

CREATING VIRUS-FREE ISLAND BUBBLES

By Prof. Rene T. Domingo

Our national pandemic program which relies heavily on Local Government Units (LGU's) is making slow progress. An LGU cannot curb and contain its infection rate with its open jurisdiction and invisible porous borders, even with repeated lockdowns, restrictions, and testing. The LGU network of any country, comprised of cities, provinces, states, prefectures and other administrative regions, is a political mechanism that is not designed to deal with global public health threats. Relying on LGU's to fight this pandemic is like asking their local police forces working independently to catch a highly organized group of global terrorists. LGU's cannot be held accountable for something beyond their control. They cannot be expected to contribute to the national case scorecard and together decide its final score. With many uncertainties surrounding the vaccines, the development of our national herd immunity may not happen anytime soon. As we continue the fight, however, we have to rethink our current strategy and find a better way of deploying it.

Instead of battling this virus with the shotgun approach that just scatters our resources, we can choose winnable battles and achieve pockets of real progress, slowly but surely. We can recover territory from the virus by forming virus-free island bubbles one at a time. An "island" bubble is a geographic area delineated by natural borders like water or mountains that can serve as barriers to contain a population and deterrents to human intrusion. The Philippines, a mountainous archipelago, has plenty of these nature-made bubbles - islands, peninsulas, valleys, highlands, enclosed coastal areas - it can harness to gain an upper hand over this pandemic.

By pooling and focusing resources, a virus-free bubble can be formed within just a couple of months. Its residents can return to unrestricted normal lives even as the rest of the country is battling the pandemic. Bubbles can also serve as safe havens where healthy citizens from infected areas can seek refuge in. We can start rebuilding our battered economy from bubbles even as the "Battle of Manila" rages on. Instead of counting and then adding up the erratic infection rates of LGU's, we can measure true progress in terms of 1) the number of virus-free bubbles formed 2) the combined land area of all these bubbles and 3) their combined virus-free population. Fatality rates should go down as nobody would no longer die of Covid-19 in these secured "liberated" parts of the country.

BUBBLE VS. LGU

We can form bubbles from small-to-medium sized populated islands, peninsulas, valleys, highlands, and enclosed coastal areas. Together these areas host at least 40% of our population. Defended completely or partially by natural barriers, a bubble would need much less resources, security, and time to rid itself of the virus and protect itself from imported re-infection.

Unlike a walled city or an island, a typical LGU cannot monitor the movement of its people to succeed in infection control and containment. Finding all the infected persons inside one is like catching countless mice in a totally dark room with several open doors. Stopping a highly infectious virus is like stopping fires or pipe leaks - you cannot stop until you find and stop all of them. Even if an LGU reduces its cases, it cannot prevent re-infection from outsiders and returning residents. Without eradication, any drop in cases in an LGU is temporary and spurious. Easing of restrictions or lowering of guards thereafter will just lead to a resurgence. We therefore cannot compare and rank LGU's by their infection rates. Unless they are virus-free, all LGU's regardless of caseload would have the same risk of resurgence. No LGU is safe until every LGU is safe. But a virus-free bubble is safe even if everyplace around is not.

Though vaccines are not necessary to make a bubble virus-free, it can establish herd immunity within itself without waiting for the entire country to develop it. It needs a smaller allocation to attain the 70% critical mass. It may have fewer hesitant people to convince to be vaccinated. On the other hand, an LGU cannot achieve herd immunity even if all its residents were vaccinated because of its unstable and uncontrollable population.

LGU's within the same bubble, like the 4 provinces of Panay island, could pool all their resources - vaccines, beds, testing kits, and contact tracers – and together drive the virus out of their island. All these provinces can then be virus-free and normalize, a feat not possible if each fought the virus separately. Lockdowns, restrictions, testing, vaccination, and financial assistance would achieve more, faster, and better results if done by bubble, instead of by LGU's, by type of industry, by profession, and by age group as we do currently. For instance, if we test and vaccinate everyone in an island bubble and treat all its infected residents, we could make it virus-free in no time, instead of spreading our scarce resources all over the country and achieve little. In healthcare, partial efforts do not produce partial results.

IDENTIFYING BUBBLES

The easiest natural formation to make into a virus-free bubble is an island, being completely enclosed by water. Examples are island provinces such as Batanes, Catanduanes, Cebu, Palawan, Camiguin, and Sulu; the islands with multiple LGU's like Mindoro, Negros, and Panay; and holiday islands such as Boracay, Panglao, Siargao, and Samal. It may be administratively better to combine some adjacent islands into one bubble or "bubble +" such as Samar-Leyte and Panay-Guimaras. Excluding the main islands of Luzon and Mindanao, all these islands we can easily transform into bubbles would already account for at least 25% of our population.

