, the city also pays a discounted rate for its tipping fee (i.e., PhP 600/ton) compared to the regular tipping fee of PhP 792.24/metric ton for cluster LGU members. For 2022, the city has allocated PhP 3.6 million budget for its tipping fees to the PIWMF. Current waste volume disposed by the city to the facility is around 45tons/day more than triple the estimated daily project volume of 12-15tons/day when the PIWMF FS was prepared in 2016. At the end of the JVA period, the facility will also be turned over to the city at the end of the project.

Other non-monetary savings is social and community development service given to local residents near the facility as well as PIWMF contributions to LGU community celebrations and activities. And as mentioned earlier, cluster LGU members are able to concentrate on other SWM programs and direct budgets to implement these activities.

*Expansion of local SWM disposal market.* Because of the technical soundness and compliance of the PIWMF with existing environmental policies, the PIWMF has been used as go-to disposal facility by non-LGU groups, particularly the private sector. At the moment, two private companies – Daewoo and Divine Works A.V, have disposed around 230 metric tons over the first 7 months of the facility’s operation. The tipping fee for private corporations is PhP 1,500/metric ton. Likewise, LGUs outside of Iloilo are also looking at the Passi facility as their disposal facility. At least one LGU from Capiz – Dumarao is already disposing waste at the PIWMF.

*Additional local revenue sources.* Whilst, the largest benefit of the cluster LGUs, including the host LGU, is the savings or avoided cost of constructing their own disposal facilities, the availability of a common disposal facility to the cluster LGUs gives additional opportunity for them to generate local revenue from waste collection and disposal fees charged to their residents and local businesses. However, this is contingent on the appropriate schedule of fees charged, collection coverage and efficiency for households, commercial and business establishment and other waste generators in their localities.

Initial data from Passi City and Dingle shows that their average actual daily disposal rate is 45 tons and 14.6 tons, respectively, which is more than triple the projected average daily disposal volume for both LGUs at 12-15 tons/day and 4.1 tons/day, respectively. This may indicate that

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<sup>62</sup> PIWMF, Environmental Performance Report and Management Plan, p.43.

the presence of a safe and secure disposal facility motivates household and local waste generators to properly dispose of their residual waste rather than dispose them elsewhere.

Key issues and challenges:

*Low waste disposal rate and delayed payment of fees.* Table 29 shows the total waste disposal volume and average daily disposal volume for the first 7 months of operations of the PIWMF. It shows an average daily waste disposed of around 33.3 metric tons/day which is just over 10% of the estimated 250-300 ton/day volume capacity of the facility. This amounts to only around PhP 26,389/day or PhP 5.65million fees<sup>63</sup>

However, LGU payments of monthly statements of account (SoA) or billing fees are also inconsistent. Whilst the monthly billings are conscientiously tracked and recorded through the facility's trip and waste disposal ticketing system, LGU payments/transmittal to designated bank accounts are delayed by several weeks if not months due to administrative issues and lack of available cash or budget. An LGU even issued an unfunded check.

On the other hand, BEST Inc. estimates that their average day-to-day expenses to operate and maintain the facility, including salaries of the 16 regular staff and equipment, is around PhP 900,000.

**Table 29. Total waste disposal volume at PIWMF in tons from April-October 2022**

PIWMF Waste Data Updates April To October					
Month Cy 2022	No. Of Trips	Weight (Tons)	No. of Days	Ave. Waste Intake Tons/Days	Ave. Number of Trips/Days
April	346	1,003.535	30	33.45	11.53
May	327	839.048	31	27.07	10.55
June	356	948.736	30	31.62	11.87
July	305	799.307	31	25.78	9.84
August	420	1,156.376	31	37.30	13.55
September	426	1,122.090	30	37.40	14.20
October	434	1,256.230	31	40.52	14.00
<b>TOTAL</b>	<b>2,614</b>	<b>7,125.322</b>	<b>214</b>	<b>33.31</b>	<b>12.22</b>

Source: PIWMF Project Operations Office Daily Waste Disposal Report Table from April-October 2022

<sup>63</sup> Computation is PhP 729.24/ton tipping fee for regular LGUs multiplied by the total volume. Note that the total waste volume includes around 230 tons from private sources (i.e., Daewoo and Divine Works A.V.) and Passi City's waste disposal contribution.

Based on 2019 waste generation data, it was estimated that around 374 tons/day was projected to be disposed into the PIWMF by the 27 cluster LGU members or a total of 136,447 tons/year. The Passi City SLF has a daily capacity of 250-300tons/day. Table 30 shows the disparity in the projected daily wasted of the cluster LGUs with the actual daily waste disposal data generated by the PIWMF from April-October 2022. It clearly shows the dramatic disparity in the projections used (between 65% to as high as 95% unfulfilled) in the proposed facility's 2019 business study vs actual volume received. In total, only 19.3% or 38.18 tons/day of the estimated total residual waste of 197.74 tons/day to be disposed from the Passi cluster LGUs (with contracts) are currently being delivered to the facility.

**Table 30. Total waste disposed vs actual waste disposed by LGUs in tons (April-October 2022)**

LGU	No. of Months Use of PIWMF	Total Waste Disposed (tons)	Projected Waste Disposed Daily (tons)/ <sup>a</sup>	Actual Waste Disposed Daily(tons)	Actual /Projected Waste Disposed Daily (%)
Ajuy	2	51.14	17.27	0.84	4.9
Alimodian/ <sup>a</sup>	7	260.96	4.77	1.24	4.8
Anilao	4	143.33	6.03	1.19	19.7
Bingawan	7	53.86	2.94	0.26	8.8
Concepcion	6	216.65	8.69	1.20	13.8
Dingle	6	213.43	9.50	1.19	12.5
Duenas	6	69.1	7.38	0.38	5.1
Dumangas	7	397.94	24.17	1.89	7.8
Dumarao, Capiz/ <sup>a</sup>	7	333.01	5.94	1.59	26.8
Igbaras/ <sup>a</sup>	4	118.18	3.86	0.98	25.4
Janiuay	6	218.45	23.04	1.21	5.3
Leganes/ <sup>a</sup>	7	532.25	4.17	2.53	60.7
Leon/ <sup>a</sup>	4	234.70	6.24	1.96	31.4
New Lucena/ <sup>a</sup>	2	51.12	2.92	0.89	30.5
PASSI	7	2,929.48	40.77	13.95	34.2
Pavia/ <sup>a</sup>	6	243.03	8.45	1.35	16.0
San Enrique	3	130.33	7.11	1.45	20.4
San Miguel/ <sup>a</sup>	5	109.21	3.61	0.73	20.2
Sta. Barbara/ <sup>a</sup>	6	554.89	8.12	3.08	37.9
Tubungan/ <sup>a</sup>	4	32.60	2.76	0.27	9.8
<b>TOTAL</b>			<b>197.74</b>	<b>38.18</b>	<b>19.3</b>

Source: PIWMF Project Operations Office Daily Waste Disposal Report Table from April-October 2022.

Notes: /a = not part of the initial LGU members in the Passi City LGU cluster.

*Weak LGU compliance to disposal commitments.* Like other previous inter-LGU alliances or clustering experiences, failure of cluster LGU members to fulfill their commitments to local agreements are normal. However, because the cluster arrangements under the common SWM facility is also a business arrangement or contract, LGU contracting obligations have legal and financial implications. Technical, administrative, operational and physical are some of the reasons for the non-compliance of cluster LGU members to deliver their committed waste volume. In the recent oil price increases, many cluster LGU members reduced their delivery

schedules and consolidated their waste because of the higher fuel (diesel) cost to transport their waste to Passi.

In some cases, because a cluster LGU member's 10-year ESWMP has been approved and considered compliant with the signing of a MoA with PIWMF, there is no more pressure for them to complete their waste disposal arrangement.<sup>64</sup>

*Low priority and budget allocation for SWM services.* It is estimated that the cost of establishing a Category 1 SLF (with less than 3 hectares) is between Php 20-25 million while a Category 4 SLF like the PIWMF will be between Php 200-350million. Their expected lifespan is between 7-12 years. Table 31 shows a comparative table of the total LGU incomes, expenditures and SWM budget for the Municipality of Dingle and Tubungan for 2018-2021. For both LGUs, their SWM budget is not even one per cent (1%) of their total expenditures for any given fiscal year. In the case of Tubungan, from 2018-2021 it even reduced its annual SWM budget by more than half.

**Table 31. Comparative table of income, expenditure and SWM budget for Dingle and Tubungan, in Php, 2018 – 2022**

LGU	Dingle (3 <sup>rd</sup> class)			Tubungan (4 <sup>th</sup> class)		
FY	Total Operating Income	Total Expenditures	SWM Budget	Total Operating Income	Total Expenditures	SWM Budget
2018	153,850,000	88,200,000		n.d.	n.d.	1,100,000
2019	162,940,000	100,620,000		91,970,000	69,970,000	600,000
2020	267,140,000	101,790,000		101,800,000	65,200,000	600,000
2021	203,710,000	103,530,000	1,800,000	108,390,000	83,120,000	600,000
2022			7,475,800			800,000

Source: BLGF, 2022. Statement of Revenues and Expenditures 2018-2021.

For FY 2021-2022, Passi cluster LGU members Tubungan and Dingle have an SWM budget of Php 800,000 and Php 7.5 million, respectively (see Table 32). Of this total SWM budget for 2022, only around Php 95,000 and Php 347,000 is allocated for tipping fees by each LGU respectively. This is drastically way below the portion of the SWM budget allocated by both LGUs in 2021. In the case of Dingle, while actual amount of tipping fee budget increased by more than half from 2021 to 2022, it's 2022 tipping fee budget was actually less in its total share of the SWM budget compared to the previous year. The same observation is seen with Tubungan<sup>65</sup>

**Table 32. Comparative portion of tipping fee budget with total SWM budget for Dingle and Tubungan, in Php, 2021 and 2022**

LGU	Dingle (3 <sup>rd</sup> class)			Tubungan (4 <sup>th</sup> class)		
FY	SWM Budget	Tipping Fee Budget	% of SWM Budget	SWM Budget	Tipping Fee Budget	% of SWM Budget
2021	1,800,000	185,342	10.3	600,000	185,000	30.8
2022	7,475,800	347,151	5.0	800,000	95,068	11.8

Source: Data from submitted LGU SWM Baseline Information Checklist.

<sup>64</sup> Discussion notes from Passi FGD participants.

<sup>65</sup> Case study SWM baseline information and data checklist submitted by LGU Tubungan and Dingle.

*Low garbage collection fees and collection rate.* A key factor in the limitation of cluster LGUs to allocate funds or generate resources is the differing rates and charges applied by LGUs and local waste generators. Passi City charges annual fees to commercial enterprise and market vendors and collects them in the issuance of business permits. It does not collect garbage fees for households and residents. For Tubungan, the LGU charges a flat fee of PhP 20/month for all households.

The municipality of Dingle applies a fee per frequency of collection system. A lumpsum fee is charged by barangay depending on the rate of collection they selected (i.e., once a month, twice a month/every other week, four times a month/weekly, or eight times a month/twice a week). The more frequent the collection the higher the collection charges are imposed. Depending on the distance of the barangay, the charges may range from PhP 6,000 for a once-a-month collection to PhP 39,000 for a twice-a-week collection frequency. Nonetheless, these fees are dependent on the barangay to avail of these services. Table 33 shows a sample of garbage collection fee rates applied by cluster LGU members in the Passi City cluster.

**Table 33. Sample garbage collection fees collected by Passi City cluster LGUs in Php, 2022**

<i>Categories</i>	<i>Passi City</i>	<i>Dingle</i>	<i>Tubungan</i>
Household	None	By barangay/by collection frequency (e.g. PhP 6,000-39,000/bgy)	PhP 20/month
Commercial			
Small stores/market vendors	PhP 250/yr		
Medium enterprises	PhP 500/yr		
Private Corporations	PhP 1,500/ton		
Institutional/Private (Schools)	n.d.	PhP 1/capita/collection	

Source: Data from submitted LGU SWM Baseline Information Checklist.

The low rates for garbage fees charged by LGUs for their constituents coupled by poor collection efficiency has been a perennial challenge for LGUs to generate more revenue to cover the full cost of delivering local SWM services. As early as 2006, a NEDA study on LGU SWM financing have noted this situation and stated that LGUs “ends up subsidizing almost 90%” of SWM services. This results, according to the same NEDA study, “deprives other services much need resources that must be provided by LGUs.”<sup>66</sup>

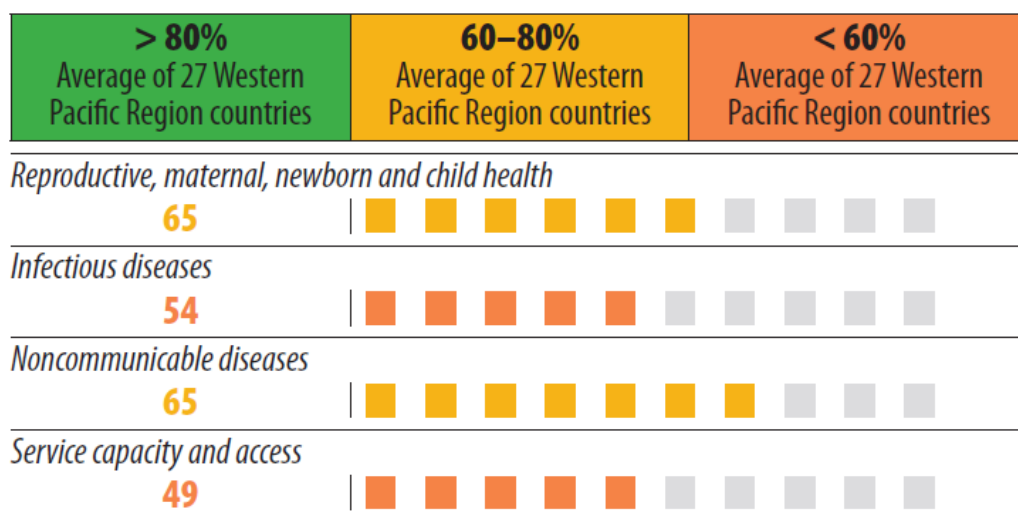
<sup>66</sup> NEDA, 2008. Cost Sharing Framework for Solid Waste Management, p.13. <https://nswmc.emb.gov.ph/wp-content/uploads/2017/05/cost-sharing-framework-for-swm.pdf>. Accessed 05 December 2022.

## 8. Case Study on Health Systems<sup>67</sup>

### 8.1. Healthcare Situation in the Philippines

The Philippines' healthcare situation has relatively been needing some catching up in the past years. A 2018 profile on the Philippines' progress in relation to the Universal Health Coverage (UHC) and Sustainable Development Goals (SDGs), prepared by the WHO, reflected areas for improvement. The profile showed that only a few of the SDG 3 indicators on good health and well-being are near the target, and the country was running behind other countries in the Western Pacific Region in terms of reaching some targets on urban and environmental health; noncommunicable diseases; and reproductive, maternal, newborn and child health (WHO 2018). It also showed that the Philippines's coverage on some essential services was slightly below the regional average compared to the other countries in the region (see Figure 10) (WHO 2018).

