Achieving Effective Pandemic Response in Taiwan through State-Civil Society Cooperation

The Role of the Li Zhang

ABSTRACT

In this paper, I draw on pandemic preparedness and response efforts in Taiwan as a case study to argue that the Li Zhang, a *straddler* institution at the local level, plays a key role in facilitating state-civil society trust and cooperation in pandemic response.

KEYWORDS: pandemic response, Li Zhang, Taiwan, civil society, straddler groups

Since the 2003 outbreak of SARS (Severe Acute Respiratory Syndrome), the world has grown increasingly aware of and concerned with the possibility of a major pandemic sweeping across the planet, causing millions of deaths and billions of dollars of economic losses. The 2014 Ebola outbreak in Western Africa, with a case fatality rate of around 50%, is only the most recent example of the threat arising from a potentially globe-spanning pandemic. The likelihood of pandemic outbreaks is growing, and efforts to prepare an effective response have gained momentum. An effective response to pandemics requires both international cooperation among state, intergovernmental, and non-governmental organizations (NGOs), as well as heavy investment in establishing the domestic institutions necessary to contain, control, and eventually treat pandemics.

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1. Pandemic is defined as “an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people.” J. Last, *Dictionary of Epidemiology* (4th ed.) (New York: Oxford University Press, 2001).


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Focusing on the domestic level, I explore the factors influencing effective pandemic response. I argue that although we currently possess much of the technical know-how to address pandemics, there exists a gap between this knowledge and the ability to respond effectively. Drawing primarily on the literature on state-society relations and policy implementation, I argue that Taiwan provides a useful case study of how state-society relations in democratic countries can facilitate effective pandemic response.

THE CHALLENGE

The world has been dodging pandemic bullets for quite some time. In this century alone, SARS struck in 2003, first in China but quickly spreading around the planet. SARS was transmitted human to human and had a very high case fatality rate. However, after a brief flurry, SARS faded, and the feared catastrophic pandemic failed to appear. The initial events were followed by additional outbreaks of the H5N1 strain that caused significant global concern, with a case fatality rate in 2012 of 62.5% of those infected. Still, the illness has lingered on without becoming a major pandemic. H7N9 in 2009 caused intense concern as it spread rapidly from North America across the globe, infecting, according to some studies, approximately 26% of the global population in 2009. But, as WHO Director-General Margaret Chan notes, because of “pure good luck,” the impact was very low. In late 2012, H7N9 developed in eastern China, the epicenter of many pandemics throughout history. As of July 2013, there were 132 confirmed cases of the illness, including 43 deaths. However, H7N9 has since faded. Thus far, the planet has suffered relatively limited disruption from these sorts of emerging infectious diseases.


And yet, a study of emerging infectious diseases from 1940 to 2004 conducted by Kate E. Jones et al. found that over this period we have experienced an annual average of 5.2 such diseases, with a steadily rising frequency through the 1980s. Among the factors identified as contributing to the rising frequency are the growing overall human population, expanding deforestation in many parts of the world, increased reliance on factory farms, continued and expanded operation of live-animal markets, and greater human mobility. The World Economic Forum, 2012, *Global Risks Report* identifies pandemics as among the gravest risks facing the planet.\(^6\)

With each new outbreak, the WHO warns of potential dangers while calling on all countries to enhance their pandemic response preparations and capabilities. Since the SARS pandemic, such calls by the WHO have galvanized the international community. Many nations are making major efforts to develop protocols and guidelines to facilitate inter-state communication and cooperation in the case of a future outbreak. The International Health Regulations (IHR), updated in 2005 and taking effect in 2007, are binding on 194 countries. In addition, information sharing guidelines and international meetings have enhanced transparency and contributed to greater institutionalization of international pandemic response mechanisms. Such actions have been crucial to preparing for and responding to future pandemics.\(^7\)

However, international cooperation alone is insufficient. Also required are effective domestic response capabilities. The Chinese government response in 2003 to the SARS epidemic provides a case in point. The initial response was to seek to hide the spreading new disease, with the goal of only informing the international community once it was under control. This approach proved unsuccessful both domestically, where rumors flew and trust in government declined precipitously as the disease spread, and internationally, when the disease crossed over into Hong Kong to expand globally. Even as Beijing first

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denied the crisis, then delayed cooperation to mitigate it, SARS eventually reached Taiwan and Canada, among other countries.

