COVID-19 IMPACT ASSESSMENT AND PANDEMIC PREPAREDNESS

CITYNET
THE REGIONAL NETWORK OF LOCAL AUTHORITIES
FOR THE MANAGEMENT OF HUMAN SETTLEMENTS

Bangkok, Thailand - June 28, 2020., Shutterstock
People wearing mask at Chatuchak market to prevent COVID-19.

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CityNet

CityNet is the largest association of urban stakeholders committed to sustainable development in the Asia-Pacific region. Established in 1987 with the support of UNESCAP, UN-Habitat, and UNDP, the Network has grown to include 173 municipalities, NGOs, research centres, and private companies. CityNet connects actors, exchanges knowledge, and builds commitment to more sustainable and resilient cities. Through capacity building, city-to-city cooperation, and tangible projects, CityNet supports our members to respond to climate change, disaster, and infrastructure.

Korea Associates Business Consultancy (KABC Co., Ltd.)

KABC Co., Ltd. is part of the Intercedent Network which has representatives in most Asian cities. KABC Co., Ltd., a partner of Intercedent based in Seoul, has been in the business of making surveys both in the Republic of Korea and regional studies since 1989, based on the experience of Dr. Tony Michell and others. KABC Co., Ltd. has performed a wide range of surveys for companies and individuals, including an Asia-wide forecast for motor vehicles for European Small Volume Car Manufacturers Alliance (ESCA), and a study of the secrets of success of the Korean auto industry for the Malaysian government. Dr. Michell is a regional economist who has written about urban transport and worked with Korean planners and international consultants on a series of the World Bank, UNDP, Ministry of Transport, and Ministry of Construction projects in Asia.

COVID-19
IMPACT ASSESSMENT AND PANDEMIC PREPAREDNESS

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Abbreviation

DRR (Disaster Risk Reduction)
ICT (Information and Communications Technology)
ICU (Intensive Care Units)
IT (Information Technology)
MHPSS (Mental Health Psycho Social Support)
NGO (Non-Governmental Organization)
PPE (Personal Protective Equipment)
SARS (Severe Acute Respiratory Syndrome)
SDGs (Sustainable Development Goals)
SMS (Short Message Service)
UNDRR (United Nations Office for Disaster Risk Reduction)

I. OVERVIEW AND KEY FINDINGS

INTRODUCTION

Last year was particularly challenging as we had the unexpected COVID-19 pandemic throughout the world. COVID-19, as both a health pandemic that kills thousands and a socio-economic crisis, has threatened the welfare of millions in our cities. The Asia-Pacific region, where our members are located, is home to over 60% of the global urban population. Many of our cities in the region are highly congested, which leads to a higher likelihood of infection, due to the difficulties of physical distancing. Furthermore, the region accounts for 65% of the global slum population, which limits access to health-care for the marginalized population. Although COVID-19 spreads indiscriminately, the impact on these vulnerable populations is disproportionate.

As many of our responses to fight against COVID-19, CityNet Secretariat conducted a survey and interview with our members to assess how the COVID-19 affected the cities and how they improved urban resilience in response to the pandemic. The collected information was analysed to better assess our members' needs to rebuild cities and reshape disaster risk reduction policies in the future.

Our cities are on the frontline of responses to COVID-19. They play a key role to implement nationwide measures, but also provide laboratories for bottom-up and innovative recovery strategies. Likewise, COVID-19 may have provided an opportunity for city planners and urban stakeholders to rethink a new approach to the urban paradigm. Cities need to localize good practices, improve human resources, and engage communities in a dialogue that shares not only the success stories but also failures to avoid repeating the mistake made by peers. In this, CityNet Secretariat will continue supporting our members fighting against COVID-19 to leave no one behind because together, we can do more.

We would like to express our sincere gratitude to the City of Yokohama and Makati City Government as the lead and co-lead of the Disaster Cluster. We would also like to express gratitude to the members of the Disaster Cluster who participated in the City Disaster Risk Reduction Profiles published from 2017 to 2020 for having generously provided additional information on their disaster management to combine with this research.

BACKGROUND

No one born after 1920 has experienced a global pandemic. Asia experienced a foretaste of what a pandemic might be like through the Severe Acute Respiratory Syndrome (SARS) epidemic. However, SARS was a mild infection. There were only 8,422 cases despite a high case fatality rate of 11%. This compares with more than 120 million cases worldwide with a death toll of 2.65 million, a case fatality rate of 2.2%.

COVID-19 continues to spike in countries, then recede under social distancing. Even in countries which appear to have eliminated the disease, such as China, new cases can emerge and are often difficult to trace.

As our survey shows, each city has its own COVID-19 story, since the pressure to make decisions at the right time and the interplay of city, regional and national forces affected the response of individual cities. In an effort to build strategic capacity for member cities against new types of disaster, this research was initiated to analyse the cities' preparedness on responding to this new type of disaster. The survey and in-depth interview were conducted through October-December 2020, targeting CityNet members. In total, 16 members - 15 cities and 1 Non-Governmental Organization (NGO) - participated in the survey (16) and in-depth interview (5). The questionnaire was created based on "Disaster Resilience Scorecard for Cities - Public Health System Resilience Addendum" drafted by the United Nations Office for Disaster Risk Reduction (UNDRR) in April 2020 and the Sendai Framework for Disaster Risk Reduction 2015-2030 (Sendai Framework).

UNDRR and COVID-19

After the Sendai/Fukushima disaster in 2011, United Nations Office for Disaskter Risk Reduction coordinated a global disaster readiness protocol. With this framework, UNDRR proceeded to train cities in disaster and resilience management. Despite all these efforts, the world was not ready for the COVID-19 pandemic, which required different skills. While most cities responding had UNDRR plans, these plans proved unhelpful for pandemics, since they were based on a single disaster, normally involving physical damage. However, a pandemic has a much longer period of disaster, little physical destruction, but peaks and troughs in medical demand and levels of normal activity.

UNDRR is already adapting its methodology to meet the requirements of a pandemic for the following reasons. A pandemic is unlike an earthquake, flood, tsunami, forest fire, nuclear contamination or any disaster listed in the Sendai protocol, in that it does not destroy property, only lives and livelihoods. A pandemic has the potential to affect an entire nation, so risk reduction may be a national, rather than local, responsibility. But in practice, individual cities may be epicentres, and national systems overwhelmed, or too far away for practical help. Techniques evolved in support of the Sendai protocol have relevance, but so do other newer IT (Information Technology) and techniques. During 2020, UNDRR has published a steady stream of COVID-19 related sets of advisory material covering key points, case studies and webinars.

