Towards Renewed Metropolitanism:

AI-based Capacity Analytics of Local Plans for Interlocal Cooperation in Metro Manila

A partnership to accelerate LGU innovation and data-driven governance in NCR

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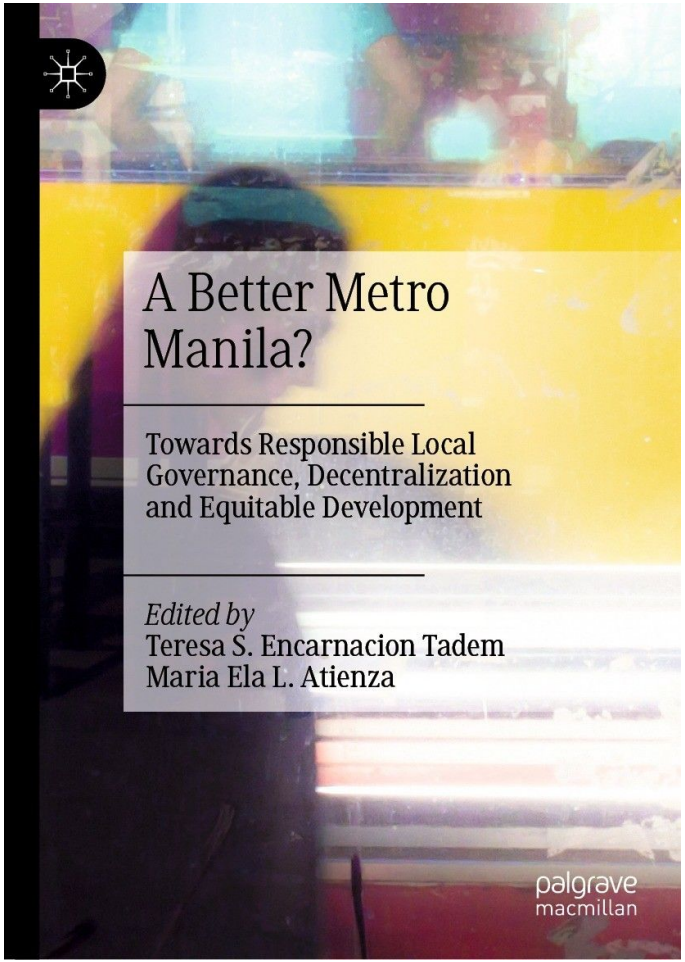
*"Local government units **may group themselves**, **consolidate or coordinate their efforts, services, and resources** for purposes commonly beneficial to them in accordance with law."*

-Sec. 13, Article X, 1987 Philippine Constitution

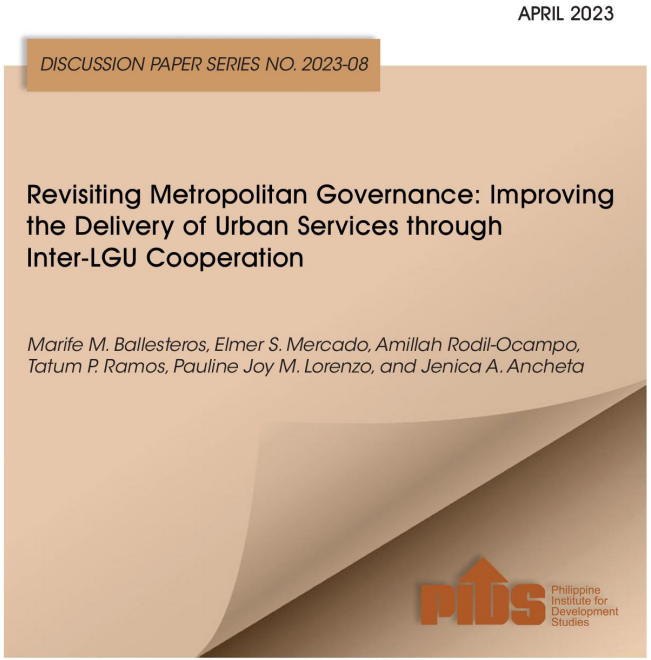
*"Local government units **may enter into joint ventures and such other cooperative arrangements** with people's and nongovernmental organizations to engage in the delivery of certain basic services, capability-building and livelihood projects..."*