In the SARS case, once China recognized that it must increase transparency and act decisively, it proved effective at mobilizing both government resources and the public in mass actions to contain the outbreak. The government opened a major information campaign, informing the public about the disease, activating medical professionals and other officials, and mobilizing the public to keep an eye on each other, disinfect public spaces, and enforce quarantines and shelter-in-place protocols. This mass mobilization, echoing those of the Maoist era, proved effective once initiated.

The ability to mobilize society offers an obvious advantage. The Chinese government reached across society, constraining behaviors and ensuring adherence to guidelines developed to control the outbreak. Once the decision to act was made, China was able to mobilize top-down coercive pressure stretching to the lowest levels of government and into society that ensured relatively effective pandemic responses. Such mobilization is far more challenging in non-authoritarian regimes and may result in poor outcomes, as was the case in Taiwan. Taiwan’s SARS response was relatively ineffective despite having a far better developed public health network, greater wealth, a smaller population, and the luxury of time (the outbreak first occurred in China and only four months later crossed over to Taiwan). This comparison illustrates that despite China’s disadvantages at the time, pandemic response is in many ways a political issue rather than a public health one.

Of course, recommending that states adopt a top-down authoritarian approach to pandemic response is both impractical and unattractive. Nonetheless, an effective response system is essential given the inevitability of a future globe-spanning virulent pandemic. Because of the political nature of effective implementation, some scholars have found that the best option, even if technically sound, is not always adopted by officials. Thus, in the overall policy making process, solid policy proposals are a necessary condition


but alone are not sufficient to ensure adoption of an effective policy. As Jeremy Farrar, professor of Tropical Medicine and Global Health at Oxford University argues, in addition to improving our technologies for pandemic response, we need interventions such as mask distribution, enforced hand washing, social distancing, and more. Measures to increase social distancing may include canceling public events and closing or restricting access to recreational facilities, or even to schools. To accomplish these activities, public engagement is absolutely critical.

I argue that in the search for effective implementation, the state should look to cooperation with civil society in order to identify and work toward the shared goal of an effective pandemic response.

In the following section, I review the literature on state-society relations, looking at Taiwan as a case study of state-society cooperation in pandemic response. I describe Taiwan’s post-SARS pandemic prevention and response evolution, strengths, and weaknesses, before arguing for the benefits of a cooperative state-civil society approach focusing in particular on the role played by the Li Zhang.

**EFFECTIVE POLICY IMPLEMENTATION AND THE RELATIONSHIP BETWEEN CIVIL SOCIETY AND THE STATE**

Civil society-state relations are often viewed as either cooperative, where the two work together to achieve common goals, or as oppositional, where civil society seeks to undermine the state in an effort to advance a distinct agenda (in many cases, democratization) at the expense of the state. Putnam notes that all societies are characterized by either horizontal or vertical networks of interaction. Horizontal networks such as neighborhood associations and cooperatives tie together agents of equal power. The more “dense” the horizontal networks, the greater the likelihood of trust and cooperation. Vertical networks...
networks link unequal agents in a hierarchical, dependent relationship. Regardless of how important to the participants, vertical networks cannot sustain social trust and cooperation because of asymmetrical power where subordinates cannot effectively sanction those above, and there is no sense of equality or solidarity. Thus, societies defined by vertical ties tend to suffer from power asymmetry between society and the state, resulting in increased suspicion in an essentially patron-client relationship.

Putnam argues that societies with strong horizontal networks of civic engagement are better able to resolve collective action dilemmas through collaboration between the state and society. As such, strong horizontal networks are positively associated with good government.\(^\text{13}\) Evans adds that state and society often can and do work together to enhance each other’s efforts to provide support and services that neither alone can provide.\(^\text{14}\)

And yet, for collaboration to occur there must be shared interests. As Thomas and Gilson as well as Tsebelis argue, for a policy to be effectively implemented, the interests of stakeholders must be considered. Stakeholders include individuals or groups that either can affect or may be affected by achievement of an organization’s objectives.\(^\text{15}\) Democratic regimes in particular seek to engage stakeholders, reaching out to civil society and grassroots organizations in a form of empowered participatory governance.