**Figure 10. UHC Performance Scorecard for the Philippines, 2018**



Source: WHO (2018)

In Abrigo's Policy Note published in 2021, he pointed out the country's progress in improving health outcomes, but highlighted that it is still running behind its regional and aspirational peers on various health measures. He further noted the uneven distribution of domestic resources allocated to health care across population groups (Abrigo 2021). It was then recommended to promote the timely access to critical health interventions; fill in the gaps in economic and social health determinants; and ensure continuous and consistent availability of comprehensive health services (Abrigo 2021).

In 2022, Ulep et al. also weighed in on the health outcomes in the Philippines. They mentioned that there have been modest improvements in the outcomes compared with regional peers, but there is still a need to catch up in major health indicators (Ulep et al. 2022). They also pointed

<sup>67</sup> See Table 34



out the lack of inclusive improvement, attributing it to issues such as fragmented service delivery and governance (Ulep et al. 2022). Their recommendations include the adoption of strategic allocation system to address unmet health needs, wherein highly urbanized cities and provinces are categorized in terms of health outcomes and capacity (Ulep et al. 2022).

Fragmentation in the health care system can indeed play a large role in non-attainment of targets on healthcare outcomes. The government has long been attempting to develop an integrated health system through interlocal cooperation to maximize the full potential of the healthcare sector. This case study looks into the experiences and lays out the challenges faced in the integration.

## 8.2. *Evolution of Health System in the Philippines*

### 8.2.1. Legal Bases

The development of an integrated health system in the Philippines started in 1981 when Executive Order (EO) No. 851 made way for the creation of health districts from arrangements of barangay health stations, rural health units, and district hospitals (DOH 2002). Section 14 (2) of EO No. 851 provides: “The emergency hospitals, which shall henceforth be known as district hospitals, shall exercise supervision and control over all field health units in their respective areas as the first step in the implementation of the integrated concept of health and medical services in the province. The rural health units and specialized field health units, in addition to their present functions, shall serve as the outpatient services of the district hospitals in their respective areas. Barangay health stations shall in turn be considered as extensions of rural health units. Eventually, all personnel of field health units who are permanently assigned in the catchment areas thereof shall be absorbed by the district hospitals.” This illustrated the linkage of barangay health stations, rural health units, and district hospitals within the catchment areas. In 1983, the District Health System was promoted by the World Health Organization to enhance effectiveness and efficiency of the health service delivery (DOH 2002). Section 33 of Republic Act (RA) No. 7160, also known as the Local Government Code of 1991, provides that “Local government units may, through appropriate ordinances, group themselves, consolidate, or coordinate their efforts, services, and resources for purposes commonly beneficial to them. In support of such undertakings, the local government units involved may, upon approval by the Sanggunian concerned after a public hearing conducted for the purpose, contribute funds, real estate, equipment, and other kinds of property and appoint or assign personnel under such terms and conditions as may be agreed upon by the participating local units through Memoranda of Agreement”. LGUs have then been allowed to form groups for purposes commonly beneficial to them. However, the implementation of the Local Government Code, in light of the decentralization process, disrupted the development (DOH 2002). The DOH managed the health system through health guidelines, standards, national plan, regulation, and management of specialized tertiary health facilities (DOH Administrative Order [AO] No. 2020-0021). On the other hand, LGUs were tasked to provide primary and secondary services (AO No. 2020-0021). The implementation of the Code eventually led to limitations in terms of the availability and quality of government health services (DOH 2002). To address the challenges, the DOH revived the District Health System through the Health Sector Reform Agenda in 1999, giving birth to the Inter-Local Health

System (DOH 2002). The ILHZs were established across the country through EO No. 205 s. 2000 (AO No. 2020-0021). Section 5 of EO No. 205, s. 2000 provides that “For the effective delivery of integrated health care and ensure smooth coordination between and among cities, municipalities and barangays, and pursuant to Section 33 of R.A. 7160, there are, hereby, established Inter-Local Health Zones (ILHZs) throughout the country whose organization is to be assisted by the DOH and DILG. These Inter-Local Health Zones comprise a well-defined population (by level of governance) in a rural or urban area, and all institutions and sectors whose activities contribute to improved health care delivery in that zone.” EO No. 205 also mandated the creation of the National Health Planning Committee (NHPC) as an oversight agency that will ensure integration of the national and local health plans. The Inter-Local Health System was transformed into Service Delivery Networks (SDNs) given the Implementing Rules and Regulations of the Responsible Parenthood and Reproductive Health Act of 2012 (RA No. 10354). The IRR of RA No. 10354 defined the SDN as “...the network of health facilities and providers within the province- or city-wide health systems, offering a core package of health care services in an integrated and coordinated manner.” Consequently, DOH AO No. 2014-0046 defined the establishment of SDNs to address needs in line with the UHC agenda. SDNs were then transformed into integrated local health systems called Province-wide and City-wide Health Systems (P/CWHS) under RA No. 11223, also known as the Universal Health Care (UHC) Act (AO No. 2020-0021). Section 19 of the UHC Act provides that “The DOH, Department of the Interior and Local Government (DILG), PhilHealth and the LGUs shall endeavor to integrate health systems into province-wide and city-wide health systems. The Provincial and City Health Boards shall oversee and coordinate the integration of health services for province-wide and city-wide health systems, to be composed of municipal and component city health systems, and city-wide health systems in highly urbanized and independent component cities, respectively.”

## 8.2.2. Definitions

Definitions of the health systems exhibit the similarity of the systems with each other while hinting on additional expectations in terms of linkage. The ILHZ is said to be based on a framework on inter-LGU partnership wherein health care providers in a defined geographical area coordinate to provide healthcare (DOH 2002). Linked ILHZs become the foundation of a province-wide Inter-Local Health System (DOH 2002). Factors that had to be considered in the clustering include geography, health service availability, transportation, and distance of population bases to core referral hospital (DOH 2002). Meanwhile, SDNs are networks of health providers and facilities within city or province-wide health systems that deliver health services like a local health referral system (DOH AO No. 2014-0046). Similarly, PWHS are integrated health systems of the province, providing integrated and continuous health services within a well-defined catchment area (DOH AO No. 2020-0021). They represent collaborative engagements among LGUs to complement each of their health operations (DOH AO No. 2020-0021). It is apparent that from the ILHZs to the PWHS, the location of LGUs is important in forming the health systems given that the catchment areas should be well-defined. From the systems' definitions, emphasis is also placed on the health care provider network created.

But unlike ILHZs that are given the allowance to operate only within their zones, health care providers under the SDNs and PWHS are expected to be linked already at a city-wide or province-wide scale. Integrating at a larger scale is apparently the policy direction as Republic Act No. 11223 or the Universal Health Care (UHC) Act, mandated LGUs to undergo a major transition to integrate their local health systems at the provincial level.<sup>68</sup> A look into the other descriptions can provide a better picture of the health systems.

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<sup>68</sup> Lam and his colleagues (2020) conducted a study that will create an assessment tool for the readiness of provinces in provincial integration of health service delivery using the following frameworks: PAHO Integrated Health System Delivery Networks (IHSDN), Service Delivery Network (SDN), and ILHZ. The authors utilized systematic review in drafting the assessment tool and then shared with the expert panel during roundtable discussion to finalize the assessment tool and scoring system. While this is yet to be used for assessment in an LGUs to date, the authors were confident that assessment tool can provide inputs to DOH in planning interventions and strategies that will aid the LGUs transition to P/CWHS.

**Table 34. Descriptions of ILHZs, SDNs, and PWHS**

CRITERIA	ILHZ	SDN	PWHS
Legal Bases	<ul style="list-style-type: none"> <li>Section 14(2) of Executive Order No. 851, s. 1982 illustrated the linkage of barangay health stations, rural health units, and district hospitals within catchment areas</li> <li>Section 33 of the Local Government Code of the Philippines provides that LGUs are allowed to form groups for purposes commonly beneficial to them</li> <li>EO No. 205, s. 2000 established the ILHZs throughout the country</li> </ul>	<ul style="list-style-type: none"> <li>The Implementing Rules and Regulations of RA No. 10354, also known as the Responsible Parenthood and Reproductive Health Act of 2012, made reference to the Service Delivery Network and associating them with the local health referral system in the Local Government Code</li> <li>DOH AO No. 2014-0046 defined the establishment of SDNs to address needs in line with the UHC agenda</li> </ul>	<ul style="list-style-type: none"> <li>Section 19 of RA No. 11223, also known as the Universal Health Care (UHC) Act, provides for the integration of local health systems into province-wide and city-wide health system</li> </ul>
Definitions	<ul style="list-style-type: none"> <li>Health care system similar to a district health system wherein communities, individuals, and all other health care providers in a well-defined geographical area collaborate to provide accessible, quality, and equitable health care with inter-LGU partnership as the basic framework (DOH 2002)</li> <li>Linked ILHZs become the foundation of a province-wide Inter-Local Health System (DOH 2002)</li> </ul>	<ul style="list-style-type: none"> <li>Networks of health providers and facilities within city or province-wide health systems that deliver health services like a local health referral system (DOH AO No. 2014-0046)</li> </ul>	<ul style="list-style-type: none"> <li>Integrated local health systems wherein health care providers provide health services to communities and/or individuals in a well-defined catchment area (DOH AO No. 2020-0021)</li> <li>Forms of collaborative engagements among LGUs to complement each of their health operations (DOH AO No. 2020-0021)</li> </ul>
Objectives	<ul style="list-style-type: none"> <li>Determine complementation areas and reintegrate hospital and public health services to</li> </ul>	<ul style="list-style-type: none"> <li>Continuously deliver health care services on top of coordination and integration (DOH AO No. 2014-0046)</li> </ul>	<ul style="list-style-type: none"> <li>Address health systems fragmentation and disparities in quality of and access to</li> </ul>

	<p>eventually attain a holistic health service delivery (DOH 2002)</p> <ul style="list-style-type: none"> <li>• Provide Filipinos with the benefits of an equitable, effective, and efficient health system that ensures public satisfaction, distributes health care financial burden fairly, and delivers improved health outcomes (DOH AO NO. 2006-0017)</li> <li>• Ensured full and integrated health care service delivery and development especially for the poor and marginalized sectors of society (EO 205)</li> </ul>	<ul style="list-style-type: none"> <li>• Primary health care approach wherein there is strong gatekeeping and coordinated, multi-disciplinary, and multi-sectoral provision of service by delivering community-centered, equitable, and respectful care (DOH AO No. 2017-0014)</li> <li>• Ensured access to all levels of care, involving support services apart from direct patient care (DOH AO No. 2017-0014)</li> <li>• Giving access on suitable quality care to the catchment area particularly the poor and marginalized shall be prioritized (DOH AO No. 2017-0014)</li> </ul>	<p>publicly provided health services among LGUs (DOH DC No. 2022-0107)</p>
Structures	<ul style="list-style-type: none"> <li>• 3 referral levels: primary (barangay health stations and rural health units), secondary (district/provincial hospitals) and tertiary (provincial/regional hospitals) (DOH 2002)</li> <li>• Primary health providers – typically health centers, rural health units (RHUs), barangay health stations, and private clinics - attend to the urgent and routine first-contact needs. (DOH AO NO. 2006-0017)</li> <li>• Core referral hospitals are those that attend to first referral level needs that are outside of the routine technical capacity of primary health providers (DOH AO No. 2006-0017)</li> </ul>	<ul style="list-style-type: none"> <li>• Primary Care Service Facilities come with first-line providers that conduct gatekeeping, identifying suitable care for patients, and they also help ensure that core population health services and primary care services are provided to address population or individual needs (DOH AO No. 2017-0014)</li> <li>• Apex Hospital – hospital providing particular departmentalized specialty services unavailable at lower-level facilities (DOH AO No. 2017-0014)</li> </ul>	<ul style="list-style-type: none"> <li>• Primary care providers are in charge of primary care services, while hospitals or other qualified health facilities should deliver inpatient care services and/or outpatient specialty care services (DOH AO No. 2020-0021)</li> </ul>

	<ul style="list-style-type: none"> <li>End referral hospitals attend to needs that primary health providers and core referral hospitals do not have the routine technical capacity for (DOH AO No. 2006-0017)</li> </ul>		
Required Actions for System Establishment	<ul style="list-style-type: none"> <li>Data analysis, generating the ILHZ idea, and clustering of municipalities (DOH 2002)</li> </ul>	<ul style="list-style-type: none"> <li>Identification of needs of general population and priority groups, and mapping of available health care providers in terms of needs (DOH AO No. 2014-0046)</li> </ul>	<ul style="list-style-type: none"> <li>Ensuring commitment, baseline setting, development planning, organizing the management structure, and SHF creation (DOH AO No. 2020-0021)</li> </ul>
Funding	<ul style="list-style-type: none"> <li>Common health fund / cost-sharing (DOH 2002)</li> <li>Regular budget of LGUs for RHUs and hospitals; 20% LGU development funds; DOH Central Office or CHD augmentation and subsidies; Congressional funds; and Health Insurance Scheme through PhilHealth Plus (DOH 2002)</li> </ul>	<ul style="list-style-type: none"> <li>Common health trust fund (AO2017-0014)</li> <li>National and local budgets, national health insurance program reimbursements and capitation funds, and private sector funds including income, donations, and out-of-pocket payments (DOH AO No. 2017-0014)</li> </ul>	<ul style="list-style-type: none"> <li>Special Health Fund (DOH-DBM-DOF-DILG-PhilHealth Joint Memorandum Circular No. 2021-0001)</li> <li>Local budget for health, financial grants and subsidies from NGAs, income from PhilHealth payments, financial grants and donations from civil society organizations, and official development assistance from international health partners (DOH-DBM-DOF-DILG-PhilHealth JMC 2021-0001)</li> </ul>
Key Features	<ul style="list-style-type: none"> <li>Lower levels of the referral system, especially health centers, with competent personnel; Health Referral System with operational transport and communication system; Improvement of Health Facilities, Health Service Buildings, Equipment, Vehicles, and Communication Infrastructure;</li> </ul>	<ul style="list-style-type: none"> <li>Ensured access to a trained health worker as first health system point of contact; Ensured timeliness, suitability, and ease of navigation in the referral to the next level of care; and Health Information System (DOH AO No. 2017-0014)</li> </ul>	<ul style="list-style-type: none"> <li>Clarity in the composition of the primary care provider network (PCPN) in terms of health services and facilities; PCPNs with secondary or tertiary care providers as referral facilities; Patient records management system; and Integrated management</li> </ul>

	Health Information System; Enhanced Drug Procurement and Management System; and Health Human Resource Development (DOH 2002)		systems in the following: quality assurance/improvement system, procurement and supply chain management system, information management system, strategic and investment planning, human resources for health management and development, and health financing (DOH AO No. 2020-0021)
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Source: Authors' summary of reviewed documents

### 8.2.3. Objectives

The intended outcomes are similar across the three versions of health systems, but various emphasis is provided in particular goals. The interlocal health system is adopted in the Philippines to address issues on fragmented health services by clustering municipalities into zones with a defined population and geographic coverage around a health facility system that has adequate number of primary level facility and referral hospital (DOH 2002). ILHZs aim to determine complementation areas and reintegrate hospital and public health services to eventually attain a holistic health service delivery (DOH 2002). Ultimately, ILHZs intended to provide Filipinos with the benefits of an equitable, effective, and efficient health system that ensures public satisfaction, distributes health care financial burden fairly, and delivers improved health outcomes (DOH AO No. 2006-0017). For SDNs, the objective of continuously delivering health care services is emphasized on top of coordination and integration (DOH AO NO. 2014-0046). There is also emphasis on the value of primary health care approach wherein there is strong gatekeeping and coordinated, multi-disciplinary, and multi-sectoral provision of service by delivering community-centered, equitable, and respectful care (DOH AO No. 2017-0014). An emphasis is also placed on the referral system's inclusion of support services (eg. transportation) apart from direct patient care (DOH AO No. 2017-0014). Under the ILHZs and SDNs, priority is said to be given to the poor and marginalized (Executive Order [EO] No. 205 & DOH AO No. 2017-0014). There is a lack of mention on such from PWHS documents, but they do aim to address disparities and fragmentation through integration of management support systems (DOH Department Circular [DC] 2022-0107). The attainment of the goal is also supported by the pooling of augmentation funds and improvement of organizational structures (DOH DC No. 2022-0107). Across the health systems, emphasis on particular features must have been placed to address issues previously experienced in previous system(s). In any case, LGUs part of the health systems should have similar objectives present in their agenda.