In a war, no general expects his battle plan to survive contact with the enemy. In the same way, battling a pandemic with an inflexible plan based on bureaucratic documentation is not feasible. The story that our questionnaire and interviews told us again and again was that flexible, strategic, and tactical leadership able to counter the unexpected were the cities that combated the pandemic effectively. The cities that adjusted best were those where an ad hoc task force with good leadership capable of coping with irregularities took charge.

SEVEN CATEGORIES OF COVID-19 EXPERIENCE & QUESTIONS REFERENCED

1. City Profile and Organizational Operability	**Q1-9**
Urban demographic and economic profile	Q1
Organizational operability and department handling disasters	Q2-9
2. COVID-19 Experience	**Q10-15**
Statistics on COVID-19 infection	Q10
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3. COVID-19 Impact on Public Health	**Q16-23**
Contact tracing and testing	Q16
Availability of public health workforce and stability of health system	Q17,22,23
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ORGANIZATIONAL OPERABILITY

EXISTENCE OF A SENDAI FRAMEWORK

Only 28% of respondents reported that they were aware of the city having a Sendai Framework. At the outset, none thought that the plan was fully integrated, but 14% had a standalone plan that satisfied the 10 essentials.[1] In interviews, it was acknowledged that a plan existed but was not communicated to the city authorities as something easily activated.

Five cities reported that before the pandemic, they thought their public health organization was well-established. During the pandemic, one city expressed that the city's ability to coordinate seemed to deteriorate significantly. Two of the cities updated their organizational operability and integrated these changes during the pandemic.

Kaohsiung City Government created a pandemic command centre, while other cities organized a task force under the Mayor, which was highly dependent on the leadership quality of one or two members of the task force, often the Vice or Deputy Mayor. Specific to a pandemic, 28% of cities had a pandemic committee and 14% felt they were fully prepared. These were cities which had experience with SARS and/or Asian bird flu.

HEALTH INFRASTRUCTURE

Only one of the respondents had a good overview of their city's health structure. None knew how many hospital beds the city had, or how many Intensive Care Units (ICU) were prepared. This is a reminder that public health and medical systems are operated under a separate national or provincial health structure. In Korean cities, the only point the city administration and national health system formally met was at the "gu" (ward or district level). In terms of strengthening surge protection, 75% of cities felt they had inadequate coverage of facilities even after the main pandemic to handle a sudden spike.

COVID-19 EXPERIENCE

STATISTICS ON COVID-19 INFECTION

Four cities noted their first infection in January, while all remaining cities noted their first infection in March 2020, except for Iriga, Philippines, which remained infection-free until June. All cities experienced their first COVID-19 related death in March 2020, except Taipei and Iriga. Quezon, Makati, and Balanga along with Jakarta had the highest death rates in March 2020, but Balanga quickly got the rate under control while the other cities struggled.

SHORTAGE IN MEDICAL CAPACITY & FINANCE

According to the survey results, cities with low or zero infection rates had no shortage of Personal Protective Equipment (PPE). A maximum of 57% of respondents suffered a shortage of PPE. Most cities severely impacted by the pandemic suffered from a shortage of financial resources, but others without a serious problem did not. The same is true of skilled staff, but many cities thought that their level was substandard even before the pandemic began.

QUARANTINE & LOCKDOWN PRACTICES

71% of cities responding had self-quarantine for infected citizens, with a short-term lockdown for some areas, and 35% had a strict lockdown at the peak of the pandemic.

1) Integration of public health and governance (Essential 1); Integration of public health and disaster scenarios (Essential 2); Integration of public health and finances (Essential 3); Integration of public health and land use/building codes (Essential 4); Management of ecosystem services that affect public health (Essential 5); Integration of public health and institutional capacity (Essential 6); Integration of public health and societal capacity (Essential 7); Integration of public health and infrastructure resilience (Essential 8); Integration of public health and disaster response (Essential 9); Integration of public health and recovery/building back better (Essential 10).

COVID-19 IMPACT ON PUBLIC HEALTH

CONTACT TRACING & TESTING

Cities with a high level of infection quickly transitioned from limited tracing and testing to full tracing and walk or drive through testing.

AVAILABILITY OF PUBLIC HEALTH WORKFORCE

In medium and large-sized cities, the health workforce generally had the skills required. However, most small-sized cities did not have an adequately skilled public health workforce.

SHARING OF PUBLIC HEALTH DATA WITH HEALTH PROFESSIONALS

City governments sharing critical urban data with health professionals, such as cluster infection within a city, areas where they were, and other critical needs such as food and masks were further analysed in this report.

SHARING OF PUBLICH HEALTH DATA WITH COMMUNITY

The communication between the public health organization and urban community was also analysed in this survey. For example, public health organizations in some cities communicated with the community to instruct them to safely social distance and on what actions to take. Before the pandemic, the understanding was low, with half the respondents reporting that less than half the communities understood the system even during the pandemic. Still, after the pandemic 40% of respondents did not have a clear understanding. In those cities, the ability to return to normal was severely impeded.

COVID-19 IMPACT ON SOCIETY AND ECONOMY

ACTIONS FROM GOVERNMENT

In interviews with cities, one reason that they doubted their ability to get back to normal was that the city itself felt that it would have a lower tax revenue in 2021 and would therefore have to restrict social and other services to citizens.

ACTIONS FROM OTHER STAKEHOLDERS

Community and business action was judged to have deteriorated from pre-pandemic level. Voluntary activity by NGOs, religious organizations and students varied by city, but were judged to have significant local impact.

ENFORCEMENT OF LOCKDOWN

At the height of infection, the police assisted by the military helped enforce lockdown in the majority of cities.

EMERGENCY RELIEF TO COMMUNITY

80% of cities reported that they had adequate amounts of food in case of lockdown or mass quarantine. Interviews reported some ingenious cooperation between cities and local businesses to achieve a good result. As an example, in Muntinlupa, the city was able to purchase chicken/fish which was otherwise going to waste and distribute them to those in need.

All cities distributed relief of various kinds to their citizens. However, when it came to help for those whose livelihoods were destroyed, children left alone, and the elderly, relief was late in coming and only about 28% of cities claimed to come near to meeting the needs of those in need. As far as Sustainable Development Goals (SDGs) were concerned, the city, some NGOs and, according to interviews, some businesses tried but the general consensus was that basic needs were not met.