As relates specifically to public health outcomes, Wilkinson, Szreter, and Woolcock make the argument that egalitarian societies with stronger community life are less unequal and do dramatically better on health measures.\(^\text{16}\) Szreter and Woolcock highlight as crucial the existence of what they call “linking social capital”—trusting ties between the community and formal institutions (such as law enforcement officers, health care providers, and social workers)—that has an impact on community welfare. They argue that linking may occur among social groups that are different in terms of hierarchy

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but nonetheless recognize shared understanding and norms, as well as mutual respect. It is the responsibility of those in positions of power to find ways to create this shared sense of fairness and trust, to facilitate accomplishing shared goals. Ideally, the relationship includes a devolved, vigorous, elected local self-government acting with a high degree of local participation.\textsuperscript{17}

Exemplifying the benefits to public health of close cooperation between the state and society, Shiffman describes the role of civil society organizations in Indonesia mobilized by an otherwise weak government institution to effectively implement family planning policies.\textsuperscript{18} In this case, to enhance program effectiveness, the under-resourced Family Planning Agency identified interested actors within society, cultivated support and sought to neutralize opposition, and handed over “a measure of authority” to locals to gain their support and trust and to build collaboration for success.

Focusing in particular on Taiwan and China, Read, along with Schwartz and Shieh, makes the case that given the right conditions, civil society and the state can collaborate effectively to provide a wide range of services to the public.\textsuperscript{19} Read focuses in particular on groups that function as intermediaries between state and society but are institutionally linked to the state. Defined as straddler groups, they serve to connect the state and civil society, building cooperative relationships of trust and contributing to accomplishing shared goals.\textsuperscript{20} Building on this literature, I suggest that when faced with a significant public health challenge (a pandemic), Taiwan illustrates how straddler organizations strengthen state-civil society relations, helping to accomplish the shared goal of effective pandemic response.

Taiwan is an appropriate case study for many reasons. First, it is increasingly tightly connected to the largest source of novel influenzas of international interest—China—and has had ongoing recent experiences with such

\textsuperscript{17} Ibid., pp. 656–60.
influenzas. In terms of pandemics, Taiwan and China are essentially one unit, because of their geographic proximity and extensive interaction. Second, Taiwan is a democracy that has in the past (during SARS) grappled relatively ineffectively (compared to China) with a pandemic and has since drawn important lessons for pandemic responses. Finally, political institutions of relevance to my hypothesis (specifically, organizations that straddle the line between state and society) exist in Taiwan. An added benefit is that similar organizations exist, to varying degrees, in other countries in the region, including Japan, China, South Korea, and Indonesia. As such, the Taiwan case potentially offers insights for countries that together constitute almost one-third of the global population.

One challenge that might be raised to focusing on Taiwan as a case study is its unusual international status. Few countries recognize Taiwan as an independent country, with most accepting the Chinese/PRC (People's Republic of China) position that Taiwan is a part of China. Taiwan lacks full membership in major international organizations including the U.N. and the WHO. As a result, Taiwan is denied access to the types of information recognized countries take for granted. In public health terms, historically Taiwan has regularly drawn on personal relationships between its own public health officials and those elsewhere, particularly in the U.S., Hong Kong, and Japan. Taiwan has also relied heavily on publicly available online sources such as Pro-Med (International Society for Infectious Diseases) and CIDRP (the Center for Infectious Disease Research and Policy), which provide updated information on disease outbreaks around the globe.

While Taiwan’s unusual status may raise challenges, its situation became more representative when in 2009 the PRC agreed that the WHO could include Taiwan as an observer at the World Health Assembly. Importantly, along with this new status, Taiwan’s point of contact for epidemic information notification was approved. Taiwan also obtained access to the WHO’s secure event information site, and WHO officials may now visit Taiwan. Furthermore, Taiwan public health experts may now attend relevant committee meetings during public health emergencies of international concern. While Taiwan is still not able to participate in the Asia-Pacific regional group

21. Interview with Dr. Yen Muh-yong, deputy director, Taipei City Hospital system, responsible for disease control and prevention, June 2013.
and therefore does not have direct access to regional outbreak information, overall it has much better access to information and to international support, and is thus much more like a traditional state in terms of pandemic response than it was prior to 2009.²³

TAIWAN’S PANDEMIC RESPONSE INSTITUTIONS

According to the Taiwan CDC’s *Influenza Pandemic Preparedness Plan in Taiwan* covering 2005–10, the government anticipates that should a pandemic flu strike Taiwan, over three million people (out of a population of 23 million) will require medical assistance, and a substantial number of deaths will occur.²⁴ Officials have responded by developing an extensive government-organized structure to identify, prepare for, and respond to potential or actual outbreaks of infectious disease. At the heart of the infectious disease control system is the Communicable Disease Control Act first promulgated in 1944 and most recently amended in June 2014. The Act provides the legal basis for Taiwan’s responses to any infectious disease outbreaks. It confers immense power on the “competent authorities,” which include the DoH (Department of Health) at the central level; municipal governments at the municipality level; and the county (city) governments at the county (city) level (Article 2). According to Article 37, competent authorities may prohibit any group activities such as school attendance, business meetings and banquets, and can restrict transportation and access to specified locations.²⁵