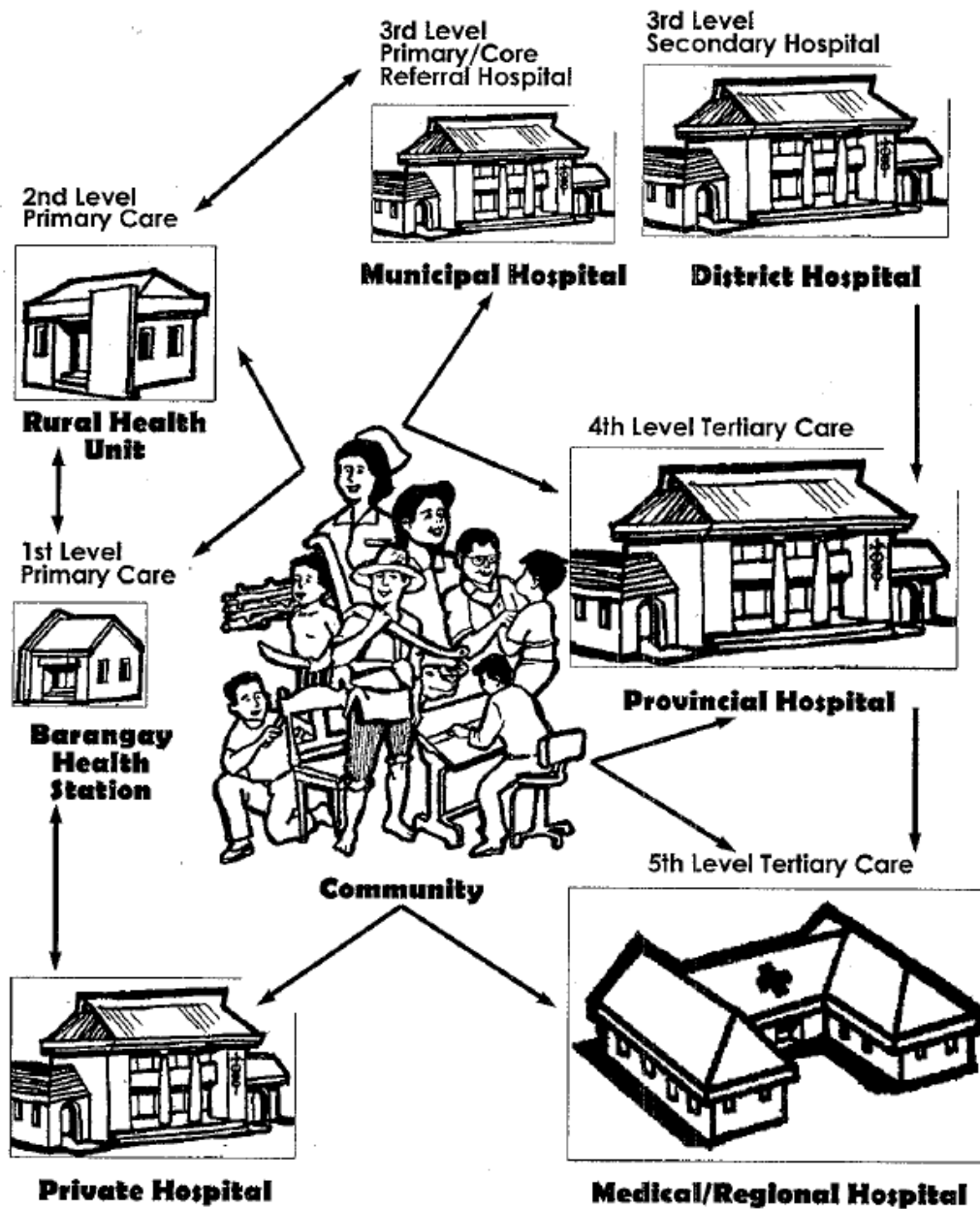
### 8.2.4. Structures

In terms of structure, there are three referral levels similarly classified in the health systems. These are primary, secondary, and tertiary levels of health care (Figure 11). Documents on ILHZs, SDNs, and /or PWHS have distinguished the levels. Primary health providers – typically health centers, rural health units (RHUs), barangay health stations, and private clinics - attend to the urgent and routine first-contact needs (DOH AO No. 2006-0017). The primary care service facilities' first-line providers are gatekeepers identifying suitable care for patients (DOH AO No. 2017-0014). They also help ensure that core population health services and primary care services are provided to address population or individual needs (DOH AO No. 2017-0014). Under PWHS, the primary care providers should be in charge of primary care services, while hospitals or other qualified health facilities should deliver inpatient care services and/or outpatient specialty care services (DOH AO 2020-0021). Secondary healthcare providers can be district or provincial hospitals, while tertiary healthcare providers can be provincial or regional hospitals (DOH 2002). The tertiary healthcare providers under the ILHZs seem to be similar with what is termed in some SDN documents as apex hospitals which



refer to hospitals providing particular departmentalized specialty services unavailable at lower-level facilities (see DOH AO No. 2017-0014). Meanwhile, the ILHZ system assigns core and end referral hospitals, but there is a lack of specification on the corresponding level of care. Core referral hospitals are said to be those that attend to first referral level needs that are outside of the routine technical capacity of primary health providers (DOH AO NO. 2006-0017). End referral hospitals attend to needs that primary health providers and core referral hospitals do not have the routine technical capacity for (DOH AO No. 2006-0017). The health systems may have used different terms, but they essentially adopt the three levels of health care in the referral system.

Figure 11. Three Levels in the Referral System

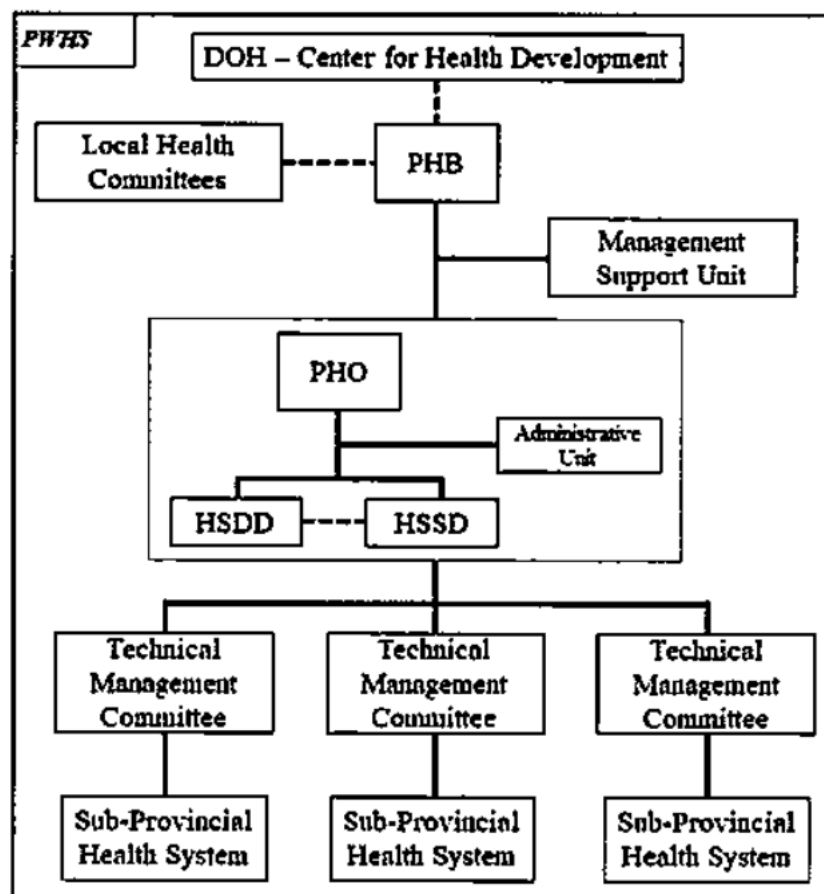


Source: DOH (2002)

#### 8.2.5. Stakeholders

Numerous stakeholders are involved in the health systems. For purposes of simplifying the discussion and preventing confusion, stakeholders as identified in the PWHS, along with their roles, will be the ones discussed (see Figure 12). These parties include those from the public and private sectors.

**Figure 12. Stakeholder Map for PWHS**



Source: DOH AO No. 2020-0021

LGUs have the following important roles: (1) lead the integration of local health systems into the PWHS; (2) ensure local efforts complement each other; (3) provide resources (eg. funds) that will enable and sustain financial, technical, and managerial integration; and (4) monitor systems integration with CHD (DOH AO No. 2020-0021).

The Provincial Health Board (PHB) shall develop the policy and strategic directions of the PWHS, and manage and oversee the integrated local health system (DOH AO No. 2020-0021). The PHB shall also propose and advise on the annual budgetary allocations for maintenance and operations to the Sanggunian (DOH AO No. 2020-0021). It is composed of the provincial governor as chairperson; provincial health officer as vice-chairperson; and Health-Sangguniang Panlalawigan Committee chair, DOH representative, people's organization/non-governmental organization/private sector representative, indigenous cultural communities/indigenous peoples representative as applicable, and PWHS component cities and municipalities representative(s) as members (DOH AO NO. 2020-0021).

The Provincial Health Office shall serve as the technical secretariat in charge of technical supervision and integration of the PWHS (DOH AO No. 2020-0021). It shall consist of the Health Service Delivery Division (HSDD) tasked to manage the health service delivery operations and oversee the implementation of public health programs, and the Health Systems

Support Division (HSSD) tasked to manage the health financing, human resource development, health information system, etc. (DOH AO No. 2020-0021). Additionally, there is a Technical Management Committee that shall supervise operations of each sub-provincial health system and initiate integrated health planning and participatory health care needs assessment, among others (DOH AO No. 2020-0021).

Specific involved offices under the DOH include the Field Implementation and Coordination Team, Centers for Health Development, Bureau of Local Health Systems Development, and Central Office Bureaus and attached agencies. The Field Implementation and Coordination Team is assigned to have oversight on the integration of local health systems through the Centers for Health Development (CHDs) (DOH AO No. 2020-0021). The CHDs promote and monitor integrated management systems development, and provide technical support based on the Local Investment Plan for Health (DOH AO No. 2020-0021). The Bureau of Local Health Systems Development is tasked to formulate standards and policies in relation to strategic investment planning and strengthening the local health systems (DOH AO No. 2020-0021). Involved Central Office Bureaus and attached agencies include the Health Emergency Management Bureau (HEMB), Epidemiology Bureau (EB), Health Promotion Bureau (HPB), Health Facility Development Bureau (HFDB), Knowledge Management and Information Technology Service (KMITS), Health Human Resource Development Bureau (HHRDB), Health Facilities and Services Regulatory Bureau (HFSRB), Health Policy Development and Planning Bureau (HPDPB), Disease Prevention and Control Bureau (DPCB), and PhilHealth. They are tasked to look into the development of guidelines and standards, provide capacity building activities and technical assistance, institutionalize support mechanisms, and monitor integration characteristics (AO No. 2020-0021). Specifically, the HFDB develops the health care provider network service delivery design; the KMITS looks into the interoperability and functionality of health information systems; the HHRDB is tasked to develop and implement the National Health Workforce Support System, and the PhilHealth, along with DOH, is assigned to develop guidelines on benefit packages, HCPN contracting standards, and establishment and maintenance of SHF utilization tracking system (DOH AO No. 2020-0021).

Additional stakeholders include the Department of the Interior and Local Government, and health partners. The Department of the Interior and Local Government (DILG) also has a role in the PWHS. The agency is supposed to develop policies to help integrate the health systems into the PWHC, and it is additionally tasked to ensure the monitoring and evaluation through Seal of Good Local Governance (DOH AO No. 2020-0021). Local and international health partners are also supposed to design and implement their activities with the local health systems integration (DOH AO No. 2020-0021).

#### 8.2.6. Required Actions for System Establishment

Particular activities need to be conducted before the health systems are institutionalized to achieve objectives. There are highlighted preparatory activities in each of the health system types. Under the ILHZs, data have to be analyzed to improve rationalization on the ILHZ establishment (DOH 2002). These data include demographic, economic, and sociocultural profile; LGU political affiliation; available health services and facilities; health facilities

census reports and financial statements; personnel component; satisfaction surveys; mortality and morbidity reports; and data on communication and transportation flows (DOH 2002). There is then a need to increase discussions on the ILHZ with the stakeholders to gain insights on how it can be started (DOH 2002). Subsequently, the province would be divided into districts or clusters, each with a core referral hospital (DOH 2002). Guidelines, and policy and technical management structures should be created as well (DOH 2002). In the case of SDNs, the needs of the general population and priority groups had to be determined first to effectively define service targets (DOH AO No. 2014-0046). Available health care providers are then mapped depending on the needs (DOH AO No. 2014-0046). As for the PWHS, preparatory works include securing political and legal support and formalizing LGU commitment in working with other LGUs (DOH AO No. 2020-0021). There is then a need to set the baseline involving mapping and inventory in relation to the health facilities and service availability, assessment of needs and capacities, risk stratification and population profiling, and functionality or presence of management support systems (DOH AO No. 2020-0021). Plans are then crafted according to existing guidelines on the Local Investment Planning for Health and the respective Annual Operational Plan (DOH AO No. 2020-0021). The management structure is subsequently organized with an addition in the membership of Provincial Health Board and creation of Management Support Unit, institutionalization of at least two Provincial Health Office technical divisions, and development of a technical management committee if necessary (DOH AO No. 2020-0021). A Special Health Fund (SHF) is then set up to fund health system operations and services (DOH AO No. 2020-0021). Across the various health system types, a commonly identified step is the determining of needs and clustering. Data collection and analysis in the ILHZ system, nevertheless, was intended specifically for the rationalization of ILHZ establishment, while the activity in the SDNs and PWHS appear to be mainly for target setting. This can be attributed to inter-LGU arrangements being a relatively new concept when the idea of ILHZs was introduced. Additional efforts in data collection have also been required for the development of SDNs and PWHS as mapping of health facilities was emphasized as a step.