Regarding financial, rather than material, relief, few cities could help for more than a month, usually in combination with a national household donation, with about 35% relying on unemployment pay.

RESILIENCE

ESTIMATED LENGTH OF TIME OF RECOVERY

From the point of view of analysis, Question 32, "When do you expect your city to get back to pre-COVID-19 state?", was fundamental in terms of measuring perceptions of resilience according to four factors on economy, society, health, and deprived community, asking for an estimate of time taken for the recovery. It should be noted that these responses were given in October and early November 2020, and before the continued spikes of November and December 2020 occurred. In reality, these expectations should probably be moved back at least half a year.

In terms of economic activity, 61.5% expected to return to pre-COVID-19 activity in 2021, and again, 15% expected to be held back until 2023. In terms of social activity, where 54% of cities expected to get back to pre-pandemic social activities within 2021, but 15% thought not until 2023. Health care was less optimistic with only 23% expecting to recover in 2021. The same was true of the relief of the weaker segments of society, with 61.5% expecting to achieve this level in 2022.

LESSON LEARNT - INCORPORATION OF ANALYSIS OF FAILURES

54% of respondents believe that they have a clear view of mistakes made and their ability to transfer those learnings to future experiences and projects. Another 23% have a good understanding which will feed into future projects.

ICT AND COMMUNICATIONS

"At the forefront of fighting this pandemic will be innovative tools and collective converged digital ammunition that cities and governments across the world will need to utilize not only to fight the virus but ensure preparedness for future pandemics and health emergencies. There is no doubt that even after the pandemic ends, economies and global value chains will be affected, productivity and growth will shrink plus we risk widening the digital divide if we do not act and act fast. Some of the answers to help re-balance economies will come from the digital economy which has already been a catalyst in accelerating and opening up a new digitized and virtual world that knows no borders. In this webinar we will explore the role of emerging technologies and data in helping to address the many challenges that have resulted from COVID-19, providing practical solutions for cities to help rebuild trust and enable a more secure, sustainable and safe future for global economies. Target audience: Local government" [2)]

Despite the urging for sophisticated digitalization, our surveyed cities used traditional media such as local radio and local TV as the main vehicles of communication, along with speaker vans and a basic website and helplines. In most of the surveyed cities in Southeast Asia, a major concern was both the cost to the city of using advanced digital devices and to the citizen to use them. In Northeast Asia, the cities were richer and had a better start in basic infrastructure and could develop more sophisticated city to citizen interfaces. However, citizen to city interfaces were less sophisticated.

As the pandemic progressed by trial and error, the ability of the city to communicate with 90% of their citizens rose from 50% to 81%. Note that early warning systems for physical events could be less sophisticated than those communicating the progress of a pandemic on a daily or even hourly basis.

The most popular ways to communicate were city hall website, local TV, and radio. The last two were rated the most useful. The city hall website and blogs trailed just behind these two. Many cities had no information on the ownership of mobile phones or internet, but for many cities giving a reply, 90% was estimated and 100% claimed for Makati. For Galle, it was only 60%. Information and Communications Technology (ICT) systems were seen as an effective tool to improve risk assessments, and beneficial for their ability to inform citizens of available emergency services.

There was interest in developing ICT systems by most of the respondents, and in particular the need to inform citizens of services available.

2) Webinar by UNDRR, WHO and Global Policy House, Lessons from the COVID-19 pandemic series - Emerging Technologies in Response to COVID-19: Blockchain, ICT and Data for Pandemic Management. May 2020.

FUTURE PROJECTS FOR CITYNET

By analysing Question 42, "What are the priorities that can be developed through CityNet?", it was identified that conducting offline drills on pandemic responses from city governments was chosen by 77% of respondents. For the remaining 23%, Disaster Risk Reduction (DRR) workshops on: (1) public health communication; (2) utilization of enhanced Short Message Service (SMS) apps; and (3) livelihood protection were chosen as priorities. This leads to a conclusion that most of our cities need increases in the capacity for pandemic responses, especially for governance and ICT communication.

Based on city reports, the types of DRR workshops needed can be broken into two types of activities, which are: (1) prevention drills and simulations; (2) sharing best practices in the different categories. From the analysis, the subjects can include: (1) urban organization and leadership; (2) health responses; (3) citizen and business support; (4) citizen mental health; and (5) ICT communication.

Capacity building workshops to exchange knowledge - or peer-to-peer learning - can be a powerful way to share, replicate, and scale up what works in development. When done right, the workshops can build the capacity, confidence, and conviction of individuals and groups to act. The direct results from this knowledge exchange can also influence results at the institutional and even systemic levels as well.

II. CITY PROFILES

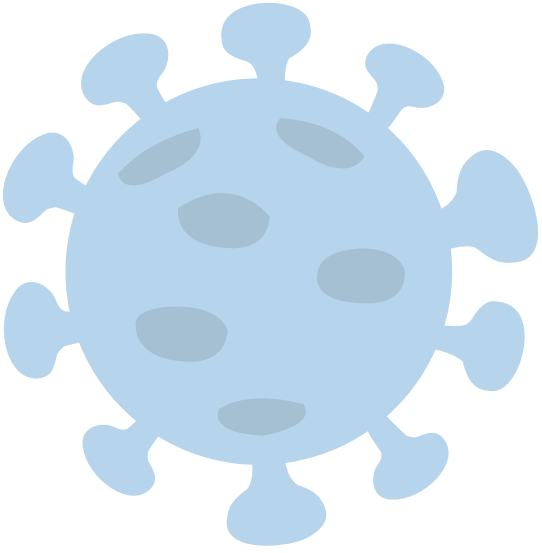
The survey and in-depth interview were conducted targeting CityNet members during October-December 2020. In total, 16 members - 15 cities and 1 non-governmental organization - participated in the survey (16) and in-depth interview (5). The questionnaire was created based on "Disaster Resilience Scorecard for Cities - Public Health System Resilience Addendum" drafted by the UN Office for Disaster Risk Reduction in April 2020 and UNDRR Sendai protocol.