-Sec. 35, 1990 Local Government Code



"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 in PIDS Discussion Paper Series No. 2023-08



CapDev Analytics Strategy

Review resource materials and data assets

Define and establish SGLG-CapDev mapping

Map SGLG assessment criteria with LGU-identified CapDev interventions, by Sector and Capacity Pillar

Define SGLG criteria areas for matching with CapDev interventions and pillars

Consolidate data assets

Create an organized data structure for CapDev analytics

Transform CapDev annexes and integrate additional data from Segmentation, SGLG Results, Competitive index and etc

Group LGU by possible areas of intersection

Group LGUs by characteristics such as sector devolution, common pillar for intervention, etc

Prioritize Environmental, Security and Economic sectors as points for cooperation

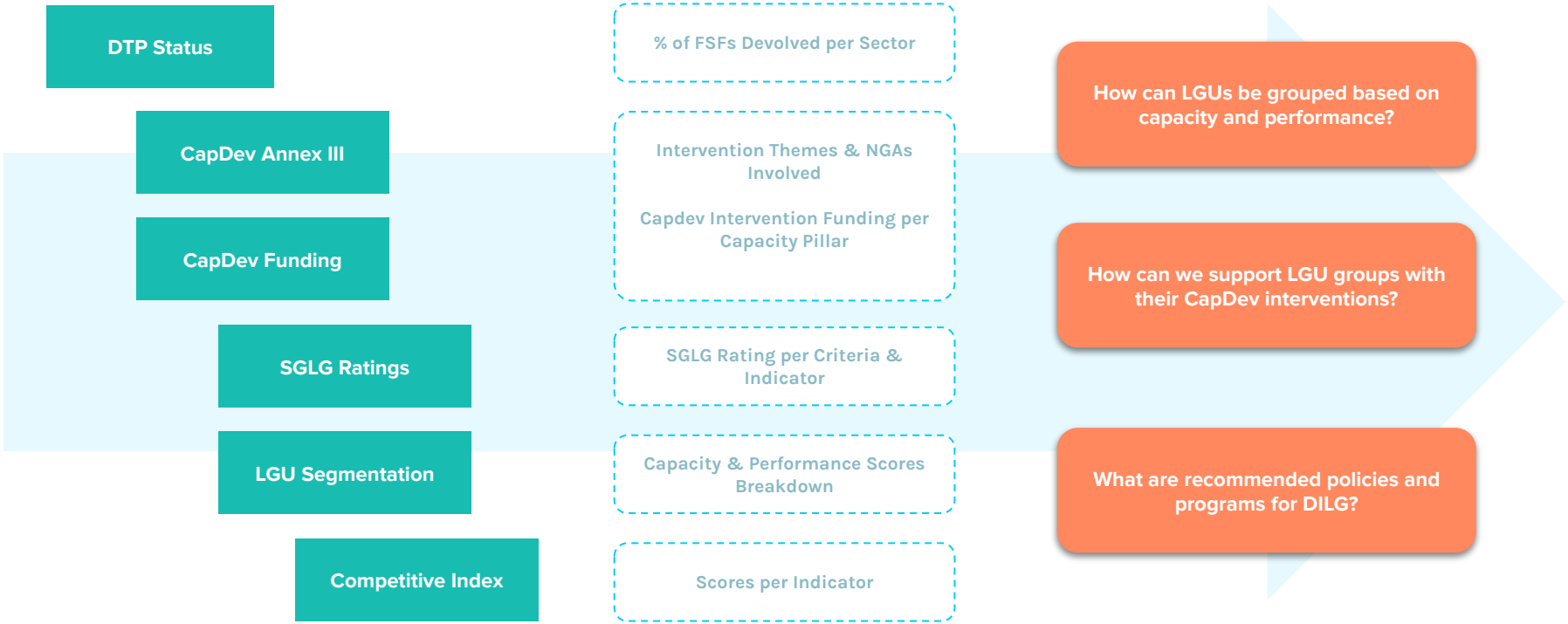
Recommendations

Use identified groups and pillars for intervention as inputs for programs and policies in inter-LGU collaboration