As the central competent authority, the DoH is responsible for formulating policy responses to the outbreak, while local level competent authorities are responsible for developing implementation procedures (Article 5). In accordance with the Act, during an infectious disease outbreak the DoH must activate the CECC (Central Epidemic Command Center). The CECC draws together leadership from all relevant units such as the departments of education, agriculture, commerce, transportation, foreign affairs, and more (Article 6). Faced with an existing or imminent threat of disease outbreak,

²³. Interview with Yu-chen Su, International Cooperation and Affairs Division, Taiwan Centers for Disease Control (CDC), July 18, 2012.
local competent authorities must mobilize relevant institutions and may establish a regional epidemic command center (Articles 14–16).

As new outbreaks occur, the Act provides for new, disease-specific regulations to be developed. Thus, for example, during the SARS outbreak, the 19-article Provisional Act Governing the Control and Relief of Severe Acute Respiratory Syndrome was passed by the Executive Yuan (government branch) in 2003. Additional relevant public health laws supplementing the Communicable Disease Control Act include the Law on Control of Communicable Diseases and the Regulations Governing Quarantine. These both strengthen and add specificity to the Communicable Disease Control Act in their respective spheres.

Established in 1999, the Taiwan CDC is the key central-government level actor in epidemic control. It is a sub-agency reporting to the Taiwan DoH. It is responsible for formulating policies, strategies, and plans for epidemic response. It guides and assesses local authority implementation, quarantines ports of entry, and engages in international collaboration. It has six regional offices that encompass the entirety of Taiwan as well as seven divisions covering various aspects of CDC work. Following the SARS outbreak, the CDC underwent significant strengthening. Thus, for example, during SARS, the CDC had only two infectious disease specialist physicians. However, subsequently the CDC increased that number to 29.26

The CDC maintains a surveillance network that draws on sentinel physicians (800 volunteer doctors in both clinics and hospitals), schools (634 elementary schools), populous institutions such as elder care facilities and prisons (2,069 participate), and international entry points. During WHO-declared pandemic Phase Four (increased evidence of human to human transmission, with the virus verified as able to sustain community-level outbreaks), physicians must notify the CDC within 24 hours of virus identification. Notification is largely via the Internet. Drawing on these data, the CDC publishes weekly reports made available online and sent to participating schools, institutions, and physicians. Geographical Information Systems technology is used to identify the location and spread of notifiable diseases.27

27. Lists of cases of notifiable diseases are published weekly by the Taiwan CDC, at <http://www.cdc.gov.tw/english/list.aspx?treeid=00ED73D6C887BB27&nowtreeid=BB94E61A81D02D2>. 
An additional tool for information gathering is Taiwan’s NHI (National Health Insurance) system. Ninety-nine percent of Taiwan residents are insured under the NHI. All records are electronic, and all information on patients is immediately available to the DoH online. The result is that information on potential outbreaks can be quickly gathered, assessed, and shared. Finally, local governments have their own budgets for epidemic response that may be supplemented by the central CDC. Local governments have the power to mobilize active and retired health care workers and volunteers in the case of a pandemic.

Exemplifying Taiwan’s pandemic preparedness was its response to H1N1 in 2009. As H1N1 rapidly spread across the planet, and as the WHO decided to raise the pandemic alert level to Phase 4, the Executive Yuan activated the CECC under the leadership of the vice premier and the DoH director. Specific actions included:

- enhanced border controls with on-board inspections and quarantines in some cases;
- public education via the mass media, with the CDC recording 88 disease prevention messages by 69 leaders, public figures, and entertainers;
- moves to contain concerns about shortages by releasing 24 million face masks to the public;
- developing clear regulations for school closures implemented in 1,500 classes (1% of the country’s total); and
- initiating a vaccination program that eventually reached 24.5% of the population (75% of students), among the best vaccination rates in the world.

In accordance with the law, the public was kept informed through regular reports that the CECC required the broadcast media to carry free of charge.