KEY CRITERIA IN ASSESSMENT

- Infection rate in population
- Death rate amongst those infected
- Shortages in medical capacity and finance
- Improvements in public health organization
- Improvements in information sharing with stakeholders
- Provision for the disadvantaged
- Financial support
- Date of predicted recovery
- ICT usage & readiness
- CityNet future engagement

CRITERIA SCALE

- Each with a score of 0-5, where 5 is the best practice



BALANGA

CITY PROFILE

POPULATION
96,061 (2015)

AREA
111.63㎢

DENSITY
860people/㎢

DEPARTMENT HANDLING DISASTERS
City Health Office
DRR Management Office

DRR Budget
5% of city budget
(USD 826,385)(2020)

DISASTER MANAGEMENT

PRIORITIES
Preparedness and resilience in the healthcare system
Protocol on handling COVID-19 patients
DRR integration in healthcare system

TRAINING NEEDS
Public health related emergencies
First responder skill training
Crisis management strategies

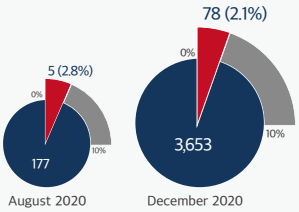
PROJECTS NEEDS
Mainstreaming DRR
Digital database management
Disaster education and materials

OVERALL ASSESSMENT

* Overall management systems improved
* Early action by implementing full tracing in March, 2020

COVID-19 EXPERIENCE

FIRST INFECTION March 17, 2020
TOTAL INFECTION 177 (August 2020)
3,653 (December 2020)
TOTAL DEATHS 5 (August 2020)
78 (December 2020)
DEATH RATE 2.8% (August 2020)
2.1% (December 2020)



LOCKDOWN
April-May 2020: public transport halted
August 2020: lockdown except offices and factories

SHORTAGES
Paramedics, disinfectant, PPE, masks, doctors, nurses, finances from local private sectors, IT personnel

CONTACT TRACING & TESTING
Full tracing (March 2020 onwards)
Hospital testing (April 2020 onwards)

STABILITY OF HEALTH SYSTEMS
Improvement in public health organization during pandemic
Improvement in hospital capacity during the surge
Improvement in mental health system

SHARING OF PUBLIC HEALTH DATA
Improvement in city government's sharing of other data with health professionals
Improvement in community understanding on social distancing

RELIEF & RESILIENCE
Well-organized food supply for those in need
Improved strategy
Clear lessons learnt

PREDICTED RECOVERY
2nd half, 2021 (social activity)
1st half, 2022 (overall)

ICT & COMMUNICATIONS
Official city website (most effective)
Helpline
Traditional media
ICT systems for smart phones

REQUESTED CITYNET ACTION
Workshop on sharing best practices

BANDA ACEH

CITY PROFILE

POPULATION
268,148 (2019)

AREA
61.36㎢

DENSITY
4,400people/㎢

DEPARTMENT HANDLING DISASTERS
Health Department

OVERALL ASSESSMENT

* Based on responses, Banda Aceh raised the quality of its systems from minimal to best
* Strong cooperation by citizens and forestalled infection rate

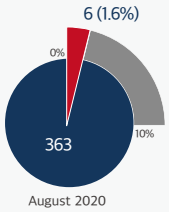
COVID-19 EXPERIENCE

FIRST INFECTION May 3, 2020

TOTAL INFECTION 363 (August 2020)

TOTAL DEATHS 6 (August 2020)

DEATH RATE 1.6% (August 2020)



LOCKDOWN
March-May 2020: lockdown except offices and factories
June-August 2020: lockdown at schools

SHORTAGES
Paramedics, disinfectant, PPE, masks, medicines, doctors, nurses, fresh food, city finances, IT personnel

CONTACT TRACING & TESTING
Full tracing through mobile testing using buses and trucks

STABILITY OF HEALTH SYSTEMS
Huge improvement in the management of public health organization during the pandemic
■□□□□▸■■■■■
Improvement in hospital capacity during the surge
■■□□□▸■■■■■
Mental health system
■■■■■

SHARING OF PUBLIC HEALTH DATA
Improvement in city government's sharing of data with health professionals ■□□□□▸■■■■◧
Improvement in community understanding on social distancing
■□□□□▸■■■■□

RELIEF & RESILIENCE
Well-organized food supply to those in need
Strong relief capacity
Increased support for high risk populations
Improved strategy and clear lessons learnt

PREDICTED RECOVERY
1st half, 2021

ICT & COMMUNICATIONS
Traditional media
Effective ICT system

REQUESTED CITYNET ACTION
Emergency decision making and NGO and city cooperation
Desire to improve information on emergency services

BUSAN

CITY PROFILE

POPULATION
3,387,761 (2021)

AREA
770㎢

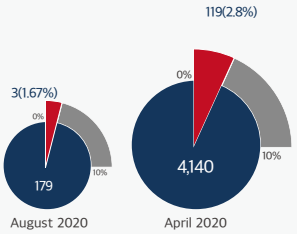
DENSITY
4,400people/㎢

OVERALL ASSESSMENT

* Good systems
* High mental health system

COVID-19 EXPERIENCE

FIRST INFECTION	February 21, 2020
TOTAL INFECTION	179 (August 2020)
	4,140 (April 2021)
TOTAL DEATHS	3 (August 2020)
	119 (April 2021)
DEATH RATE	1.67% (August 2020)
	2.8% (April 2021)



LOCKDOWN
No lockdown
*Self-quarantine at home or hospital

SHORTAGES
Masks, doctors, nurses, finances

STABILITY OF HEALTH SYSTEMS
Stable management in public health organization ■■■■■
Slight diminution in hospital capacity improvement during the surge
Mental health system ■■■■■

SHARING OF PUBLIC HEALTH DATA
Community understanding low ■■□□□
Sharing of other data with health professionals ■■■■□

RELIEF & RESILIENCE
Well-organized food supply to those in need
Improvement in lessons learnt ■■□□□▸■■■□□
Relief capacity static ■■■□□

PREDICTED RECOVERY
1st half, 2021 (healthcare and relief)
2nd half, 2021 (social and economic activity)

ICT & COMMUNICATIONS
ICT with strong reliance on SMS
Emergency message service
Official city website
Public broadcasting

REQUESTED CITYNET ACTION
Livelihood protection
Workshop on best practice
Interagency communication

GALLE

CITY PROFILE

POPULATION
93,118 (2020)

AREA
16.5㎢

DENSITY
5,643people/㎢

OVERALL ASSESSMENT

* High infection rate with low mortality rate
* Systems generally deteriorated during the pandemic, but medical care must have been high to avoid more deaths