DILG-NCR to assist LGU groups based on capacity and performance

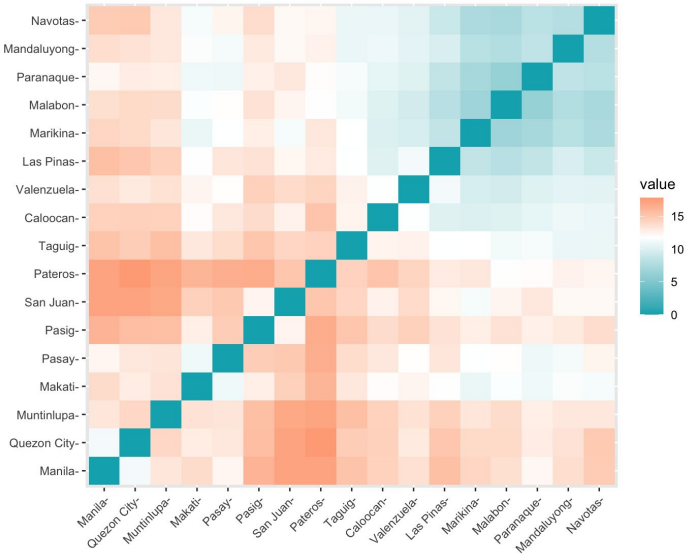
Data Integration

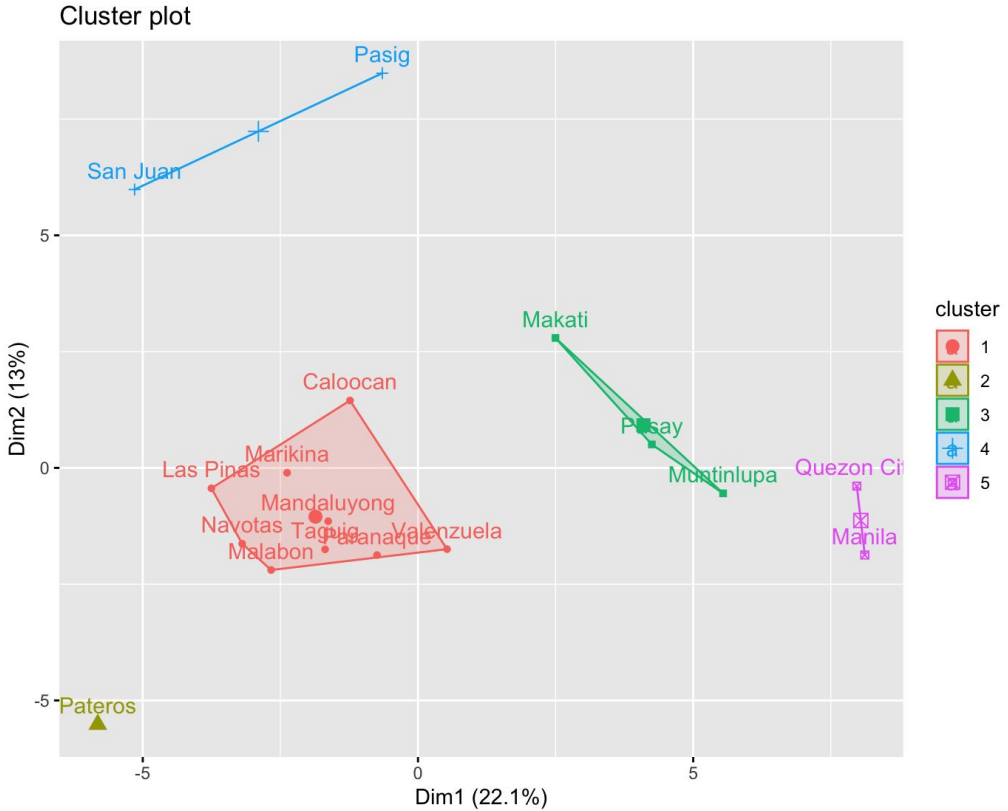
⚠️ Incomplete submission of DTP & CapDev data from NCR LGUs, and 2021 SGLG & Segmentation results may not accurately reflect the current state of LGU performances



Data processing: Scaling of variables, clustering algorithms using Euclidean distance
Exploration: Grouping of LGUs with high intra-group similarities based on variables from integrated data
Limitations: Results from the analysis may not accurately reflect the current LGU status due to data constraints