30. WHO Phase 4: Small cluster(s) with limited human-to-human transmission but spread is highly localized, suggesting that the virus is not well adapted to humans. World Health Organization Pandemic Response Alert Phases (Appendix 6), <http://emergency.uchicago.edu/emp/appendices/appendix6_who.shtml>, accessed June 22, 2013.
The results were quite good, with many of Taiwan’s failures during the SARS period avoided. Government preparedness and response during the H1N1 pandemic is noteworthy in part because it reflects a significant improvement consciously undertaken in the wake of SARS. Clearly, this is an encouraging development.

However, even in the H1N1 case, glaring shortcomings came to light. Thus, for example, the timeframe for getting a new vaccine to the public is approximately six months, and in the interim many people fell ill. Furthermore, despite eventually providing 10 million indigenously developed vaccine doses, even this effort proved problematic when the son of a physician died following vaccination. Though no direct link was established between his death and the vaccine, the news media spread the story, resulting in declining trust in the government and its domestically produced vaccine, coupled with calls for increased imports of foreign vaccine.

While exhibiting lack of trust in government in the SARS and H1N1 cases, as Taiwan CDC officials note, the Taiwan public nonetheless expects the state to provide for many of their needs, including protection from pandemic outbreaks. However, and perhaps further contributing to lack of confidence in the state, the CDC lacks the resources to do so. A review of relevant funding highlights this problem. In 2007, 30% of the CDC budget was allocated to epidemic control. By 2008, this number had declined to 11%. Further exacerbating the problem, the overall CDC budget declined as well. In 2004, the CDC received funding equivalent to US$14.5 million. This number rose to US$57 million in 2007 before dropping to US$22.5 million in 2008 and US$20 million in 2011.

Dr. Muh-Yong Yen, director of the Taipei City government division of disease control and prevention, argues that while Taiwan is better prepared than it was prior to SARS, the government-dominated system alone cannot handle a major epidemic should one occur. Yen’s comments are echoed by Taiwan CDC officials, academics, and former Minister of Health C. J. Chen. In other words, while Taiwan’s pandemic response capabilities have

32. Dr. Yen Muh-Yong interview.
33. Dr. Yen Muh-Yong interviews, July 2012 and June 2013.
34. Interview with Taiwan CDC, July 2012; interview with C. J. Chen, former minister of health, chair, Avian Flu Program, Academia Sinica, Nankang, Taiwan, July 2012.
improved since SARS, they remain inadequate. Furthermore, government officials are aware that the state is incapable of effectively tackling pandemics by itself.

Since coercing the public to adhere to pandemic response protocols is difficult, the goal must be to identify alternative means of ensuring compliance and engaging stakeholders in a cooperative alliance for pandemic response. The benefit of engaging and preparing the community for pandemics is something that has been recognized as a potentially useful tool by CDC officials in Taiwan, though only minimal efforts have been made in this regard. In the following section, I argue that the infrastructure for engaging the community in pandemic preparedness and response not only already exists in Taiwan but has shown itself to be effective in some cases. The key role in facilitating state-civil society cooperation is played by the Li Zhang.

THE ROLE OF THE LI ZHANG IN TAIWAN

In pre-20th century Mainland China, a lack of urban and rural administration was compensated for primarily by the community-organized Baojia monitoring system. The Baojia system first came into existence during the Northern Song Dynasty (960–1127) as a system for mutual surveillance and as a means of social control. Though there was a fair bit of variation during the Ming Dynasty (1368–1644), households were generally organized into groups of Jia (consisting of 10 family units) and Bao (consisting of ten Jia) to maintain order and report crimes. While not formally government officials, Baojia leaders sometimes carried out official duties such as providing neighborhood security, and informed the community of the government’s interests. Baojia leaders were selected by neighborhood residents. The system first came to Taiwan during the Qing Dynasty (1644–1912) but faded by the late 18th century.

With Japanese colonization (1895–1945), the need for strong public health and sanitation efforts in Taiwan became obvious. During the early colonization

35. Interview with Chang Feng-Yee, director-general, Taiwan CDC, et al., Taipei, Taiwan, July 4, 2012.
years, Taiwan suffered from numerous deadly infectious diseases such as plague, malaria, cholera, and dysentery. Indeed, during Japan’s Taiwan colonization campaign, while only 164 Japanese soldiers died in battle and 515 were wounded, 4,642 died from malaria and other infectious diseases while 26,094 fell ill. These heavy losses to disease needed to be addressed.