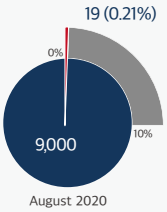
COVID-19 EXPERIENCE

FIRST INFECTION March 26, 2020

TOTAL INFECTION 9,000 (August 2020)

TOTAL DEATHS 19 (August 2020)

DEATH RATE 0.21% (August 2020)



LOCKDOWN
April 2020: lockdown
May 2020: reopen

SHORTAGES
Paramedics, medicines, city finance, IT personnel

CONTACT TRACING & TESTING
Full tracing (June 2020)
Testing only in hospitals (May 2020)

STABILITY OF HEALTH SYSTEMS
Deterioration in public health organization during pandemic ■■■□□▸■■□□□
Deterioration in hospital capacity during the surge ■■■□□▸■■□□□
Mental health system ■■■■□

SHARING OF PUBLIC HEALTH DATA
Deterioration in city government's sharing of data with health professionals ■■■□□▸■■□□□
Deterioration in community understanding on social distancing ■■■■■▸■■□□□

RELIEF & RESILIENCE
Well-organized food supply to those in need in the beginning
Reduced support to high risk population
Some lessons learnt
No recovery plan

PREDICTED RECOVERY
2nd half, 2021

ICT & COMMUNICATIONS
Traditional media
Truck
Fixed speakers
Hotline
No effective ICT system

REQUESTED CITYNET ACTION
NGO and city cooperation on how to use SMS
General drills and interagency cooperation

HO CHI MINH

CITY PROFILE

POPULATION
8,602,000 (2020)

AREA
2,061㎢

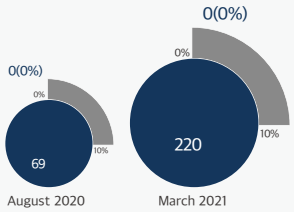
DENSITY
4,173people/㎢

OVERALL ASSESSMENT

* Strong structural plan and improvements where needed
* Weak mental health system
  Low testing as a risky strategy

COVID-19 EXPERIENCE

FIRST INFECTION	January 23, 2020
TOTAL INFECTION	69 (August 2020)
	220 (March 2021)
TOTAL DEATHS	0 (August 2020)
	0 (March 2021)
DEATH RATE	0% (August 2020)
	0% (March 2021)



LOCKDOWN
April 2020: temporary
*Self-quarantine at home or hospital

SHORTAGES
No recorded shortages nor finances

CONTACT TRACING & TESTING
Full tracing (January 2020 onwards)
No systematic testing (March 2020 onwards)

STABILITY OF HEALTH SYSTEMS
Improvement in the management of public health organization during pandemic ■■■■□▸■■■■■
Improvement in hospital capacity as surge response ■■■□□
*Did not have enough infection to test the improvement
Mental health system ■□□□□

SHARING OF PUBLIC HEALTH DATA
Improvement in city government's sharing of data with health professionals ■■■□□▸■■■■□
Improvement in community understanding on social distancing ■■■■□▸■■■■■

RELIEF & RESILIENCE
Well-organized food supply to those in need
Relief capacity ■■□□□
Strong community relief support
Clear lessons learnt ■■■□□
Improvement in recovery plan ■□□□□▸■■□□□

PREDICTED RECOVERY
1st half, 2021 (social activity)
2nd half, 2021 (economy)

ICT & COMMUNICATIONS
Traditional media
City-wide app
Strong future ICT plan

REQUESTED CITYNET ACTION
All items valued
Management: emergency decision making, livelihood protection
Cooperation: NGO and city cooperation
Communication: interagency communication, public health communication
IT system: ICT using GSI in apps, improving SMS system
Others: sharing best practices, general drills

IRIGA

CITY PROFILE

POPULATION
111,757 (2015)

AREA
137㎢

DENSITY
810people/㎢

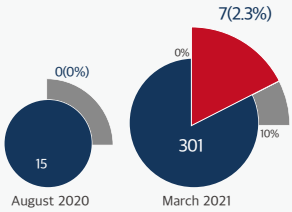
DEPARTMENT HANDLING DISASTERS
City Hall Department

OVERALL ASSESSMENT

* Early lockdown effective but faced serious economic effect
* Spread of disease eliminated

COVID-19 EXPERIENCE

FIRST INFECTION January 29, 2020
TOTAL INFECTION 15 (August 2020)
301 (March 2021)
TOTAL DEATHS 0 (August 2020)
7 (March 2021)
DEATH RATE 0% (August 2020)
2.3% (March 2021)



LOCKDOWN
March-May 2020: lockdown
*Longer lockdown at schools

SHORTAGES
Paramedics, PPE, medicines, doctors, nurses, fresh food, finance

CONTACT TRACING & TESTING
Partial tracing
Testing in hospitals

STABILITY OF HEALTH SYSTEMS
Improvement in the management of public health organization during pandemic ■■■□□▸■■■■□
Improvement in hospital capacity as surge response
□□□□□▸■■□□□
Improvement in mental health system ■■■□□▸■■■■□

SHARING OF PUBLIC HEALTH DATA
Improvement in community understanding on social distancing
■■■□□▸■■■■□

RELIEF & RESILIENCE
Limited food supply to those in need
Limited relief capacity
Strong community relief support
Partial progress on lessons learnt
Improvement in recovery plan ■■□□□▸■■■□□

PREDICTED RECOVERY
2nd half, 2021 (relief)
1st half, 2022 (social, economy, health)

ICT & COMMUNICATIONS
Traditional media (90%)
Mobile trucks
Official city website and Facebook page
Commercial SMS (least useful)

REQUESTED CITYNET ACTION
All items valued
Management: emergency decision making, livelihood protection
Cooperation: NGO and city cooperation
Communication: interagency communication, public health communication
IT system: ICT using GSI in apps, improving SMS system
Others: sharing best practices, general drills

JAKARTA

CITY PROFILE

POPULATION
10,560,000 (2020)

AREA
661㎢

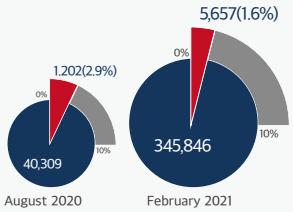
DENSITY
15,957people/㎢

OVERALL ASSESSMENT

* City-wide systems require strengthening especially on health and welfare management
* Managing a city of this size in a pandemic needs special resources