Grouping similar LGUs





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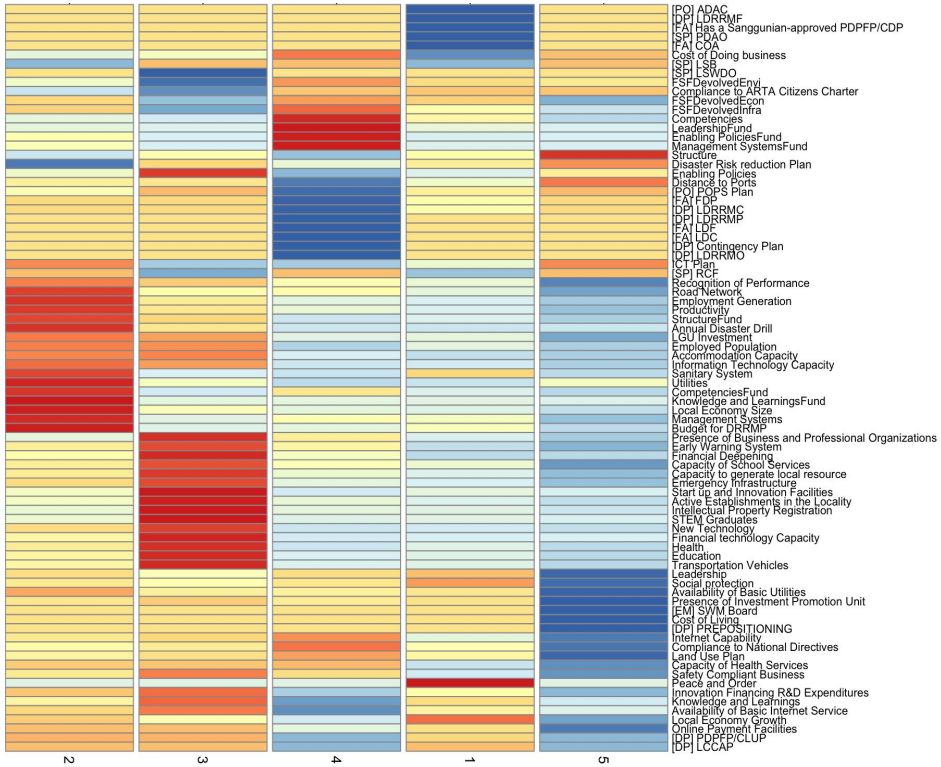
Compare LGU groups based on similar characteristics

Group	Main Characteristics
1 (Caloocan, Las Pinas, Malabon, Mandaluyong, Marikina Navotas, Paranaque, Taguig, Valenzuela)	High peace and order index, and local economic growth but lowest in SGLG compliance *(PO ADAC, DP LDRRMF, FA Sangguniang approved , PDAO,COA, LSV, LSWDO)*
2 (Makati, Pasay, Muntinlupa)	High Structure, Knowledge & Learnings and Competencies Capdev Funding but lowest percent Structure,Knowledge & Learnings and Competency-related identified interventions
3 (Manila, Quezon City)	High enabling policies-related interventions and lowest devolved FSFs across 3 sectors
4 (Pasig, San Juan)	High competencies-related CapDev and low SGLG compliance *(FDP, LDRRMC, LDRRMP, LDF, LDC, Contingency Plan, LDRRMO)*
5 (Pateros)	High structure-related interventions, low competitive index scores on economic-related indicators



Next steps...

Are there notable patterns in the results for further investigation?