#### 8.2.7. Funding

There is flexibility on financial sources across the versions of health systems. A variety of sources is enumerated in some ILHZ documents, wherein relatively more discussions on these sources were found. ILHZs were allowed to get funding from LGUs' regular budget and 20% of their development fund, DOH Central Office or CHD augmentation and subsidies, congressional funds, and health insurance scheme through the PhilHealth Plus that aimed to provide universal coverage for particular areas (DOH 2002). The insurance scheme is employed by enrolling the self-employed and indigents to PhilHealth, and the fund is a pool of formal sector payroll deductions, informal sector premiums, interest income of reserves, NGO and LGU subsidies for indigents, and donations (DOH 2002). One of the PhilHealth Programs was the Indigent Program (Medicare Para sa Masa), increasing access of the indigent sector to health insurance (DOH 2002). The PhilHealth Plus Capitation Fund employed the capitation scheme wherein PHP 300 annually per household is extended to the RHU through the LGU and savings are credited to the benefit of the RHU (DOH 2002). Under the scheme, LGUs had to set up the fund through an ordinance and comply with accreditation standards in

terms of the health facilities (DOH 2002). There was also opportunity for revenue enhancement and cost recovery through effective billing, collection, and patient classification, as well as proper rate setting of services (DOH 2002). LGUs could also use their own income for operations and improvement of services and facilities (DOH 2002). Community-based health insurance was another financial source (DOH 2002). Another one was the bulk procurement of drugs and setting up of pharmacies (DOH 2002). Grants and fundraising activities could be another source (DOH 2002). Additionally, cooperatives could be created to cover members' health care needs (DOH 2002). In the case of SDNs, financial sources are said to include national and local budgets, National Health Insurance Program (NHIP) reimbursements, NHIP capitation funds, and private sector funds (DOH AO No. 2017-0014). In terms of DOH grants, the agency was supposed to prioritize SDN medium-term investment plans under the Local Investment Plans for Health (LIPH) (DOH AO No. 2017-0014). For the PWHS, the financial sources include financial grants and subsidies from NGAs, income from PhilHealth payments, financial grants and donations from civil society organizations (CSOs), official development assistance from international health partners (IHPs), and local budget for health (DOH-DBM-DOF-DILG-PhilHealth JMC 2021-0001). Although there is a lack of discussion on the PWHS and SDN financial sources, they are similar with the ILHZ financial sources including LGU internal budget, NGA subsidies, and health insurance payments.

The funds can be pooled together to form a common health fund and trust fund. This was allowed among ILHZs, SDNs, and PWHS. For ILHZs, there is no required formula for the cost sharing (DOH 2002). For SDNs, it is encouraged to establish a common health trust fund when it is practical, feasible, and in accordance with existing arrangements, complying with internal allocation guidelines approved by the SDN Management Group (DOH AO No. 2017-0014). For the PWHS, there are guidelines on the allocation, utilization, and monitoring of, and accountability for the Special Health Fund, also known as the Joint Memorandum Circular (JMC) 2021-0001 of the DOH, Department of Budget and Management (DBM), Department of Finance (DOF), Department of the Interior and Local Government (DILG), and Philippine Health Insurance Corporation (PhilHealth). For the PWHS, the following are the mechanisms which are expected to facilitate fund flow: (1) Terms of Partnership for financial grants and subsidies from DOH; (2) contractual agreements for income from PhilHealth payments; (3) MOA for financial grants and donations from IHPs and CSOs; (4) MOA for funds from LGUs (DOH-DBM-DOF-DILG-PhilHealth JMC 2021-0001). The SHF planning and budgeting involves the LIPH and AOP formulation of the PWHS by the PHB through the Provincial Health Office; use of LIPH, AOP, and contracts as bases of SHF budget preparation; presentation of the SHF budget; approval of budget through PHB Resolution; and approval of budget by chairperson, vice-chairperson, and majority of PHB (DOH-DBM-DOF-DILG-PhilHealth JMC 2021-0001). SHF allocation is decided upon by the PHB in consideration of health investment plans and/or performance of the LGUs (DOH-DBM-DOF-DILG-PhilHealth JMC 2021-0001). Not included in the SHF of PWHS is the required counterpart funding from LGUs (DOH-DBM-DOF-DILG-PhilHealth JMC 2021-0001). The counterpart funding can be spent on required expenditure on LGU-controlled and supervised health services, facilities, and offices; remuneration for government health personnel; health board and MSU physical office and administrative expenses; and land acquisition and development of health services and facilities (DOH-DBM-DOF-DILG-PhilHealth JMC 2021-0001). From the information reviewed involving the ILHZs, SDNs, and PWHS, it appears that all systems have indeed

referenced to the development of a common fund; nevertheless, more guidance is given in the latest version of health system. This is a welcome development given that the UHC Act specifies the establishment of a Special Health Fund to reduce health service delivery fragmentation and incentivize public and private collaboration to improve health service delivery. Additionally, less hesitation is expected from stakeholders to engage in the development of a common fund when they have greater understanding on how and what to utilize the fund for, and ways on how to facilitate the fund flow.

#### 8.2.8. Key Features

The health systems, in their essence, establish referral systems. The referral systems are meant to address limitations in attending to patients' needs (DOH 2002). In the ILHZ system, the provincial tertiary referral hospital and individual ILHZs agree on the referral system (DOH 2002). They have to have an operational transport and communication system (DOH 2002). Lower levels of the referral system, especially health centers, should have competent personnel with clear functions and roles and should only refer patients requiring secondary or tertiary care (DOH 2002). SDNs, meanwhile, were supposed to ensure that there is access to a trained health worker as first health system point of contact (DOH AO No. 2017-0014). They also had to ensure timeliness, suitability, and ease of navigation in the referral to the next level of care (DOH AO No. 2017-0014). For the PWHS, under the institutionalization of the network of health services and facilities, clarity in the composition of the primary care provider network (PCPN) in terms of health services and facilities is valued (DOH AO No. 2020-0021). Considerations shall include geographical division, access, and proximity (DOH AO No. 2020-0021). The PCPNs shall then have the secondary or tertiary care providers as referral facilities (DOH AO No. 2020-0021). Considerations shall include availability of health services and transportation facilities, road networks, and geographical characteristics (DOH AO No. 2020-0021). The PCPN members and referral facilities shall enter into a MOA (DOH AO No. 2020-0021). An apex hospital shall also be identified for specialty care services, and PWHS shall enter into a MOA with the hospital(s) (DOH AO No. 2020-0021). Health providers and facilities shall also comply with certification, accreditation, and licensing requirements (DOH AO No. 2020-0021). Across the three versions of health systems, the importance of being equipped with capable primary health care providers as gatekeepers is emphasized. The similar emphasis placed on their role makes it appear that a major intention of the establishment of the systems is to strengthen the primary health care level in addressing needs that are within their capacities.

One of the other common activities among the types of health systems is the development of the health information system. The health information system is intended to complement referral, disease surveillance, monitoring, and local planning (DOH 2002). During the implementation of ILHZs, there were three health information systems: (1) Hospital Operation and Management Information System used in devolved and retained hospitals, (2) Community-Based Monitoring and Information System used in keeping track of non-visiting clients with unmet needs, and (3) Field Health Service Information System used in keeping records of clients given health services (DOH 2002). SDNs were found to be required to have an interoperable health information system that is in accordance with national eHealth standards

(DOH AO No. 2017-0014). For the PWHS, a minimum requirement is for PCPNs to maintain patient records that is accessible in the entire health system (DOH AO No. 2020-0021). It is unclear whether the Hospital Operation and Management Information System and Community-Based Monitoring and Information System employed in the ILHZs are still in place, but the Field Health Service Information System appears to be the one regarded as the minimum requirement among PCPNs in the PWHS. Again, emphasis is placed in the role of the primary health care providers given their responsibility to increase access to patient records.

Additional activities are emphasized in some documents on the ILHZs and PWHS. In some ILHZ documents, there was a mention of the health human resource development, which entails the development of the performance management system aiming to increase organizational and individual productivity; job-related recruitment and selection system valuing fitness, merit, and fairness; and training and development for health personnel and LGU participants (DOH 2002). Improvements in the drug procurement and management system were also eyed. As indicated by DOH (2002), some notable practices include bulk or pooled procurement, and parallel drug importation from a country wherein the product was marketed by the patent holder (DOH 2002). Consideration was also given on the improvement of health facilities, health service buildings, equipment, vehicles, and communication infrastructure (DOH 2002). For the PWHS, there should be integrated management systems in the following aside from the information management system: quality assurance/improvement system; procurement and supply chain management system; strategic and investment planning; human resources for health management and development; and health financing (DOH AO No. 2020-0021). These improvements in various aspects are expected to support in addressing limitations on addressing needs of priority groups and the general population.

### 8.3. *Assessment of Outputs / Outcomes*

ILHZs were monitored in terms of their functionality. Functionality was initially defined in relation to the inputs or process, *i.e.*, signed MOA, ILHZ plan; presence of Policy Board; Technical Management Committee; enrollment of indigents/resource sharing; and minutes of meetings (DOH n.d.-a). A new definition was subsequently adopted to cover the impact of inter-LGU cooperation in health operations including improvements in health resource management, care of individuals, and population-wide health (DOH n.d.). There were four levels of functionality indicators: (1) capacity, (2) effort, (3) coverage and utilization, and (4) outcome (DOH n.d.-b). Capacity indicators referred to what the ILHZ has in terms of trained health personnel, infrastructure and equipment, funds, etc. (DOH n.d.-b). Effort indicators referred to what the ILHZ does with what it has in terms of service delivery networking, financing, outreach, regulation, *inter alia* (DOH n.d.-b). Coverage and utilization indicators referred to coverage of ILHZs, including those involving program performance, caseload, and sectoral participation (DOH n.d.-b). Outcome indicators, meanwhile, included decreasing morbidities and mortalities, low or zero outbreak or epidemic (DOH n.d.-b).

Annex 3 shows the number of functional ILHZs per province as of January 30, 2015 based on data provided by the DOH. In total, 130 out of the 325 ILHZs were functional. Provinces with



the highest number of functional ILHZs include Leyte, Quezon, Pangasinan, and Negros Oriental. Many provinces were able to develop their ILHZs into functional ones. These include La Union; Pangasinan; Pampanga; Occidental and Oriental Mindoro; Marinduque; Camarines Norte; Sorsogon; Negros Oriental; Siquijor; Leyte; Sothern Leyte; Biliran; West, Eastern, and Northern Samar; Davao del Norte; Compostela Valley; Abra; Apayao; Benguet; and Mountain Province.

For the PWHS, ten integration characteristics based on World Health Organization health systems building blocks are observed: (1) unified governance of the Local Health System (LHS), (2) strategic and investment planning, (3) financial management, (4) human resources for health management and development, (5) information management system, (6) epidemiology and surveillance system, (7) procurement and supply chain management, (8) referral system, (9) disaster risk reduction management in health, and (10) health promotion programs and campaigns (DOH DC No. 2022-0107). Given these characteristics, Key Result Areas or minimum outputs are looked into and classified into three levels of progression: (1) Level 1 as preparatory, (2) Level 2 as organizational, and (3) Level 3 as functional (DOH DC No. 2022-0107). The preparatory level covers preparatory works and additional mechanisms to support the integration, the organizational level touch on organization and management, while the functional level focuses on functionality of the integrated systems given provincial reports (DOH DC No. 2022-0107). There are Means of Verification (MOVs) or documentary pieces of evidence that are to be reviewed to verify achievement of KRAs (DOH DC No. 2022-0107).

Annex 3 also shows KRA accomplishments in the PWHS based on the Local Health Systems Maturity Levels Annual Monitoring Report (DOH DC No. 2022-0107) provided by the DOH.<sup>69</sup> Numerous provinces have already achieved more than 50% of the Level 1 KRAs: Batanes, Isabela, Quirino, Nueva Vizcaya, Bataan, Bulacan, Tarlac, Pampanga, Masbata, Catanduanes, Sorsogon, Antique, Capiz, Guimaras, Iloilo, Negros Occidental, Bohol, Cebu, Southern Lyete, Eastern Samar, Zamboanga del Sur, Lanao del Norte, South Cotabato, Sarangani, Agusan del Sur, and Benguet. In terms of Level 2 accomplishment, only Sorsogon was able to achieve more than 50% of the KRAs. Provinces are yet to accomplish majority of the KRAs in Level 3.

Notable areas can be found when comparing data on 2015 ILHZ functionality and PWHS KRA accomplishment. Only a few provinces have had all of their ILHZs functional in 2015 and currently with more than 50% of Level 1 KRAs accomplished in the PWHS. These include Pampanga, Sorsogon, Southern Leyte, Eastern Samar, and Benguet. Out of those provinces, only Sorsogon and Benguet were able to accomplish some of the KRAs both in Levels 2 and 3.

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<sup>69</sup> In support to the UHC Act initiatives, the Local Health Systems Maturity Level (LHS ML) was developed to assist technical providers like DOH, PhilHealth, and local and international partners on what type of assistance they can provide and avoid duplication of initiatives (Bureau of Local Health Systems Development (BLHSD) 2022). DOH released AO No. 2020-21 or the Guidelines on Integration of Local Health Systems into P/CWHS, which list down the general procedures for the transition to P/CWHS. It was seconded by the release of the AO No. 2020-37 or the Guidelines on the Implementation of the LHS ML which describes the general framework of integration, adopting the WHO health systems building blocks.

Some studies have also relayed the outputs of interlocal cooperations involving healthcare, and a number of them are also related to functionality (see Table 35). ADB (2014) revealed that despite the wide adoption of ILHZs, most of them have not achieved the targeted functionality level due to legal and administrative obstacles in terms of the sharing of resources. In a 2016 paper of Villaverde et al., functionality was also found to be below the target for the year, and majority of the indicators for strengthened health support systems only minimally improved or even did not improve at all. In a paper of Cagayan and Angbon (2022), not one of the birthing facilities they studied were found to be fully functional, and the private ones were tagged as non-functional (see Table 36). Some organizations like JICA (2004) pointed out the lack of logistic coordination among involved LGUs despite the establishment of referral and management systems as seen in studies like that of ADB (2006). Cagayan and Angbon (2022) pointed out needed improvements on protocols, communication, and transportation. Non-functionality may be connected to the also unfavorable assessment on the financial aspect and state of health facilities given by Savella (2018). Savella (2018) explained that the budget for health facilities compete with other LGU priorities. The non-functionality has also been linked to the minimal support provided by some local chief executives (JICA 2004). It can also be connected to the different awareness levels on suitable health practices and available health services (see ADB 2006). All in all, there are numerous indicators suggesting the need to increase efforts in improving the functionality of the interlocal health systems.