COVID-19 EXPERIENCE

FIRST INFECTION	March 1, 2020
FIRST DEATH	March 5, 2020
TOTAL INFECTION	40,309 (August 2020)
	345,846 (February 2021)
TOTAL DEATHS	1,202 (August 2020)
	5,657 (February 2021)
DEATH RATE	2.9% (August 2020)
	1.6% (February 2021)



LOCKDOWN
April-May 2020: lockdown
June 2020: partial lockdown for schools and entertainment

SHORTAGES
Paramedics, disinfectant, PPE, medicines, doctors, nurses, fresh food, city finance

CONTACT TRACING & TESTING
Limited tracing and testing in hospitals (March 2020)
Extended to walk-through testing (April 2020)

STABILITY OF HEALTH SYSTEMS
Deterioration in public health organization during pandemic ■■■□▸■■■□□
Mental health system ■■□□□

SHARING OF PUBLIC HEALTH DATA
Deterioration in city government's sharing of data with health professionals ■■■□□▸■■□□□
Community understanding on social distancing ■■■□□

RELIEF & RESILIENCE
Well-organized food supply to those in need
No recovery plan in August 2020

PREDICTED RECOVERY
2nd half, 2021

ICT & COMMUNICATIONS
Traditional media
Sharing public announcement through WhatsApp

REQUESTED CITYNET ACTION
ICT aid to add GSI to app
Improve interagency communication
NGO and city-to-city cooperation
Sharing knowledge on best practice

JAMBI

CITY PROFILE

POPULATION
531,857

AREA
205.4㎢

DENSITY
2,589.36people/㎢

DEPARTMENT HANDLING DISASTERS
Fire department
Special Task Force under vice mayor (former psychologist)

DRR BUDGET
Government required change in budget to allow for future relief

OVERALL ASSESSMENT

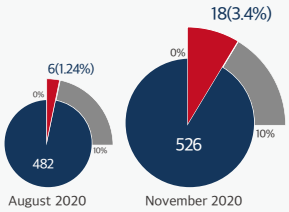
* Well-organized under crisis because of the vice mayor and special task force

COVID-19 EXPERIENCE

TOTAL INFECTION 482 (August 2020)
526 (November 2020)

TOTAL DEATHS 6 (August 2020)
18 (November 2020)

DEATH RATE 1.24% (August 2020)
3.4% (November 2020)



LOCKDOWN
No general lockdown
Restricted inter-province travels
Online classes at schools
Curfew by 21:00

SHORTAGES
Test kits, masks
*Received PPE and test kits donations from Singapore

CONTACT TRACING & TESTING
Tracing and testing broke down as not enough kits

STABILITY OF HEALTH SYSTEMS
Stable management of public health organization during the pandemic
Improvement in mental health system
*Virtual mental health support

SHARING OF PUBLIC HEALTH DATA
Improvement in community understanding on social distancing

RELIEF & RESILIENCE
Well-organized food supply to those in need
Community issues solved by leaders and the special task force

PREDICTED RECOVERY
2022

ICT & COMMUNICATIONS
Traditional media (90%)
Sharing public announcement through WhatsApp
Twitter from mayor
Commercial SMS (least useful)

REQUESTED CITYNET ACTION
Workshop on ICT

KAOHSIUNG

CITY PROFILE

POPULATION
2,773,127 (2019)

AREA
2,951㎢

DENSITY
940people/㎢

DEPARTMENT HANDLING DISASTERS
Kaohsiung City Government
Department of Health

OVERALL ASSESSMENT

* System evolved where needed
  zero deaths

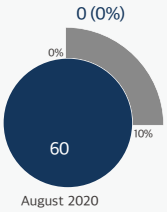
COVID-19 EXPERIENCE

FIRST INFECTION January 21, 2020

TOTAL INFECTION 60 (August 2020)

TOTAL DEATHS 0 (August 2020)

DEATH RATE 0% (August 2020)



LOCKDOWN
February 2020: partial lockdown at factories, cafes, bars

SHORTAGES
PPE, doctors, city finances

CONTACT TRACING & TESTING
Full tracing
Testing not available in hospitals until June 2020

STABILITY OF HEALTH SYSTEMS
Change in the management of public health organization during the pandemic
*Transfer from the national level to local level
Never challenged hospital surge capacity
Improvement in mental health system ■■■■■

SHARING OF PUBLIC HEALTH DATA
City government's sharing of data with health professionals ■■■■□
Big improvement in community understanding

RELIEF & RESILIENCE
Food supply hardly needed
Well-organized relief
Large changes in established emergency operations centre
Pandemic command centre created steady progress to level 5
Clear progress on lessons learnt
Well-developed recovery plan

PREDICTED RECOVERY
2nd half, 2021

ICT & COMMUNICATIONS
Traditional media (90%)
Official city website as a main channel
City-wide local apps
Commercial SMS (least useful)

KUALA LUMPUR

CITY PROFILE

POPULATION
1,790,000 (2017)

AREA
243㎢

DENSITY
7,366people/㎢

OVERALL ASSESSMENT

* Systems appear to have been ready and function at high efficiency
* Strong social distancing social discipline

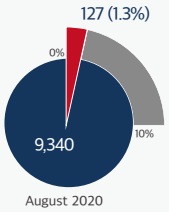
COVID-19 EXPERIENCE

FIRST INFECTION January 25, 2020

TOTAL INFECTION 9,340 (August 2020)

TOTAL DEATHS 127 (August 2020)

DEATH RATE 1.3% (August 2020)



LOCKDOWN
Some closure of public facilities and quarantine
Conditional Movement Control Order was implemented

SHORTAGES
Finances from local private sectors

CONTACT TRACING & TESTING
Full tracing (January 2020 onwards)
Hospital testing (March 2020 onwards)

STABILITY OF HEALTH SYSTEMS
Improvement in the management of public health organization during pandemic ■■■□□▸■■■■□
Improvement in mental health system ■■□□□▸■■■□□

SHARING OF PUBLIC HEALTH DATA
Improvement in city government's sharing of data with health professionals ■■■□□▸■■■■□
High community understanding on social distancing ■■■■■

RELIEF & RESILIENCE
Relief limited but constant
NGO food relief
Food supply to needy
Steady recovery strategy ■□□□□▸■■■□□
Clear lessons learned
Relief capacity static ■■■□□

PREDICTED RECOVERY
2nd half, 2022

ICT & COMMUNICATIONS
Traditional media
ICT assisted medical health line for COVID-19
ICT assisted to mobilize aid for quarantine or other needs
Official city website