🚀 Signals from exploratory data analysis

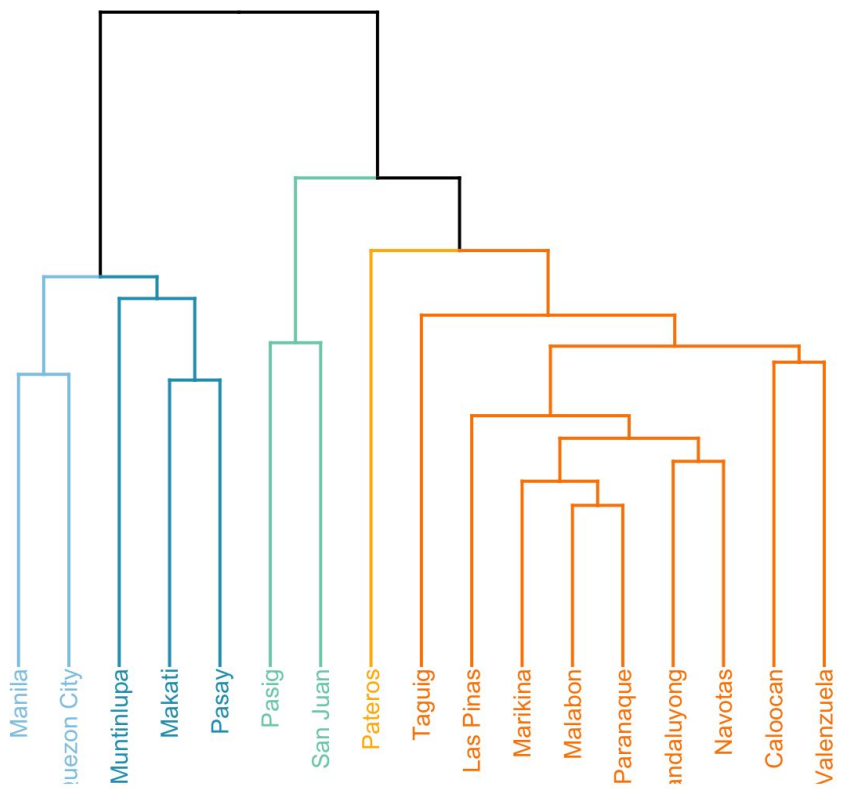
Can we identify LGU groups and possible areas of collaboration?

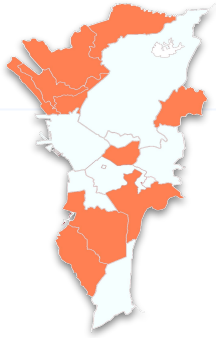
From the resulting cluster/groups from the initial run of analysis, we can group NCR LGUs into five groups according to their devolution status, competitive index scores, SGLG compliance and capacity interventions needed.

These results tool can be used to:

✔️ identify sector-specific interventions, policies/programs where LGUs can cooperate, develop shared delivery hubs of services, and share cost-financing arrangements;

✔️ formulate policies and programs as inputs to improve the linkage of development plans.



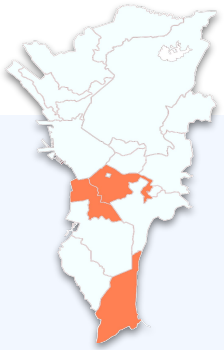


Competitive Cities

(Caloocan, Las Pinas, Malabon, Mandaluyong, Marikina Navotas, Paranaque, Taguig, Valenzuela)

40%
Devolved FSFs in Economic Sector

1. Structure & Competency
2. Management System

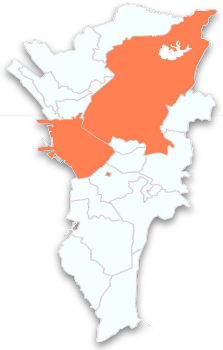


Commercial Cities

(Makati, Pasay, Muntinlupa)

39%
Devolved FSFs in Economic Sector

1. Competency
2. Management System
3. Structure



“Special Income” Cities

(Manila, Quezon City)

0%
Devolved FSFs in Infrastructure Sector

1. Competency
2. Structure
3. Knowledge & Learnings

Devolving Cities

(Pasig, San Juan)

47%
Devolved FSFs in Economic Sector

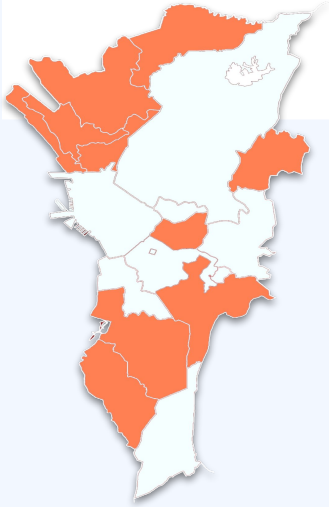
1. Competency
2. Management System
3. Enabling Policies

Lone Municipality

(Pateros)

0%
Devolved FSFs in Economic Sector

1. Structure
2. Competency
3. Enabling Policies



Competitive Cities

(Caloocan, Las Pinas, Malabon, Mandaluyong, Marikina Navotas, Paranaque, Taguig, Valenzuela)

Characterized by high index scores in Government Efficiency (Peace and Order, Compliance to ARTA), Economic Dynamism (Local Economic Growth) and Resiliency (Sanitary Systems)

To improve in meeting SGLG assessment criteria relating to Financial Administration, Disaster Preparedness, Peace and Order.