There is a lack of assessment on the outcomes of functional interlocal cooperations involving healthcare. A 2006 ADB study pointed out that the rates of childhood and communicable diseases in some areas were yet to show a consistent downward trend. In a 2014 ADB paper, indicators for maternal, infant, and child under 5 years old mortality ratio, number of facility-based deliveries, and malaria incidence showed an improvement although still far from the target rates, and the immunization rate for children under 1 year-old and use of contraceptive actually showed a slight downward trend.

**Table 35. Outputs and outcomes based on reviewed literature**

Author	Year	Sites	Method	Findings
Cagayan MSFS, Ang-Bon RM.	2022	Legazpi City, Albay, PH	Referral System Assessment (RSA) questionnaire, facility visits, and document review. The RSA questionnaire and scorecard was adopted from DOH MOP for maternal health and USAID-MEASURE Evaluation's Referral Systems Assessment and Monitoring (RSAM) Toolkit.	The study showed that none of the birthing facilities (BFs) were fully functional based on the 5 characteristics used to assess the functionality of the BFs. Publicly-owned BFs were better in governance, and availability of emergency drugs, while private BFs were also performing well in the latter component. There is a need to improve on the protocols and transportation and communication aspect in the service delivery for both group of BFs. The private BFs were generally rated non-functional, with very poor ratings on human resource due to issues on understaffing and training.

ADB	2006	6 pilot studies: Kalinga, Apayao, Guimaras, Palawan, South Cotabato, and Surigao del Norte.	Secondary data, health facility surveys, health plans, project progress reports	The over-all rating for the 6 pilot study areas was successful. Thru the ICSH Project, the health accounts, referral systems, health information systems, operations, and management systems were established across 5 ILHZs from 4 provinces. However, it is deemed too early to measure its effect on the basic health indicators of the population. For example, it was observed that the rates of childhood and communicable diseases in the target areas yet to show consistent downward trend. Aside from that, reports on the coverage and uptake of immunization and prevention and control of communicable diseases remained to be inconsistent. Public knowledge on available health services and practices were also not consistent across target population.
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ADB	2014	6 provinces: Ilocos Norte, Ifugao, Oriental Mindoro, Cagayan, Kalinga, and Aklan	Review of secondary data and routine health information	<p>The report summarized an extensive review of policy actions completed per health reforms areas of HRSA. While the concept of inter-local collaboration was adopted and were established, many of the LGUs faced issues on administrative and resource sharing legalities which prevented them to achieve the desired level of ILHZ functionality.</p> <p>This report also looked into some of the health indicators before and after the completion of the project. Indicators for maternal, infant, and child under 5 years old mortality ratio, increase number of facility-based deliveries, and malaria incidence showed improvement, although still far from the target rates. While the immunization rate for children under 1 year-old and use of contraceptive showed slight downward trend.</p>
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Savella	2018	Ilocos Sur	<p>Survey based on DOH QST and Benchbook Performance Improvement of Health Service of the PhilHealth Records review</p> <p>FGD of public for quality of health service</p>	<p>The paper assessed the local health system of Ilocos Sur by looking into 5 key characteristics: good governance and stewardship, quality of health facilities, quality of health service delivery, financing, and client satisfaction. Based on the results, the over-all rate for good governance and stewardship and health service delivery were rated on average. For the former, the reason for such rating was the scores of the periodic performance evaluation of health staff. The ratio of medical staff like doctors and midwife in the province were above the ideal ratio. The rating for quality of health facilities and financing mechanism were rated low. One of the cited issues on this was that the budget of health facilities for infrastructure as well as hiring staff competes with other LGU priorities. However, the over-all client satisfaction survey showed that they are quite happy on the services they received from their RHUs mainly because of the quality of service they receive from the RHU staff as well as their perceived expertise in their work. Key areas for improvement according to the client survey were: availability of essential laboratory tests at RHU level, reduce waiting time at RHU for consultations, and reduce out-of-pocket expenses.</p>
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JICA	2004	CAR, Bicol, Eastern Visayas	<p>Secondary data and site visits including FGDs &amp; KIIs from DOH, local facilities, and LGUs.</p> <p>Conducted problem tree analysis to identify challenges per grouping in each region.</p>	<p>The report summarized the status of ILHZs in 3 regions. The assessment was based on the availability following as of October 2004: referral systems, planning mechanisms, health information management systems, and shared budget and staff.</p> <p>The report suggested varied level of ILHZ functionality across regions. Region V have a total of 15 ILHZs, followed by Region II with 12, and Region VIII with 11. Among the three, Region V has the most number of ILHZs that have the 5 characteristics with 8 ILHZs, while Region II only have 2 ILHZs that met all 5 requirements. In Region VIII, 9 out of the 11 ILHZs met the first three requirements: having a referral system, planning documents, and health information systems. Among the 5 requirements, the last two (having a common budget and staff) were the ones that were not achieved by most ILHZs.</p> <p>The report also looked into some of the basic health indicators, but there was no analysis done to correlate them with the status of the ILHZs in the selected study sites.</p>
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Villaverde, Gepte, & Baquiran	2016	PH	Desk review, routinely collected data, surveys, and censuses and QUAL methods (KII, FGD, and consultative meetings).	<p>The report assessed 4 key areas of the National Objectives for Health (NOH) 2011-16: financial risk protection; access to quality health facilities and services; MDGs for health; and strengthen health support systems.</p> <p>Strengthening local health systems thru ILHZs contributes to the improvement of the health support systems key area. Overall, majority (10) of the indicators for this key area reflected minimal to no improvement, while only 9/32 indicators were attained and 7 indicators have inadequate or no data to be used for the assessment.</p> <p>For ILHZ specific performance indicators, only on the indicator of having one excellent performance rating in LGU scorecard have been attained. The rest were either no data available or there is no substantial improvement.</p>
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**Table 36. Functionality scores of selected health facilities**

Characteristic	Privately-owned Health Facilities					Government-owned Health Facilities					P-value
	A	C	F	G	Pooled	B	D	E	H	Pooled	
I. Governance, Leadership and Accountability	14/18 77.8%	14/18 77.8%	12/18 66.7%	12/18 66.7%	13/18 72.2%	16/18 88.9%	14/18 77.8%	16/18 88.9%	14/18 77.8%	15/18 83.3%	0.0614
II. Human Resources	7/18 38.9%	7/18 38.9%	7/18 38.9%	6/18 33.3%	7/18 38.9%	10/18 55.6%	11/18 61.1%	16/18 88.9%	14/18 77.8%	13/18 72.2%	*0.0180
III. Protocols	14/36 38.9%	23/36 63.9%	20/36 55.6%	17/36 47.2%	19/36 52.8%	19/36 52.8%	21/36 58.3%	20/36 55.6%	22/36 61.1%	21/36 58.3%	0.4678
IV. Transportation and Communication	10/18 55.6%	13/18 72.2%	14/18 77.8%	11/18 61.1%	12/18 66.7%	8/18 44.4%	10/18 55.6%	6/18 33.3%	7/18 38.9%	8/18 44.4%	*0.0294
V. Emergency Drugs and Equipment	13/18 72.2%	18/18 100%	15/18 83.3%	14/18 77.8%	15/18 83.3%	18/18 100%	14/18 77.8%	16/18 88.9%	15/18 83.3%	16/18 88.9%	0.4624
Total	58/108 53.7%	75/108 69.4%	68/108 63%	60/108 55.6%	66/108 61.1%	71/108 65.7%	70/108 64.8%	74/108 68.5%	72/108 66.7%	73/108 67.59%	0.2482
<div> <div>81-100</div> <div>Fully functional</div> <div>61-80</div> <div>Substantially Functional</div> <div>41-60</div> <div>Partially Functional</div> <div>&lt;40</div> <div>Non-Functional</div> </div>											

Source: Cagayan & Angbon (2022)

## 8.4. Key issues / Challenges

### 8.4.1. Lack of clear organizational structure and delineation of roles

Unclear roles and functions were seen as one of the most common challenges in interlocal collaboration. On the perspective of the LGUs, the role of DOH became unclear in the implementation of ILHZs (Lorenzo, et al 2001; Atienza, 2004; & Villaverde et al 2016). One of the reasons that contributed to this is the lack of preparedness of the LGUs and DOH in the transfer of management of the provincial hospitals, which contributed to the deterioration of the quality-of-service delivery (Lieberman, et al 2004). In the case of Pampanga, guidelines on the downloading of PhilHealth funds in relation to the interlocal cooperation on health is yet to be finalized because there is no identified entity that will coordinate with PhilHealth, and the LGUs are concerned on how the funds will be distributed across the network. In another study, it was observed that there were some overlaps in the role of DOH Regional Office and the PHO (Lam, et al 2020), which led to confusion of responsibilities and deliverables. It was suggested that the DOH and its regional offices like CHD should focus on policy creation, implementation, and monitoring and evaluation of implemented strategies, while the PHOs should strengthen their health service delivery. The weak stewardship of the health ministries in creating policies at the national level to support the implementation of interlocal collaborations were also observed in countries in South Americas (PAHO, 2011), which was also seen in one of the assessments conducted in the Philippines in 2010 (IBRD-WB, 2011). Without this enabling environment, LGUs will not be able to enhance existing collaboration or even create a new one to improve health service delivery in their respective provinces.

### 8.4.2. Lack of standardization and awareness on health service portfolio and referral system

It is imperative that hospitals and health service providers have a standardized health service portfolio that will define the services they offer, and which are to be referred to other healthcare facilities. For ILHZs, a working referral system will determine which facility should deliver

the proper healthcare without giving burden to both the patient and the LGUs. In a study in South Americas, the lack of standardized health service portfolio was seen as a challenge in the establishment of interlocal collaborations (PAHO, 2011). This gave them a hard time to establish the referral system. In the country, it was observed that while there is an existing health referral system, it was not being utilized since some patients bypass the primary healthcare facilities which contributed to the increase of high burden in patients in higher level hospitals (Cagayan & Ang-Bon, 2022). This can be attributed to the public's lack of awareness in the referral system or their perceived quality of health service available at primary healthcare units. In the case of Pampanga, various guidelines and protocols for the referral networks of different health programs make it difficult to integrate the networks into one, and there are still lacking mechanisms such as those on informing referring units about the treatments received by the referred patients. In the same study, the private clinics and practitioners also fail to refer high risk patients to other health facilities to avoid losing their PhilHealth incentives (Cagayan & Ang-Bon, 2022). They suggested that in order to improve the referral system, transportation and communication protocol must be improved.

#### 8.4.3. Lack of manpower and proper human resource management for health

One of the issues after the decentralization of health service was the lack of employment security and the use of positions to put forward political interests. In a 2004 study, authors found that the public acceptance of decentralization was deemed low because positions were coterminous with the elected LCE and low salary rates (Lieberman, et al 2004). Fortunately, some policies were enacted like the Magna Carta for Healthcare Workers, Doctors to the Barrio (DTTB) Program, and Barangay Health Workers Benefit and Incentive Act to attract healthcare workers to continue serving the people thru public employment. These similar issues on contracting modalities and lack of job security were also seen in the countries in South America with a devolved and decentralized health system (PAHO, 2011). Another issue that was raised since the LGC 1991 was implemented was the lack of trained personnel from the LGUs in terms of managing local health systems (Villaverde, Gepte, & Baquiran, 2016) and conducting performance appraisals to monitor if their referral systems are operationalized as planned (Lorenzo, et al, 2001). In Pampanga, no dedicated unit is created to directly manage the network, and there is a lack of plantilla positions for health personnel. There is a need in ensuring there are assigned trained staff to perform these functions in coordination with DOH and its regional offices to ensure the quality of health service is not compromised.

#### 8.4.4. Lack of budget

The source of funding for healthcare delivery has been an issue for the national agencies as well as for the LGUs. The devolution exacerbates the issue. LGUs have been reporting that they have limited budget to maintain their health facilities as well as for hiring respective healthcare staff to operate these facilities (Atienza, 2004; Panelo, et al., 2017). This resulted with the unavailability of some of the services at the rural health units (RHUs) or primary health facilities as well as shortages in medical staff in some facilities (Savella, 2018). The shortages of medical staff have been seen to affect the quality-of-service delivery in Ilocos Sur as it

increased the patients' waiting time before receiving healthcare. The additional funding from extensive health package insurances, particularly the PhilHealth, should encourage the availability of services in health facilities. However, a study found that there are limitations in PhilHealth health package coverage (IBRD-WHO, 2011) which may determine the services that health facilities can offer. In countries in South America, a PAHO study (2011) found out that some of the sectoral reforms led to the privatization of health insurance, which also limit the public access to healthcare services. Many of the DOH programs in maternal health, tuberculosis, non-communicable diseases (NCDs), and emerging and re-emerging infectious diseases (ERIDs) are vertically funded, majority by international grants (Panelo, et al., 2017). The devolution would require the LGUs to seek grants to sustain these programs or there will be a risk that these will not be sustained given that LGUs have other priorities that need consideration. The schistosomiasis control program is one of the devolved health programs in the country (Leonardo, et al. 2016). The role of LGU increased as they are now tasked in assisting deworming and health education and dissemination activities, on top of assisting in DOH-led initiatives. DOH now lead the animal surveys and procurement of deworming drugs. Without proper planning in procurement of deworming drugs and routine animal and human prevalence surveys, the target prevalence rate in the remaining endemic communities may be hard to achieve. On another note, a Special Health Fund is intended to be created under the PWS; however, at least in the case of Pampanga, this has not yet been created, one factor being the fear that only powerful LGUs can access the fund.

#### 8.4.5. Weak political will

Political leadership remained one of the key elements in LGU governance. In early studies on ILHZ assessments, they found out that unstable leadership in the local health board (LHBs) that manages the interlocal collaboration across participating LGUs as one of the main challenges that must be addressed (Lorenzo, et al., 2001; Atienza, 2004). It is also good to consider that these LHBs are also governed by the political environment in the province, which can be highly affected whenever there are changes in political leadership and even the short-term cycles of incumbent leaders (Lieberman, et al. 2004; Villaverde, et al., 2016). Hence, without a long-term plan and legal instrumentalities, these partnership bonds created may not be sustained after changes in political leadership. In a health sector review of the Philippine, the authors found that while funds were available, these were lodged at different levels of governance (provincial or municipal/city) due to the differences in interest and priorities of the elected local leaders (Panelo, et al. 2017). This further contributed to the difficulty in coordination between the DOH Regional offices and LHBs and the differences in the maturity level of ILHZs across different provinces (ADB, 2006). Hence, a sudden change in leadership in one collaborating LGU may change the dynamics across the ILHZ, which can affect the enactment of ordinances and submission of other requirements to reach to attain functional ILHZ status. The province of Pampanga lacks in such legal instruments, including a MOA, signifying a need for an increased collective political will.

#### 8.4.6. Lack of monitoring and evaluation of ILHZ status

While the DOH-CHD served as the key agency to help LGU in technical assistance, they also served as the main actor in conducting monitoring and evaluation of ILHZ performance. However, a performance assessment of the Philippine Health Sector found that there is a need to harmonize DOH and DILG scorecards to avoid duplication of data and reduce the burden for the LGUs to accomplish numerous scorecards (Villaverde, et al., 2016). In an earlier study, ADB (2006) found that there were irregularities in submission of plans which contribute to the lack of proper monitoring and evaluation in the systems implemented at the local level.