A peninsula like Bicol and Zamboanga can be enclosed as a bubble by just securing the narrow strip that links it to the mainland. A coastal strip flanked by the sea and a mountain range can be formed into a bubble by securing its tips. An example is the narrow stretch flanked by the Luzon Sea and the Cordillera Mountains running from the tip of Ilocos Norte to its southern tip at Rosario in Pangasinan. A coastal town like Mariveles in Bataan which is fringed by mountains and has limited road access can form a small bubble. A valley between the two mountain

ranges can be enclosed as a bubble, like the Cagayan Valley, a contiguous stretch of 4 provinces flanked by the Cordillera and Sierra Madre mountain ranges. Highlands, plateaus, and mountain cities isolated by their elevation and limited access can form bubbles, like the Bukidnon plateau and Baguio. There may no natural bubbles or borders within the remaining landlocked provinces and regions of Luzon and Mindanao including NCR. But they would eventually be enclosed and formed into huge bubbles by the bubbles that would rise around them. Bubbles may be formed in any sequence. But to have quick wins, we can start with a couple of island provinces. Or we can transform a couple of small holiday islands into bubbles to provide early proof of concept and reopen them to tourists.

CREATING BUBBLES

A bubble may or may not be an LGU or may consist of several LGU's and parts of LGU's. Once a geographic area is designated a bubble, it becomes an administrative region composed of all the LGU's it contains in the duration of the pandemic. Every bubble will undergo the same transformation or "cleansing" process that should take only a month or two. The overall goal is to track and stop all local transmission within the bubble area as quickly as possible.

The first step is to seal the bubble and close its borders. All bubble residents will be PCR tested and home quarantined for 14 days or longer if necessary. Non-residents and transients may be allowed to leave the bubble before the lockdown. No one will be allowed to enter or leave the bubble during the lockdown. Confirmed positive cases will either be home quarantined or admitted to a medical facility inside the bubble for treatment. Serious cases requiring long term treatment, like more than a month, may be transferred to a medical facility outside the bubble to continue their treatment and recovery. Residents will continue to comply with all health protocols – mask wearing and social distancing - until all the work is completed.

PROTECTING BUBBLES

The bubble is officially declared virus-free if it has no locally transmitted cases for a certain period like 14 consecutive days. All restrictions are then lifted and all bubble residents, young and old, can return to normal activities like in-person schooling and working, unrestricted mass transport, dining, recreation, mall shopping, and religious gatherings. To maintain the bubble's virus-free status, travel into and out of it will be strictly controlled. But visitors and residents, with proper identification, coming from other virus-free bubbles may be allowed entry without the need for quarantine. Direct domestic flights, land and sea travel between such bubbles can resume. Flights and ferries transiting through non-bubble areas will not be allowed into any bubble.

Bubble residents may be disallowed or discouraged from going to non-bubble areas. Anyone coming from non-bubble areas, including returning residents, politicians, businessmen, medical personnel, foreign visitors, will have to show current negative test results and undergo 14-day quarantine upon arrival. All imported cases will be quarantined, treated inside the bubble

within a specified time like a month, and returned to their place of origin if further treatment is needed beyond this period. Healthy residents from non-bubble areas may relocate to nearby virus-free bubbles to seek temporary or permanent refuge. A smaller population would also help these non-bubble areas transform faster into bubbles when their turn comes.

LINKING BUBBLES

Bubbles can form travel corridors or travel networks to restart economic activities.

Neighboring countries geographically similar to the Philippines can adopt this island bubble concept. A travel corridor between two countries is unstable because of the high probability of resurgence in either one. One that links two of their island bubbles is more sustainable like a Cebu-Jeju travel corridor instead of one between Philippines and South Korea. Direct flights and economic activities like tourism can resume between such Asian island pairs. Bubble resident identification in addition to passports will be needed for this travel.

BUBBLE NETWORKS FOR DISASTER READINESS

The bubble network is a mechanism that can be part of our pandemic disaster-readiness. In case of another outbreak from human or even livestock infection in the future, the same bubbles can be reactivated and mobilized. To contain an outbreak, bubbles can be locked down to lock in or lock out people or livestock, similar to the closing of independent compartments of a modern ship to prevent a leak from spreading and sinking it.

While bubble-making could provide some light at the end of the tunnel and some glimmer of hope, it still needs our patience and sacrifices. As we fight this pandemic and create bubbles along the way, it would be comforting to know that there would be places somewhere in the country where nobody dies of Covid-19, where life is normal, and where people go to work, school, malls, and churches unmasked and unafraid.

Prof Rene T. Domingo is an adjunct faculty member of the Asian Institute of Management on operations and quality management. He served as technical consultant to WHO and DOH on hospital management and as management consultant to major Philippine hospitals on patient care and patient safety. His email is rdomingo@aim.edu.