On devolution status:

40% Devolved FSFs in Economics Sector

50% Devolved in Infrastructure
61% Devolved in Environment

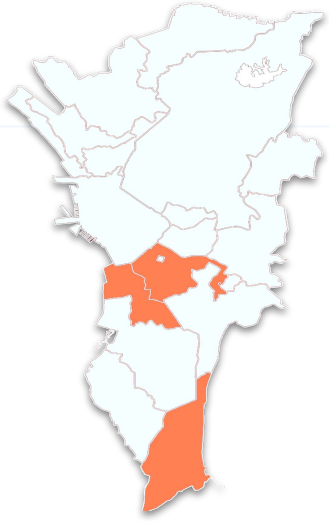
On capdev plan:

66% Competency & Structure as top CapDev Need within the group

14% on Management Systems
8% on Enabling Policies
8% on Knowledge and Learnings
3% on Leadership

Recommendations

- *Creation and hiring for new positions across Agriculture, Veterinary, Tourism, Cooperative, Local Economic Development and Investment Promotion and Public Employment Services offices*
- *Training and seminars related to Business Development (business planning, marketing), LEIPO policies (sustainable economic development), Tourism (sustainable tourism, tourism code, strategy & innovation, database & surveys)*
- *Funding for services, hiring and facilities*



Commercial Cities

(Makati, Pasay, Muntinlupa)

Characterized by high index scores in Economic Dynamism (Employment Generation, Productivity, Local Economy size) and Resiliency (Road Network, Annual Disaster Drill, Budget for DRRMP). High funding in Structure, Knowledge and Learnings, and Competencies Interventions.

To improve in SGLG assessment areas related to Disaster Risk Reduction and Local School Board.

On devolution status:

39% Devolved FSFs in Economics Sector

46% Devolved in Environment
71% Devolved in Infrastructure

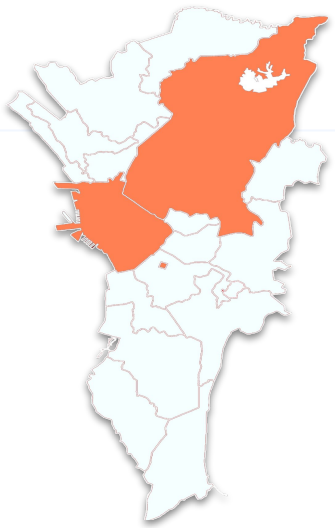
On capdev plan:

30% Competency as top CapDev Need within the group

25% on Management Systems
19% on Structure
12% on Enabling Policies

Recommendations

- *Capacity building regarding agriculture (meat inspection, veterinary) and public markets (managing equipments, consumer rights)*
- *Capacity building regarding employment services (coaching, leadership, relevant laws)*
- *Capacity building regarding culture and tourism (sites & structures, marketing)*



“Special Income” Cities

(Manila, Quezon City)

Characterized by high index scores in Economic Dynamisms, and Innovation.

To improve in devolving FSFs in Environment, Economics and Infrastructure, and to support in interventions related to Enabling Policies.