Lack of monitoring and evaluation using the service delivery network (SDN) framework was also deemed necessary according to recent studies (Cagayan & Ang-Bon, 2022; Lam, et al., 2020). Particularly, key performance indicators of SDNs should already be included in the Provincial Investment Plan for Health (PIPH) to also enable DOH verify if these were aligned in their investment plans as well.

#### 8.4.7. No established health information system

Health information system (HIS) is essential in a working healthcare system as it provides essential information for decision-makers and program managers as to where resources are needed. However, in one of the first assessments of ILHZs in the country, it was seen that while there is an existing HIS, it was underutilized in decision-making (Lorenzo, et al., 2001; Atienza 2004). The completeness and timeliness of the availability of this health information contribute to as to why leaders opt not to use this information. In a recent study, authors found that there were some gaps in the health data from the private facilities due to difference in the forms required from them compared with the government owned and managed health facilities (Lam, et al. 2020). In Pampanga, there is an information system, but access is usually limited within the health facility.

### 8.5. *Good practices towards functional interlocal health systems*

There were several assessments done to document the processes of establishing ILHZ in the country. The succeeding section will describe the six (6) emerging factors that can help ILHZs to achieve functional level status.

#### 8.5.1. Established organization structure with corresponding legal instruments

Most of the existing ILHZs were able to define their target coverage areas and map out their resources, particularly their health facilities. But in order for ILHZ to materialize, the presence of a clear organization structure supported by legal mechanisms should be in place. This were found to be crucial in some of the identified high functioning ILHZs, wherein the organizational structure help them in task delineation which in turn promotes accountability, especially in defining the

resource- and cost-sharing mechanisms arranged by the ILHZ (Lorenzo, et al 2001; Piñero, Dorotan, et al. n.d.). Those case studies saw that when an ILHZ have list positions with well-defined roles and responsibilities, LGUs tend to participate and trust the collaboration forged thru the ILHZ. Legal instruments like local ordinances and MOAs not only outline the specific roles and responsibilities of all participating stakeholder, but also secure their participation and accountability. In another case study commissioned by DOH, the defined roles of the members of ILHZ boards and the technical management committee, were identified as critical factors in ensuring that the resource- and cost-sharing mechanism set up were maintained (Piñero, Dorotan, et al., n.d.). These characteristics builds a certain level of trust from LGUs which encourage their active continuous participation in the collaboration.

#### 8.5.2. Role of key actors

Active role of key stakeholders also ensure establishment of ILHZs in the Philippine setting. The undeniable role of BLHD and CHD in spearheading the ILHZ formation thru advocating the initiative and providing technical and financial support was highlighted in several DOH-commissioned case study (Casanova-Dorotan, 2005; Lorenzo, et al. 2001). This increased awareness about the concept of ILHZ as well as the available support that can guide LGUs should they decide to establish one. Aside from the stakeholders from the national and regional level, the local chief executives (LCEs) and their health managers also drives the direction and operation of ILHZs. By the virtue of the position that they hold, these stakeholders will naturally be part of the LHB or the ILHZ committee, hence, their belief in the ILHZ and its objective will affect their participation and involvement in the ILHZ initiatives. In fact, in one case study, the author found that the strong commitment and active participation from the local chief executives led to partnership with private service providers and strong coordination with DOH and CHD (Casanova-Dorotan, 2005). The study even associated the varying level of functionality of the 8 ILHZs, even all of them have gone thru the steps of ILHZ development, to the differences in the level of commitment of their leaders. Many local initiatives were delayed, or worse, not materialize without their endorsements and approval of the LCEs.

In another paper assessing the performance of health service delivery in devolved context, Atienza (2004) conducted a case study in Irosin and Baliuag and investigated resource prioritization, allocation and management, adequacy of health personnel and facilities, and citizens' participation. From the secondary data available, the author saw, at least in the two case study sites, the political will of the local chief executive enable them to connect and involve the private sector and NGOs to address the defragmentation caused by the devolution of health services.

In the case of Pampanga, there are various stakeholders. LGUs are tasked to enhance health facilities and provide human resources to operate the health facilities and assist patients where to go and seek treatment. Public health facilities are regarded to have a built-in referral system. The DOH-Region III provides a range of services such as capacity building, technical assistance, staff augmentation, provision of guidelines, among others. PhilHealth provides support in terms of funding health services through reimbursements. There is also a development partner helping in the expansion of the health referral system to other programs.

#### 8.5.3. Finding common health target

A common goal gives LGU leaders motivation to sustain partnership contributes to the success and functioning of ILHZs. In 2005, a case study of 8 ILHZ in three provinces revealed that common motivating factor for LGUs to establish ILHZs was to make their health service delivery more effective, efficient, and sustainable by resource sharing and pooling (Casanova-Dorotan, 2005). This can also be attributed with the continuous campaign of DOH thru BLHB in promoting the interlocal collaboration among LGUs. Other LGUs have identified their common health target, like improving maternal and childcare by adopting Maternal health, and Child Health and Nutrition Service Delivery Network (MHCHN SDN) Guidelines in 2014. In a recent study conducted with the maternal and child health service deliver of private and public birthing facilities in LEDACAMARA, in Legazpi City, the authors found that majority birthing facilities in the zone have ensured that they improved the service delivery by having sufficient supply of emergency drugs and equipment (Cagayan & Ang-Bon, 2022). This will definitely help in reducing maternal or infant mortality. For Pampanga, the COVID-19 pandemic nudged LGUs to appreciate the adoption of health referral systems across health facilities to manage patients and resources.

#### 8.5.4. Exploring different funding schemes

One of the most daunting issues brought about the decentralization and devolution of public services is funding. Participation in ILHZ allows LGUs to augment their funding and access to health facilities outside their cities or municipalities. One of the enabling factors for some of the best performing ILHZs have established common health funds managed by the assigned committee (Lorenzo, et al 2001; Casanova-Dorotan, 2005; Pinero & Dorotan, n.d.). This common pool of resources come from the contribution from participating LGUs to fund their ILHZ-led projects. One of the best examples of this an ILHZ in Negros Oriental able to fund their priority programs thru the contributions of the participating LGUs despite not being a first-class district (Pinero, Dorotan, et al. n.d.). These common funds augment their budget to operate and maintain health facilities an even become eligible in the Matching Grant Program of DOH. Aside from that, many international organizations like WB, GTZT, and ADB have certain grants aimed in assisting the establishment of ILHZs in developing countries like the Philippines. Being part of an ILHZ allows LGUs to access the technical and financial support coming from these stakeholders.

#### 8.5.5. Incentive schemes

Incentive schemes were implemented to encourage inter-local collaboration among LGUs. One of these is the *Sentrong Sigla* Movement (SSM) incentive scheme that sets quality standards for health facilities and even LGU thru accreditation and continuous quality improvement (DOH 2002). A recipient of the *Sentrong Sigla* Seal has provided the necessary infrastructure, equipment, medicines, and supplies, and trained medical staff to provide minimum quality healthcare service to its people. Another accreditation necessary for sustaining ILHZ is the PHIC accreditation, wherein any health facility that meets the criteria are eligible to provide basic healthcare service reimbursable to PhilHealth funds. These accreditations not only raise the quality of the service delivered but also provide its recipients access to additional funding including PhilHealth reimbursements. A cross-country comparison of experiences of developing countries in Southeast Asia on health decentralization found out that the incentive schemes like *Sentrong Sigla* accreditation and Capitation Fund Program encouraged interlocal collaborations in the Philippines (Lieberman, Capuno, & Minh, 2004).

#### 8.5.6. Working/effective referral systems

The referral system of the health facilities in the ILHZ ensures the health service is available to the public whenever they need it. To assess this, one must investigate the list of health facilities, their capacities, and how they are connected to one another. It was highlighted in several ILHZ assessments conducted in the country. In 1995, DOH was awarded by Integrated Community Health Services, AusAID, and ADB funds under to conduct Integrated Community Health Services Project (ADB 2006). The goal of the project was to reduce incidence rates of communicable diseases for children and gen population thru preventive and basic curative healthcare. Specifically, the objectives of the study were: improve LGU capacity to manage and finance basic health programs and services; develop provincial subsystems; and capacitate DOH to provide policy directions and technical support to LGUs. This was conducted in 6 pilot studies: Kalinga, Apayao, Guimaras, Palawan, South Cotabato, and Surigao del Norte. Based on their report, 5 ILHZs in 4 provinces were created wherein they have established the necessary referral systems, including health information management systems. Another study was conducted by the DOH funded by USAID identified that having a clear and well-defined referral system as one of the best practices that other LGUs can adopt if they want to establish their own ILHZ (Piñero, M.A., E. Dorotan, & Team. n.d). Japan International Cooperation Agency (JICA) (2004) conducted a case study on 3 regions in the country: CAR, Bicol, and Eastern Visayas to gather baseline data for their future health projects. During their assessment, they reviewed available secondary data, and conducted site visits, KIIs and FGDs with select stakeholder from DOH, health facilities and LGUs. The status of ILHZ were assessed based on the availability of referral system, planning and information management, and common staff, as of Oct 2004. Table 37 describes the status of ILHZs across three regions. According to this, 17 ILHZs were categorized as functioning in CAR, which covers 52.63% of the total municipalities in that region. In Region V, majority of its identified ILHZ were under the under-planning category, which covers 12.15% of the total municipalities in the region. In Region VIII, 9 ILHZs were categorized on functioning ILHZs, which covers 30.94% of the total municipalities in the region.

**Table 37. Summary of ILHZ situation in regions CAR, V, and VIII**

Province	Total No. Municipalities/Cities	No. Of ILHZ					
		Under planning	Mun/City Coverage	Organized but not functioning	Mun/City Coverage	Functioning	Mun/City Coverage
<b>CAR</b>	<b>76</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>13</b>	<b>17</b>	<b>40</b>
Abra	27	1	3	1	3	2	7
Apayao	7	0	0	1	1	2	4
Benguet	13	0	0	1	5	3	8
Ifugao	11	0	0	0	0	4	9
Kalinga	8	0	0	2	4	1	2
Mt. Province	10	0	0	0	0	5	10
<b>RegV</b>	<b>107 (7)</b>	<b>7</b>	<b>13 (1)</b>	<b>2</b>	<b>25 (2)</b>	<b>6</b>	<b>43 (2)</b>
Albay	15 (3)	0	0	2	10 (2)	0	0
Camarines Norte	12	0	0	0	0	2	12
Camarines Sur	35 (2)	0	0	0	0	2	17 (1)
Catanduanes	11	0	0	4	11	0	0
Masbate	20 (1)	2	13 (1)	1	4	0	0
Sorsogon	14 (1)	0	0	0	0	4	14 (1)
<b>RegVIII</b>	<b>139 (4)</b>	<b>4</b>	<b>27 (2)</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>43</b>
Biliran	8	0	0	0	0	1	8
Eastern Samar	23	2	5	0	0	4	18
Northern Samar	24	3	6	0	0	0	0
Western Samar	25 (1)	2	8 (1)	0	0	0	0
Northern Leyte	41 (2)	1	8 (1)	0	0	0	0
Southern Leyte	18 (1)	0	0	0	0	4	17

\*Source: JICA 2004

In 2001, an assessment on five ILHZs: Bulacan, Kalinga, Pampanga, Negros Oriental, and South Cotabato, was conducted by DOH-Bureau of Local Health Development (BLHD) with the assistance of Management Sciences for Health who subcontracted National Institutes of Health UP Manila (NIH-UPM) for data collection (Lorenzo, et al, 2001). The objective of the comprehensive assessment was to describe the experiences of various sites in establishing their ILHZ as serve as guide for other LGUs that would want to pursue ILHZ creation in their provinces. The results showed that only public-owned health facilities were networked to form a referral system and the clustering of zones were based on geographic considerations. The former was seen critical especially in areas wherein access to secondary or even tertiary hospitals limited and only private hospitals are available within the area.

The experience of Bukidnon province is that interlocal coordination was the key in how they managed their COVID situation. Lumitao (2021) explored the effect of the recent COVID-19 pandemic in the delivery of health services in devolved context. Using the online data from social media pages and websites and interviews with key stakeholders in Bukidnon, Philippines. Key issues at that time were the limited bed capacity in their provincial hospital. Local innovations like their patient care and triage system and coordinated quarantine measures allowed them to avoid reaching the maximum capacity level of their provincial hospital.



## 9. Conclusion and Recommendations

The formation of interlocal cooperations is beneficial in the sense that the collaborative sharing of resources and knowledge provides an opportunity to address urban issues especially those being faced by low-income LGUs. Obstacles, however, in forming functional cooperations have prevented LGUs from fully realizing the potential outcomes of such arrangements. The study findings, nevertheless, reveal areas where stakeholders can come in to address the issues.

Not enough emphasis has been placed on clearly defining in legal instrument(s) how the cooperation will work towards achieving the objectives. Targets have to be realistic, and goal setting has to be supported by feasibility studies. It is unreasonable to demand something beyond the capacity of the stakeholders. Additionally, goal attainment requires the employment of inputs and activities. MOAs, ordinances, resolutions, and/or manual of operations should define stakeholder roles and responsibilities, resource sharing arrangements, redress mechanisms, and other important activities related to the operations and management of the alliance. Furthermore, the public as potential users should be made aware as well on what the legal documents specify as the service provision process.

Commitment from all stakeholders, especially the member-LGUs, is necessary in creating functional interlocal cooperations. Lack of commitment results in obstacles in achieving the targets as stakeholders can be assigned with specific tasks that may only be accomplished by themselves. Moreover, it is likely that the arrangement will require the sharing of financial resources, and member-LGUs have to check their capacity before committing to the cooperation. LGUs have numerous areas in which it can allot its budget and local chief executives' terms are finite, so there is always a risk that funds will not be allotted to the maintenance and/or operations of the alliance. To ensure the sustainability of the resource sharing, it is preferable to set up a common pooled fund and impose penalties to non-complying stakeholders that committed to the setup. Such activities can also prevent host LGUs from feeling burdened instead of incentivized.

Specifying the roles and responsibilities of stakeholders is important to generate accountability on undertaken actions or the lack thereof. Leads for particular tasks should be easily identified to encourage cooperation from other stakeholders and enable further resource sharing. For the cases this study looked into, some stakeholders are generally more suitable for particular roles and responsibilities than others. For instance, coordination can be taken on by the provincial government, which has a supervisory function over LGUs within the province. Provincial LGUs have the ability to encourage and incentivize city and municipal governments to join the alliance

also because they are aware of the experiences of the LGUs on the ground, making the establishment of province-wide health systems a welcome development. At the provincial, or even city and municipal levels, there should be a champion promoting the establishment and increase in functionality of interlocal arrangements, and there should be units or departments dedicated for the service. Having trained dedicated staff can cut costs as in the case of Surallah's SWM. Meanwhile, activities of the LGU-members and the dedicated units or departments can be technically guided and monitored by NGAs given the wider geographic coverage of their mandates and their knowledge on best practices. Technical guidance can also be given by the private sector, but their more distinct role is on the provision of financial and non-financial resources. The private sector can be tapped to provide the resources that LGUs cannot shell out given budget limitations that generally pose challenges in establishing functional interlocal cooperations. Such engagements with the private sector can be further strengthened through PPP projects.