REQUESTED CITYNET ACTION
All items valued
Management: emergency decision making, livelihood protection
Cooperation: NGO and city cooperation
Communication: interagency communication, public health communication
IT system: ICT using GSI in apps, improving SMS system
Others: sharing best practices, general drills

MAKATI

CITY PROFILE

POPULATION
582,602 (2015)

AREA
27.36㎢

DENSITY
21,294people/㎢

DEPARTMENT HANDLING DISASTERS
Makati DRRM Office
Makati DRRM Council

EMERGENCY OPERATION
Centre within city hall

DRR BUDGET
5% of the city budget
(USD 36,023,383)(2020)

DISASTER MANAGEMENT

PRIORITIES
Complex disaster management
Handling infectious diseases
Recovery planning
Service continuity planning

TRAINING NEEDS
Public health related emergencies
Risk financing
Economic resilience
Management of complex emergencies

PROJECTS NEEDS
Digital database management
Pesonnel training
DRRM academy related projects

OVERALL ASSESSMENT

* Well-organized management
* Community understanding on social distancing rapidly improving

COVID-19 EXPERIENCE

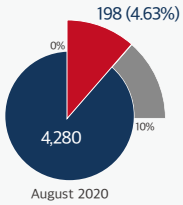
FIRST INFECTION January 4, 2020

FIRST DEATH March 11, 2020

TOTAL INFECTION 4,280 (August 2020)

TOTAL DEATHS 198 (August 2020)

DEATH RATE 4.63% (August 2020)



LOCKDOWN
March-May 2020: lockdown except factories
June 2020: offices, cafes, bars reopen
July 2020: lockdown except factories
August 2020: offices, cafes, bars reopen

SHORTAGES
Paramedics, disinfectant, PPE, medicines, doctors, nurses, fresh food

CONTACT TRACING & TESTING
Full testing in hospitals only then extended to walk-through

STABILITY OF HEALTH SYSTEMS
Stable management of public health organization during the pandemic
No hospital capacity improvement during the surge
Improvement in mental health system

SHARING OF PUBLIC HEALTH DATA
City government's sharing of data with health professionals
Big improvement in community understanding on social distancing

RELIEF & RESILIENCE
Well-organized food supply to those in need
Clear process on lessons learnt
Well-developed recovery plan

PREDICTED RECOVERY
2023

ICT & COMMUNICATIONS
Traditional media (90%)
City-wide local apps
Twitter from mayor
Commercial SMS (least useful)

MUNTINLUPA

CITY PROFILE

POPULATION
504,509 (2015)

AREA
46.7㎢

DENSITY
10,803people/㎢

DEPARTMENT HANDLING DISASTERS
City Health Office

EMERGENCY OPERATION
Centre within city hall

DRR BUDGET
5% of the City Budget (USD 5,200,000)(2018)

DISASTER MANAGEMENT

PRIORITIES
Developing DRR toolkits for business, hospitals, schools, and local residents
Procuring equipment
Securing and training medical personnel for disasters
Identifying DRR weaknesses
Capacity building of officials
Securing DRRM budget

TRAINING NEEDS
Overall crisis management
Integrating DRR into city planning

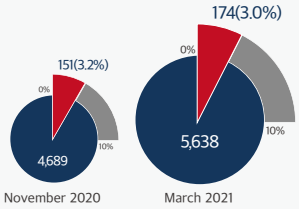
PROJECTS NEEDS
Community-based DRR
Personnel training on DRR
Personnel training for responders
Mainstreaming DRR

OVERALL ASSESSMENT

* Well-organized to begin with local quarantine and community understanding on social distancing
* Relaxed the regulation too early

COVID-19 EXPERIENCE

TOTAL INFECTION 4,689 (November 2020)
5,638 (March 2021)
TOTAL DEATHS 151 (November 2020)
174 (March 2021)
DEATH RATE 3.2% (November 2020)
3.0% (March 2021)



LOCKDOWN
March-August 2020: lockdown in only infected areas
regulations got relaxed which caused a second peak

SHORTAGES
Paramedics, disinfectant, PPE, medicines
*City had a higher level of medical expertise since the national research centres and labs were located within the city

CONTACT TRACING & TESTING
Tracing and testing in hospitals
Walk-through screening

STABILITY OF HEALTH SYSTEMS
Stable management of public health organization during the pandemic
Improvement in mental health system
*Virtual Mental Health and Psychosocial Support (MHPSS) chat available for 24/7 through Facebook messenger with in-house psychiatrist

SHARING OF PUBLIC HEALTH DATA
Improvement in community understanding on social distancing

RELIEF & RESILIENCE
Well-organized food supply to those in need
Clear process on lessons learnt
Well-developed recovery plan

PREDICTED RECOVERY
After vaccination acquisition in mid-2021

ICT & COMMUNICATIONS
Traditional media (90%)
Official city website
City-wide local apps
QR code
Commercial SMS (least useful)

REQUESTED CITYNET ACTION
Workshop on best practice

QUEZON

CITY PROFILE

POPULATION
2,940,000 (2015)

AREA
166㎢

DENSITY
17,711people/㎢

DEPARTMENT HANDLING DISASTERS
Quezon City Disaster Risk Reduction and Management

DRR BUDGET
5% of the City Budget (USD 18,055,980)(2017)

DISASTER MANAGEMENT

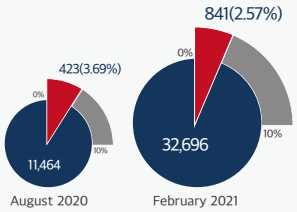
PRIORITIES
Build capacity of city officials
Develop materials for local residents and institutions
Procure emergency equipment

TRAINING NEEDS
Crisis management strategies
Urban planning integrating DRR

PROJECTS NEEDS
Community-based DRR
Personnel training on DRR
Personnel training for responders
Mainstreaming DRR

COVID-19 EXPERIENCE

FIRST INFECTION	March 8, 2020
FIRST DEATH	March 25, 2020
TOTAL INFECTION	11,464 (August 2020)
	32,696 (February 2021)
TOTAL DEATHS	423 (August 2020)
	841 (February 2021)
DEATH RATE	3.69% (August 2020)
	2.57% (February 2021)



LOCKDOWN
March-May 2020: lockdown except factories
June 2020: offices, cafes, bars, cafes reopen