On devolution status:

0% Devolved FSFs in Infrastructure Sector

3% Devolved in Economic
14% Devolved in Environment

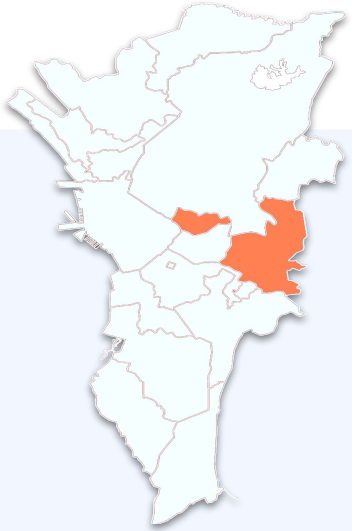
On capdev plan:

28% Competency as top CapDev Need within the group

20% on Structure
18% on Knowledge and Learnings
15% on Enabling Policies
10% on Management Systems

Recommendations

- *Capacity building regarding transportation management and road safety (traffic impact, traffic enforcing)*
- *Capacity building regarding engineering (infrastructure technology) and open space management and environmental planning (greening program, public parks)*
- *Capacity building regarding communications (radio/telecommunications)*



Devolving Cities

(San Juan, Pasig)

Characterized by high devolutions across economic, infrastructure and environmental. High funding in leadership, enabling policies and management systems interventions.

To improve in meeting SGLG assessment criteria relating to Financial Administration, Disaster Preparedness, Peace and Order and to support in Competency related interventions.

On devolution status:

47% Devolved FSFs in Economic Sector

71% Devolved in Environment
95% Devolved in Infrastructure

On capdev plan:

49% Competency as top CapDev Need within the group

14% on Management Systems
9% on Enabling Policies
9% on Knowledge and Learnings
8% on Leadership

Recommendations

- *Capacity building regarding cooperatives, employment services (providing career guidance and application support) and tourism (planning, tour guiding)*
- *Supporting employees through education, welfare, rewards and performance monitoring*
- *Supporting cooperatives through trainings, kits, business continuity and recovery and recognition*

Lone Municipality

(Pateros)

Characterized by high structure-related interventions identified, no intervention identified for leadership.

To support in Competitiveness in Economic Dynamism, Innovation and Resiliency.

On devolution status:

0% Devolved FSFs in Economic Sector

20% Devolved in Infrastructure
57% Devolved in Environment

On capdev need:

49% Structure as top CapDev Need within the group

24% on Competency
12% on Enabling Policies
8% on Management Systems
6% on Knowledge and Learnings

Recommendations

- *Establishment of PESO and LEIPO and staffing the tourism and local cooperatives offices*
- *Capacity building for PESO, LEIPO, tourism and local cooperatives staff (information systems)*
- *Establishment of the Office of the Building Official, hiring of engineers and architects, and provision of equipments, furnitures and vehicle*

Intercluster Collaboration

Clusters	Shared SGLG Needs	Priority LGU-Identified Interventions	Interventions to Improve/Maintain for SGLG Compliance
Competitive (*Caloocan, Las Pinas, Malabon, Mandaluyong, Marikina Navotas, Paranaque, Taguig, Valenzuela*), Commercial Cities (*Makati, Pasay, Muntinlupa*) & Devolving Cities (*Pasig, San Juan*)	Disaster Preparedness	• Organized municipal disaster risk reduction and management council (hiring & training) • Established municipal disaster risk reduction and management office (facilities, equipments, software, management systems	• Early warning system in place • Evacuation management
Competitive (*Caloocan, Las Pinas, Malabon, Mandaluyong, Marikina Navotas, Paranaque, Taguig, Valenzuela*), Commercial Cities (*Makati, Pasay, Muntinlupa*)	Financial Administration	• Functional municipal development council (hiring, training, facilities, equipments, management systems)	• Local revenue collection growth • Utilization rate of 20% internal revenue allotment component • Utilization rate of Performance Challenge Fund • Utilization rate of Bottom-up Budgeting/Assistance to Municipalities Fund
Competitive (*Caloocan, Las Pinas, Malabon, Mandaluyong, Marikina Navotas, Paranaque, Taguig, Valenzuela*), Commercial Cities (*Makati, Pasay, Muntinlupa*)	Peace & Order	• Municipal peace and order council convened • Logistical and financial support provided to local police station • Activated municipal anti-drug abuse council	• Passed the Peace and Order Council Performance Audit • Implementation of Peace and Order, and Public Safety Plan • Barangay peacekeeping action teams organized and trained • Increase in drug-cleared barangays

Value Propositions

- Targeted intervention & program design.
- Established knowledge production approach.
- Better monitoring & prioritization.

Parting Notes

AI enriches, not replaces human & political judgement.

Parting Notes

AI application doesn’t have to be grand, expensive, and futuristic, just simple yet insightful.