As seen in Osorio et al. (2010), arrangements can be a natural alliance composed solely of LGUs, an all-LGU alliance with new juridical entity, all-government alliance with support from NGAs, and public-private sector alliance. Among these potential arrangements, the PPP is the approach that can make the delivery of public services more reliable and sustainable. As in the case of Passi City's SWM, PPP-JVAs can provide technical, legal, and financial relief on the part of LGUs. Host LGUs in PPP-JVAs can even gain huge savings on operations and maintenance expenditure, and increase service delivery coverage. Should such arrangements be the direction LGUs are inclined to take, champions have to be aware that potential challenges may arise in the form of sustainability. To institutionalize the arrangement, it is best for at least the host LGU to issue a PPP ordinance with the guidance of the PPP Center. LGUs can also explore potential benefits and costs of projects through feasibility studies. Similar to the Passi City SWM case, LGUs can establish dedicated PPP TWGs for handling operational, administrative, financial, legal, and technical reviews on proposals. Furthermore, as in other interlocal arrangements, it is important for agreements to clearly specify the roles of the LGUs and private sector for accountability purposes.

In the face of devolution and increasing challenges being faced by cities and municipalities, the formation of interlocal cooperation on specific services is no longer just an option but a need. LGUs aspiring to enter into alliances, however, have to be aware of the potential issues the cooperation can face. Through the lessons learned and experiences on the governance challenges, it is hoped that the LGUs are able to navigate processes on establishing functional interlocal cooperations better.

## 9.1. Future Pathways and Options for Inter-local Cooperation and Governance

### Key Takeaways and Lessons Learned

- *Role of LGU Province.* The Province Government remain important in supporting inter-local cooperation and LGU clusters. The Province plays an important facilitation and coordinating role to ‘trigger’, if not ‘incentivize’ LGUs within the province to cluster and share resources. In the SWM case studies, the active role played by the Province of Iloilo and South Cotabato to start-up the LGU clustering in Passi and Surallah are proofs and are also been replicated or done by other provinces such as Bohol and Bataan. The Province of Iloilo and South Cotabato, through their local provincial environment and natural resources offices (LGU PENRO), provided technical, financial, institutional and policy support to member LGUs. But the most important role played by the Province was to lend out its political clout and ‘persuasive’ powers to convince otherwise contending or uncooperative to arrive at consensus. Unlike NGAs, the Province advantage is that it is directly in touch with local LGUs and actually exercise specific supervisory mandates and functions over member LGUs under existing laws.
- *Role of NGAs.* Like the Province, NGAs provide valuable technical guidance, access to technical information and knowledge, and shared experiences/exchanges in other areas/LGUs. The national government should also make investments at the local level especially for public services such as water and sanitation, SWM, health systems, etc because the externalities of poor services in these areas have adverse effects on the country’s growth and development. The NGAs, especially local technical staff and workers, should be able to balance its regulatory powers and exercise more with its role as a technical and financial enabler. The SWM PPP experience shows that the assistance of the PPP Center should include not only guidance to formulate local PPP ordinances but also walking them through the implementation of PPP arrangements, technical and legal negotiation with potential private sector partners, and, procurement and contracting processes. In particular, the implementation process, is shown to be vital to the success of a PPP arrangement for SWM cluster LGUs.
- *Role of private sector.* LGUs need the support of the private sector to ensure a viable operation and knowledge building. The Passi case study showed how the private sector under a well-thought, discussed, understood and negotiated JVA PPP arrangement can provide short and long-term benefits to LGUs and their constituencies. The JVA addressed technical and resource limits of LGUs particularly in the design, construction of their facility as well as physical investments on structures, equipment, trained personnel and operational expenses that would normally be costly for an LGU and highly dependent on government budget and procurement rules. While, it took a couple of years to finalise the PPP agreements, it remains to be a successful working arrangement. The only issue will be to address the financial, collection and disposal commitments of other LGUs and possible users.
- *Role of technically-capable and regular LGU staff.* The presence of technically competent LGU staff is necessary for more efficient and effective delivery of services. Even under PPP arrangements or joint ventures with the private sector, the LGU must have competent staff to

understand the contractual arrangements, the technology required and the costs and benefits of the cooperation and project. The Surallah case study showed the need for continuous learning, training and education of LGU technical staff, especially for a technically-oriented service such as SWM. This training and capacity building provided externally by donor projects (i.e. USAID EcoGov and GIZ) and NGAs (e.g. DENR-EMB) gave local LGU staff opportunities to learn, understand and apply new technologies, tools, processes and skills despite the limited and contractual or non-permanent status of local personnel. Having a provincial or local environment management office with a dedicated staff for SWM is one of the first steps to be able to build capacity for support instead of relying on secondment or designation of this work to other LGU offices or personnel. At best, a regular solid waste management unit in the LGU, either in the Office of the Mayor or local ENRO will ensure continuity in the implementation of LGU SWM programs.

Moreover, there is a need for a continuing and extended technical skills, knowledge, information and capacity building for LGUs. The Passi and Surallah cases showed the continuing need of LGU officials and personnel to grow their technical, legal, financial and operational experience, skills and knowledge. In the case of Surallah, the training they got in technical design and construction of SLF (provided by USAID EcoGov Project) and extended/continuing technical support enabled them to save on costs because they did not have to spend on external consultants/private contractors.

For Passi, they needed to more advance technical, legal, operational and financing skills to be able to review PPP/JV proposals and negotiate effectively and favorably with their private partners. It greatly helped that the private sector/JVA partner of the Passi SLF took it upon themselves to increase the knowledge and capacities of the LGU staff in the JVA. Such continuing technical, technological, and updating and upgrading of SWM skills and knowledge, information access, among others, should be an active role played by NGAs, donor groups and private sector.

- *Implementing an effective LGU cluster programs can be costly.* In the SWM clustering, the construction and operations of SLFs are not the only elements that are costly. \_As early as the first few years of the implementation of RA 9003, the financial burden of the provisions of the SWM law has been a major disincentive or ‘hotspot’ for effective implementation of LGU SWM objectives. The high upfront cost for procuring land, training and building up staff and workers, equipment and community engagement SWM activities are necessary but expensive if not unaffordable or a budgetary burden for LGUs

In Surallah’s case, the challenges that the LGUs face in terms of meeting the waste disposal targets as well as payment of fees stem from their lack of resources – which could be resolved through better revenue generation for SWM services and increased commitment from the other member LGUs, to allot sufficient budget/ automatic appropriations for SWM. In an inter local alliance like this, the revenue generation and paying capacity of LGUs must be considered. .

This ‘financial capacity and sustainability’ challenge has been identified early on in the implementation of the law in 2000. A 2005 JICA study on “Institutional and Financial Performance Evaluation of Solid Waste Management in the Philippines” concluded that the

SWM provisions of RA 9003 were “too ambitious” because it will require LGUs “significant resource investment” that they don’t have and would “not guarantee effective implementation.”<sup>70</sup> Similar assessments have been presented by subsequent studies by World Bank, ADB, and NEDA, among others.

More than 20 years since the law’s enactment, this situation remains true even with more progressive and active LGUs like Surallah and Passi. The cost burden gets higher with uncontrollable external factors such as high fuel prices, inflation, supply chain bottlenecks, new technologies, land scarcity and cost appreciation, increasing population, and growth.

- *Designing the public service as an economic enterprise is an approach that could be taken to ensure financial and economic sustainability.* The revenue generation and paying capacity of member LGUs must be taken into account in the cost and revenue analysis, and plans on how to fill the possible gaps in financing should be made – either by the member LGUs, or the management – by including more private clients such as businesses or companies operating in the area. In the case of SWM, a key element here is the determination of the appropriate garbage collection fees to be imposed and its collection by LGUs that would at least cover the full cost of local SWM services. Many LGUs are still reluctant to impose garbage collection fees, much more the correct fees, for various reasons but mainly political and social and end up “subsidizing” most of SWM services delivery by LGUs.

This is also seen for clustered LGU arrangements in Surallah and Passi cases where despite formal agreements (with accompanying approved local ordinances and council resolutions) through MoAs and even contracts with cluster LGU members, the imposition and collection of late charges and penalties are applied sparingly, if not leniently. Host LGUs, such as Surallah and Passi, end up footing the rest of the financing gaps for the delayed, if not non-payment, of tipping fees as a form of ‘good neighborliness’ or ‘assistance’ to less economically-capable LGUs.

*Incentivizing LGUs and private sector groups for effective and efficient delivery of local services as a matter of national and local accountability.* While existing laws squarely mandates that role of the LGUs in the delivery of public services, the impact of LGUs action or inaction extends beyond administrative boundaries and have national implications as well. Thus, the national government has to share in the financial burden in the delivery of local services specifically for critical services such water and sanitation, SWM, public health and others.

For instance, effective implementation of local SWM programs will contribute largely to mitigate global and national health risk, environmental and climate resilience challenges. The 2006 NEDA study on LGU SWM Financing estimated that cost savings of around PhP 800 million can be realized from estimated medical, hospitalization and foregone income from water-borne illness brought by poor SWM practice<sup>71</sup>.

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<sup>70</sup> Yamamura, Noboyuki, 2005. Institutional and Financial Performance Evaluation of SWM in the Philippines, JICA Philippines, MetroManila, November 2005. Pp.

<sup>71</sup> NEDA, 2006. p.27.

However, current national policies and laws do not provide attractive incentives for LGUs and even private sector to participate in SWM programs. The regulatory or ‘policing’ mindset of RA 9003 where the emphasis is ‘compliance’ to the ‘overambitious’ provisions of the law by LGUs, especially lower income municipalities and cities, makes it difficult to effectively implement and fulfill even by the most earnest and committed LGUs.

- *Harnessing advances in technology to delivery effective public services.* Government has to encourage and enable the use of advances in technology in health, water, sanitation, waste management systems even at the LGU level. In particular, our SWM problems in the coming years will not slow down but will grow by geometric proportions. As our population grows to 130 million by 2030; climate change impacts accelerate with more frequency, and devastating effect; rapid and uncontrolled urbanization and migration permeates; and, economic growth escalates will acutely escalate the failure of existing SWM solutions and approaches available to LGUs and communities. Limitations to alternative technology options provided under the SWM law also limits the available options for LGUs to effectively implement realistic, practice and sustainable SWM programs in their locality, particularly in the use of ‘new’ technology, tools and equipment and systems. It will also need new thinking and approaches to existing SWM laws, policies, institutional, operational, governance and financing arrangements. However, most of technology applications require, in the beginning, substantial financial inputs and are, most of the time, technically complex to be operated by the municipalities. Private sector involvement is thereby necessary in implementing energy generation solutions for SWM.<sup>72</sup>
- *The PPP-approach for inter-local cooperation is a more reliable and sustainable approach given the changing political dynamics in LGUs.* LGU led clustering can be a starting point for interlocal cooperation. It provides a means for building rapport among partnering LGUs and to initiate local ordinances on such partnerships. However, such an arrangement should be able to graduate into a PPP scheme to ensure a continuing commitment and compliance of the partner LGUs to the terms of the contract. While LGU-led arrangement is also governed by a MOA, and thus remains a valid agreement, independent on the term of office of the sitting Mayor, the ability/response of partnering LGUs to comply with specific commitments (e.g. payments, penalties, etc) can be affected. On the other hand, a PPP or joint venture agreement (JVA) with private sector is a stronger arrangement given a legal enabling framework, which is both passed and approved by the Sanggunian and also supported by PPP ordinance. The PPP/JVA binds the LGU to both the partnership and the terms of the PPP/JVA.

The case study on SWM noted the opportunities and challenges for cluster LGU arrangements particularly for common SWM disposal. The Surallah LGU-management cluster SLF facility has been a continuing endeavour sustained by the host LGU and its members for several years. It remains operational and competently managed by the Surallah LGU SWM team and TWG of other LGUs with support from the Provincial Government and DENR. However, the institutional sustainability remains a challenge. So far, there has only been few changes in leadership at the Provincial level but for these changes, the new

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<sup>72</sup> ADB, 2014.p.31.

leadership may require a new MOA since they are the signatories. Also, the new leadership may choose to provide “leeway” in the implementation of penalties to maintain good relations with partner LGUs.

On the other hand, the Passi City IWMF PPP-joint venture arrangement has only been operating for almost a year but has provided financial, legal and technical relief not only to the host LGU but also to cluster members.. .

The JVA arrangement provided huge savings or avoided costs— equipment, trained personnel, structures, operations and maintenance expenses, and even social and community development programs that otherwise it would have funded and procured through LGU sources and processes. Likewise, because of the JVA the provision of SWM services and increased coverage of residents being served in a short span of time are some of the unseen benefits obtained by the LGU.

It appears that a PPP-approach for delivery of urban services is a more reliable, sustainable and beneficial approach for cluster LGUs or inter-local cooperation. However, several elements need to be considered by cluster LGU members or proponents of inter-local cooperation to engaged in PPP/JVA arrangements. In particular, for SWM, we noted the following elements:

- Identify local champions and leaders for SWM and PPP; organise a competent and dedicated local technical working and negotiating team that will review, study, research, engage and work with private sector proponents, cluster LGU partners/Province, NGA representatives, and technical and legal authorities/resource persons and experts;
- Good understanding of legal, technical, policy, financial, negotiation, feasibility studies, research, and operational aspects of SLF and PPP policies; involved local Sanggunian, especially in the preparation of the local PPP ordinance; local council members should be part of those to be educated, trained and provided knowledge not only on PPP but also technical aspects of proposed SWM facility to be covered by PPP;
- Seek technical, policy, financial, legal, negotiation, procurement and operational support of PPP arrangements and options from relevant technical agencies or sectors (i.e. PPP Center of the Philippines or donor agencies such as ADB);
- Continuing learning, knowledge and education on other PPP cases and experiences of other LGUs; exchange and learning visits with other LGUs with PPP;
- Engagement of other cluster LGU members in the process above, including local executives/officials, other key LGU offices (i.e. budget, auditor, treasurer, legal, engineering, among others), and, local community stakeholders;
- Develop and implement a multi-level communication, education and information systems targeted at different audiences – local community, business/market vendors, residents, other LGUs, institutional and academic;
- Clearly establish as early as possible the roles, functions, responsibilities, commitment, finance and budget allocation and releases, payment and sharing arrangements, accountability and redress mechanism of cluster LGU members in PPP arrangements, operations and management of PPP-funded common SWM facility, and, role and participation in review, monitoring and decision-making.