SHORTAGES
Paramedics, disinfectant, PPE, nurses

CONTACT TRACING & TESTING
Limited tracing and testing in hospitals

STABILITY OF HEALTH SYSTEMS
Change in management of public health organization during the pandemic
No hospital capacity improvement during the surge

SHARING OF PUBLIC HEALTH DATA
No improvement in city government's sharing of data with health professionals

RELIEF & RESILIENCE
Limited actions from city government to recover from the pandemic
Limited analysis of lessons to be learned

PREDICTED RECOVERY
2nd half, 2022

SANTA ROSA

CITY PROFILE

POPULATION
353,767

AREA
54.84㎢

DENSITY
6,500people/㎢

OVERALL ASSESSMENT

* Improved systems during pandemic, low death rate

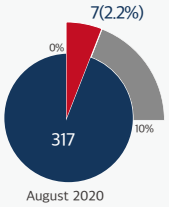
COVID-19 EXPERIENCE

FIRST INFECTION March 16, 2020

TOTAL INFECTION 317 (August 2020)

TOTAL DEATHS 7 (August 2020)

DEATH RATE 2.2% (August 2020)



LOCKDOWN
Mar-May 2020: lockdown except offices and public transport
June 2020: partial lockdown at schools and bars

SHORTAGES
Paramedics, disinfectant, PPE, masks, doctors, nurses, national finances, IT personnel

CONTACT TRACING & TESTING
Full tracing (June 2020)
Hospital testing (May 2020)

STABILITY OF HEALTH SYSTEMS
Improvement in public health organization during pandemic
Improvement in hospital capacity during the surge
Improvement in mental health system

SHARING OF PUBLIC HEALTH DATA
Improvement in city government's sharing of public health data with professionals
Improvement in community understanding on social distancing

RELIEF & RESILIENCE
Well-organized food supply to those in need
Clear lessons learned

PREDICTED RECOVERY
2nd half, 2021

ICT & COMMUNICATIONS
Traditional media

REQUESTED CITYNET ACTION
Drills
Interagency communications
Public health communications
Emergency decisions
NGO and city cooperation
Livelihood protection
Desire to improve information on emergency services

TAIPEI

CITY PROFILE

POPULATION
2,646,204 (2019)

AREA
271.80㎢

DENSITY
9,700people/㎢

DEPARTMENT HANDLING DISASTERS
Office of Taipei City Disaster Management

EMERGENCY OPERATION
Centre exists in an independent building

DRR BUDGET
0.92% of the City Budget (USD 51,780,933)(2020)
*DRR budget increased in the last decade due to new laws, interest of mayors

DISASTER MANAGEMENT

PRIORITIES
How to strengthen disaster management among communities
Effective management on non-governmental groups and volunteers

TRAINING NEEDS
Overall Crisis Management
Sector specific disaster education

PROJECTS NEEDS
Community-based DRR
Mainstreaming DRR

OVERALL ASSESSMENT

* Very low death rate
* Good systems in place

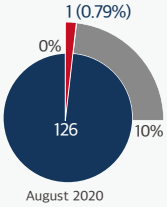
COVID-19 EXPERIENCE

FIRST INFECTION January 23, 2020

TOTAL INFECTION 126 (August 2020)

TOTAL DEATHS 1 (August 2020)

DEATH RATE 0.79% (August 2020)



LOCKDOWN
No lockdown
*Self-quarantine at home or hospital

SHORTAGES
No recorded shortages nor finances

CONTACT TRACING & TESTING
Full tracing (January 2020 onwards)
Mobile testing (January 2020 onwards)

STABILITY OF HEALTH SYSTEMS
Stable management in public health organization
Diminution in hospital capacity improvement during the surge
Improvement in mental health system ■■■□□▸■■■■□

SHARING OF PUBLIC HEALTH DATA
City government's sharing of data with health professionals ■■■■□
Community understanding on social distancing ■■■■■

RELIEF & RESILIENCE
Well-organized food supply to those in need
Static relief capacity ■■□□□
Improvement in lessons learnt ■□□□□▸■■■□□
Improvement in recovery plan ■□□□□▸■■□□□

PREDICTED RECOVERY
1st half, 2021 (economy)
2nd half, 2022 (healthcare)

REQUESTED CITYNET ACTION
Fixed budget for DRRM activities
Training of designated personnel within community
Emergency equipment and shelters
Community first aid clinic
Trained first aid staff within community
Emergency medical supplies
Disaster education facility

YOKOHAMA

CITY PROFILE

POPULATION
3,760,157 (2020)

AREA
435.5㎢

DENSITY
8,634people/㎢

DEPARTMENT HANDLING DISASTERS
Crisis Management Office
General Affairs Bureau

EMERGENCY OPERATION
Centre within city hall

DRR BUDGET
8.2% of the City Budget
(USD 1,323,840,074)

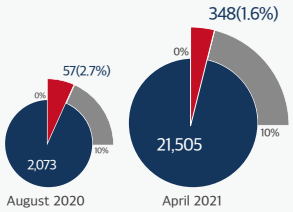
DISASTER MANAGEMENT

PRIORITIES
CDeveloping toolkits and training materials for DRR awareness
Identifying city's priorities in working towards disaster risk reduction
Building capacity of policy makers and city officials

TRAINING NEEDS
Public health related emergencies
Training related to infectious diseases for city DRRM team

COVID-19 EXPERIENCE

FIRST INFECTION	February 18, 2020
FIRST DEATH	March, 2020
TOTAL INFECTION	2,073 (August 2020) 21,505 (April 2021)
TOTAL DEATHS	57 (August 2020) 348 (April 2021)
DEATH RATE	2.7 (August 2020) 1.6% (April 2021)



LOCKDOWN
*Proper isolation facilities in the city
*Isolation facilities are temporary

STABILITY OF HEALTH SYSTEMS
COVID-19 handled by Health and Social Welfare Bureau, Medical Care Bureau
Personnel had prior training on infectious diseases
Personnel were further trained due to COVID-19

RELIEF & RESILIENCE
COVID-19 has changed approach to disaster situation

REQUESTED CITYNET ACTION
Fixed budget for DRRM activities
Training of designated within community
Emergency equipment
Emergency shelters
Community first aid clinic and trained staff within community
Disaster education facility
Hospital capable of handling mass casualties
Disaster medical assistance team

CITYNET
THE REGIONAL NETWORK OF LOCAL AUTHORITIES
FOR THE MANAGEMENT OF HUMAN SETTLEMENTS

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