## Annexes

### Annex 1. List of Shared Sanitary Landfill Sites in the Philippines

NO.	PROVINCE	CITY/ MUNICIPALITY	STATUS	LGU/ PRIVATE	SLF CATEGORY (Cat 1, 2, 3, or 4)	TOTAL CAPACITY IN CUBIC METERS (m3)	ACTUAL WASTE RECEIVED (Tons per Day)	REMAINING SERVICE LIFE (Years)	EXCEEDED CAPACITY? (Y/N)	LGU(s) Served	No. of LGU(s) Served
1	Tarlac	Capas	Operational	Private	4	3,650,000	1,000.00	45	No	<a href="#">List of LGUs</a>	107
2	Bohol	Alburquerque	Operational	LGU	3	172,500	38.00		No	Panglao, Maribojoc, Loon, Sikatuna, Tagbilaran, Loay, Lila, Dimiao, Dauis, Cortes, Corella, Catigbian, Loboc, Calape, Balilihan, Baclayon, Antequera, Alburquerque	18
3	Laguna	Calamba City	Operational	Private	4	1,050,000	200.00	10	Yes	Bacoor; Calamba City; Liliw; Binan; Lumban; Lipa City; Tanauan; Tanza; Calauan; Pila; Indang; Kawit; General Trias; Rosario, Cavite; Tagaytay City; Nagcarlan	14
4	Rizal	Rodriguez (Montalban)	Operational	Private	4	500,000	1,983.00	13	No	Rodriguez, Rizal, Las Piñas City, Makati City, Mandaluyong City, Muntinlupa City, Pasay City, Pasig City, Municipality of Pateros, Quezon City, San Juan City, Taguig City, Valenzuela City, Imus City, Cavite	13
5	Batangas	Taysan	Operational	Private	2	4,560	70.00	10	No	Taysan; Rosario; Padre Garcia; Ibaan; San Jose; Taal; Mataas Na Kahoy; Malvar; Batangas City; Laurel; Silang, Cavite; Alfonso, Cavite; Magallanes, Cavite	11
6	Laguna	Santa Cruz	Operational	Private	2	500	250.00	4	Yes	Pangil; Santa Cruz; Siniloan; Victoria; Rizal; Santa Maria; Luisiana; Cavinti; Pagsanjan; Mabitac; Magdalena	11
7	Iloilo	Passi City	Operational	PPP	4	1,369,134	17.86	7		11 LGUs	11
8	Cebu	Consolacion	Operational	Private	4	175,000	171.00		No	Cebu City, Lapu Lapu City, Consolacion, Sogod, Danao, Catmon, Bantayan, Liloan, Ginatilan, Cordova	10
9	Laguna	San Pedro City	Operational	Private	4	300,000	200.00	20		San Pedro City; Santa Rosa City; Carmona; Maragondon; Naic;	9



NO.	PROVINCE	CITY/ MUNICIPALITY	STATUS	LGU/ PRIVATE	SLF CATEGORY (Cat 1, 2, 3, or 4)	TOTAL CAPACITY IN CUBIC METERS (m3)	ACTUAL WASTE RECEIVED (Tons per Day)	REMAINING SERVICE LIFE (Years)	EXCEEDED CAPACITY? (Y/N)	LGU(s) Served	No. of LGU(s) Served
										Ternate; Alaminos; Los Baños; Santo Tomas	
10	Rizal	San Mateo	Operational	Private	4	2,000,000	912.00	25	No	San Mateo; Antipolo City; Taytay; Cainta; Marikina City; Valenzuela City; Caloocan City	7
11	Isabela	Cauayan City	Operational	LGU	2	158,270	34.12	2.19	No	Luna, Cabatuan, Reina Mercedes, San Manuel, Aurora, Cauayan City	6
12	Batangas	Bauan	Operational	Private	2	180,000	70.00	20	No	Bauan; Calaca; Tagaytay City; Mabini; Santa Teresita; Silang	6
13	Albay	Daraga City	Operational	Private	2	80,000	75.00	7	No	Ligao City, Daraga City, Guinobatan, Pio Duran, Polangui, Tiwi	6
14	Rizal	Morong	Operational	Private	4	900,000	400.00	18	No	Morong; Angono; Cardona; Tanay; Teresa	5
15	Negros Occidental	San Carlos City	Operational	LGU	2	215,615	28.00	8	No	San Carlos City, Calatrava, Escalante City, Salvador Benedicto, Toboso	5
16	Camiguin	Mambajao, Camiguin	Operational	LGU	1	14,750	12.71	8	Yes	Mambajao, Catarman, Sagay, Mahinog, Guinsiliban	5
17	Metro Manila	Navotas City	Operational	Private	4	31,854,545	1,894.00	7	No	Navotas City, Malabon City, City of Manila, Noveleta, Cavite	4
18	Ifugao	Alfonso Lista	Operational	LGU	1	10,000	9.64	7	No	Alfonso Lista, Ifugao; Mayoyao, Ifugao; Paracelis, Mt. Province; Barlig, Mt. Province	4
19	Batangas	Batangas City	Operational	Private	2	150,000	70.00	5	Yes	Batangas City; Balayan; San Pascual; Lipa City; Cuenca	4
20	Cebu	Asturias	Operational	LGU	2	65,000	13.00		No	Asturias, Tabogon, San Remigio, Tabuelan	4
21	La Union	Agoo	Operational	LGU	1	150,000	1.00	For Expansion	Yes	Agoo, Caba, Santo Tomas	3
22	Iloilo	Iloilo City	Operational	LGU	4	366,955	305.00	2	No	Iloilo City, Leganes, Oton	3
23	Cebu	Cebu City	Operational	Private	4	273,500	573.00		No	Mandaue City, Cebu City, Compostela	3
24	Ifugao	Lamut	Operational	LGU	1	6,340	8.62	3	No	Lamut, Kalinga; Bontoc, Mt. Province	2
25	Negros Occidental	Sipalay City	Operational	LGU	2	100,000	9.92	8	No	Sipalay, Hinobaan	2
26	La Union	Bauang	Operational	LGU	1	2,400	12		No	Bauang, Baguiling	2

NO.	PROVINCE	CITY/ MUNICIPALITY	STATUS	LGU/ PRIVATE	SLF CATEGORY (Cat 1, 2, 3, or 4)	TOTAL CAPACITY IN CUBIC METERS (m3)	ACTUAL WASTE RECEIVED (Tons per Day)	REMAINING SERVICE LIFE (Years)	EXCEEDED CAPACITY? (Y/N)	LGU(s) Served	No. of LGU(s) Served
27	La Union	Bacnotan	Operational	LGU	1	70,000	5	97	No	Bacnotan, San Juan	2
28	Ilocos Norte	Bacarra	Operational	LGU	1	5,000	3.53	1	No	Bacarra, Pasuquin	2

Source: National Solid Waste Management Commission (2022)

**Annex 2. Estimated Total Waste Generation and Total Residual Waste (for Disposal) by LGUs (2020)**

ILOILO PROVINCE	Pop (2020)	Total Waste Generation (kg)/ Day	Residual Waste (kg)/day	Residual Waste (tons)/day	Residual Waste tons/year
Ajuy	53,462	21,385	6,415	6.42	2,341.64
Alimodian	39,722	15,889	4,767	4.77	1,739.82
Anilao	30,520	12,208	3,662	3.66	1,336.78
Badiangan	27,056	10,822	3,247	3.25	1,185.05
Balasan	35,064	14,026	4,208	4.21	1,535.80
Banate	33,376	13,350	4,005	4.01	1,461.87
Barotac Nuevo	58,176	23,270	6,981	6.98	2,548.11
Barotac Viejo	48,614	19,446	5,834	5.83	2,129.29
Batad	22,157	8,863	2,659	2.66	970.48
Bingawan	16,164	6,466	1,940	1.94	707.98
Cabatuan	61,110	24,444	7,333	7.33	2,676.62
Calinog	62,853	25,141	7,542	7.54	2,752.96
Carles	72,637	29,055	8,716	8.72	3,181.50
Concepcion	44,633	17,853	5,356	5.36	1,954.93
Dingle	45,965	18,386	5,516	5.52	2,013.27
Dueñas	34,597	13,839	4,152	4.15	1,515.35
Dumangas	73,899	29,560	8,868	8.87	3,236.78
Estancia	53,200	21,280	6,384	6.38	2,330.16
Guimbal	35,022	14,009	4,203	4.20	1,533.96
Igbaras	32,197	12,879	3,864	3.86	1,410.23
Janiuay	66,786	26,714	8,014	8.01	2,925.23
Lambunao	81,236	32,494	9,748	9.75	3,558.14
Leganes	34,725	13,890	4,167	4.17	1,520.96

<b>Lemery</b>	31,414	12,566	3,770	3.77	1,375.93
<b>Leon</b>	51,990	20,796	6,239	6.24	2,277.16
<b>Maasin</b>	38,461	15,384	4,615	4.62	1,684.59
<b>Miagao</b>	68,115	27,246	8,174	8.17	2,983.44
<b>Mina</b>	24,042	9,617	2,885	2.89	1,053.04
<b>New Lucena</b>	24,314	9,726	2,918	2.92	1,064.95
<b>Oton</b>	98,509	39,404	11,821	11.82	4,314.69
<b>City of Passi</b>	88,873	35,549	10,665	10.66	3,892.64
<b>Pavia</b>	70,388	28,155	8,447	8.45	3,082.99
<b>Pototan</b>	78,298	31,319	9,396	9.40	3,429.45
<b>San Dionisio</b>	39,048	15,619	4,686	4.69	1,710.30
<b>San Enrique</b>	36,911	14,764	4,429	4.43	1,616.70
<b>San Joaquin</b>	52,617	21,047	6,314	6.31	2,304.62
<b>San Miguel</b>	30,115	12,046	3,614	3.61	1,319.04
<b>San Rafael</b>	17,795	7,118	2,135	2.14	779.42
<b>Santa Barbara</b>	67,630	27,052	8,116	8.12	2,962.19
<b>Sara</b>	54,637	21,855	6,556	6.56	2,393.10
<b>Tigbauan</b>	65,245	26,098	7,829	7.83	2,857.73
<b>Tubungan</b>	23,021	9,208	2,763	2.76	1,008.32
<b>Zarraga</b>	27,305	10,922	3,277	3.28	1,195.96
<b>Dumarao, Capiz</b>	49,506	19,802	5,941	5.94	2,168.36

Source: National Solid Waste Management Commission (NSWMC) for 2020-2025 projection. <https://nswmc.emb.gov.ph>. 2015 data computed by author (i.e. PSA 2015 population census data; DENR-EMB: National Solid Waste Management Status Report 2008-2018. <https://emb.gov.ph/wp-content/uploads/2019/08/National-Solid-Waste-Management-Status-Report-2008-2018.pdf> Accessed 02 December 2022.

**Annex 3. Number of ILHZs as of January 30, 2015<sup>73</sup> and 2021 KRA Accomplishment**

Region	Province	Number of Functional ILHZs	Total ILHZs	% Functional to Total ILHZs	2021 Level 1 KRA Accomplishment (%)	2021 Level 2 KRA Accomplishment (%)	2021 Level 3 KRA Accomplishment (%)
Ilocos Region	Ilocos Norte	0	4	0	N/A	N/A	N/A
	Ilocos Sur	0	6	0	N/A	N/A	N/A
	La Union	5	5	100	N/A	N/A	N/A
	Pangasinan	6	6	100	N/A	N/A	N/A
Cagayan Valley	Batanes	0	1	0	56	0	0
	Cagayan	0	5	0	N/A	N/A	N/A
	Isabela	0	5	0	63	11	15
	Quirino	0	1	0	69	16	5
	Nueva Vizcaya	0	2	0	63	14	0
Central Luzon	Aurora	0	3	0	N/A	N/A	N/A
	Bataan	0	2	0	69	6	10
	Bulacan	0	4	0	81	0	0
	Tarlac	0	2	0	69	11	5
	Nueva Ecija	2	4	50	N/A	N/A	N/A
	Pampanga	4	4	100	56	0	0
	Zambales	1	3	33	N/A	N/A	N/A
CALABARZON	Rizal	0	4	0	N/A	N/A	N/A
	Batangas	0	3	0	6	3	0
	Cavite	5	6	83	N/A	N/A	N/A
	Laguna	2	7	29	38	19	10
	Quezon	8	11	73	19	13	5
MIMAROPA	Occidental Mindoro	3	3	100	N/A	N/A	N/A
	Oriental Mindoro	3	3	100	31	12	5
	Marinduque	2	2	100	N/A	N/A	N/A

<sup>73</sup> Some data were last updated on February 13, 2014 as indicated in reviewed document from DOH

	Romblon	3	4	75	31	3	0
	Palawan	1	8	13	25	8	5
Bicol	Albay	0	3	0	N/A	N/A	N/A
	Masbate	0	5	0	56	25	5
	Camarines Norte	2	2	100	N/A	N/A	N/A
	Camarines Sur	3	5	60	N/A	N/A	N/A
	Catanduanes	1	4	25	56	28	10
	Sorsogon	4	4	100	81	56	20
Western Visayas	Aklan	0	4	0	75	11	0
	Antique	0	6	0	81	22	0
	Capiz	0	5	0	75	14	0
	Guimaras	0	1	0	88	19	10
	Iloilo	0	11	0	88	14	5
	Negros Occidental	0	6	0	88	3	0
Central Visayas	Bohol	1	6	17	88	8	10
	Cebu	5	18	28	75	11	10
	Negros Oriental	6	6	100	N/A	N/A	N/A
	Siquijor	2	2	100	N/A	N/A	N/A
Eastern Visayas	Leyte	10	10	100	25	6	10
	Southern Leyte	4	4	100	69	17	0
	Biliran	1	1	100	25	8	5
	West Samar	6	6	100	31	6	0
	Eastern Samar	5	5	100	56	8	0
	Northern Samar	6	6	100	50	3	0
Zamboanga Peninsula	Zamboanga del Sur	0	3	0	56	0	0
	Zamboanga Sibugay	0	3	0	25	8	0
	Zamboanga del Norte	0	5	0	44	14	0
Northern Mindanao	Camiguin	0	1	0	N/A	N/A	N/A
	Bukidnon	0	3	0	N/A	N/A	N/A
	Lanao del Norte	0	4	0	63	11	5
	Misamis Occidental	0	4	0	N/A	N/A	N/A

	Misamis Oriental	0	5	0	38	3	5
Davao Region	Davao Oriental	3	5	60	31	11	0
	Davao del Sur	4	6	67	N/A	N/A	N/A
	Davao del Norte	4	4	100	19	6	0
	Compostela Valley	4	4	100	38	17	10
SOCCSKARGEN	Cotabato	0	4	0	N/A	N/A	N/A
	South Cotabato	0	5	0	63	28	15
	Sultan Kudarat	0	3	0	N/A	N/A	N/A
	Sarangani	0	0	No ILHZ	56	14	5
CARAGA	Surigao del Sur	0	6	0	N/A	N/A	N/A
	Dinagat Island	0	3	0	N/A	N/A	N/A
	Surigao del Norte	0	3	0	25	6	0
	Agusan del Sur	0	4	0	56	0	5
	Agusan del Norte	0	4	0	N/A	N/A	N/A
Cordillera Administrative Region	Ifugao	0	3	0	44	8	0
	Abra	2	2	100	N/A	N/A	N/A
	Apayao	4	4	100	N/A	N/A	N/A
	Benguet	4	4	100	75	44	5
	Kalinga	2	3	67	25	8	0
	Mt. Province	2	2	100	50	6	0

Source: Authors' summary of reviewed data/documents from DOH

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