Faced with these difficult conditions, the Japanese instituted the Taiwan HoKo (equivalent to Baojia in Chinese) system. The HoKo supported police work in public security as well as initiatives in public health, enforcing regulations including quarantines, hospitalizing suspected epidemic patients, controlling population movements among infected areas, and providing sanitary services. The HoKo were also responsible for household registration, social security, and transportation. In short, the HoKo played an important role in combating epidemics and preventing disease spread in particular, and in overall improved health outcomes in general. The results were impressive, with data on life expectancy and epidemiology revealing steady, ongoing improvement by the time Japan departed Taiwan at the conclusion of World War Two. The HoKo system was abolished shortly before Japan’s surrender and departure from Taiwan.

However, the Chinese Kuomintang (Nationalist Party) government that moved to Taiwan in 1945 reinvigorated many aspects of the HoKo system as officials sought to continue the positive health trajectory; ultimately, the goal was to build a strong, healthy population able to wrest the mainland back from the Chinese Communist Party (CCP). Now designated the Li/Lin system, under ROC rule it continues to function through to today. In the bureaucratic structure, the Li (neighborhood) is subordinate to the district

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(Qu), which in turn is subordinate to the city (Shi) or county (Xian), depending on location. In Taiwan, there are approximately 7,852 Li. Below the Li are approximately 148,587 Lin, or blocks.

Read describes the Li as state supported structures that are examples of administrative grassroots engagement. The head of the Li, the Li Zhang, is elected by residents every four years. Each Li Zhang receives a stipend (not a salary) from the state of about NT$ 45,000 (US$1,500) per month. This stipend is not intended to cover personal but, rather, work-related expenses such as office supplies, electricity, water, and basic office equipment, while also subsidizing activities for Li residents. The Li Zhang appoints various Lin Zhang (block leaders). On average, each Li Zhang appoints 20 Lin Zhang to serve two-year terms. The Li Zhang normally chooses as Lin Zhang friendly, outgoing people with time available to engage residents. In many cases, the Li Zhang also mobilizes neighborhood volunteers who are often family members or retirees. The average Li Zhang oversees approximately 5,800 people, whereas a Lin Zhang is usually responsible for between 100–300 people.

According to Wang Hao-ping, of all levels of elected officials in Taiwan, the authority of the Li Zhang is least clear. The large municipality of Taichung in central Taiwan identifies the role of the Li Zhang as the following:

1. Conveying and assisting in implementing municipal policies while advocating to the government on behalf of the public;

42. Interview with and data from Lo Jui-ching, senior secretary, Department of Civil Affairs, Taipei, Taiwan, July 2013; “Xiang Zhen Shi Qu Cu Lin Li Lin Shu” [Township, urban district, village borough, neighborhood enumeration], in Nei Zheng Tongji Nian Bao 2013 [Taiwan statistical yearbook of the interior 2013], <http://sowf.moi.gov.tw/stat/year/list.htm>; Department of Household Registration, Ministry of the Interior, <http://www.ris.gov.tw/zh_TW/>. According to A Brief Introduction to Elections ROC (Taiwan), Central Election Commission (2012), p. 3, Li is translated as borough.


2. Organizing and running public cultural activities and general recreation;
3. Holding and maintaining records of meetings with Lin Zhang, while making recommendations to improve conditions in the Li;
4. Investigating and reporting on issues relating to neighborhood appearance and condition;
5. Assisting residents in their applications for social welfare assistance and services;
6. Surveying, registering, and representing households regarding issues relating to official government business and testifying as to the veracity of resident requests for assistance;
7. Assisting with environmental protection, local security, disaster investigations and reporting;
8. Assisting with post-disaster counseling with compensation and legal claims relating to the disaster;
9. Organizing elections;
10. Distributing draft notices for military recruits and surveying militarily fit residents;
11. Enhancing services to aboriginals (as relevant);
12. Any other duties assigned to the Li Zhang.

In short, the Li Zhang provides a means for the state to provide information and services to society, while also giving locals an avenue to express their concerns to government while nurturing a sense of community through organized local activities. The Li Zhang straddles the line between state and society, enabling both to engage, be informed about each other, and achieve shared goals.

The direct government point of contact for the Li Zhang is the Li Ganshi. The Li Ganshi is a government appointed bureaucrat who acts as liaison between the state and the Li Zhang. Constituting the lowest level of government bureaucracy, the Li Ganshi is responsible for conveying information from the local government (e.g., the Qu Gongsuо [District Office]) to the Li Zhang, who then conveys the information to the public. The Li Ganshi is also responsible for obtaining information about the public and passing it on to the state. According to Read, originally, the Li Ganshi was to be the main actor with the Li Zhang playing a secondary role. Over time, many Li Zhang broke free from the party-state as represented by the Li Ganshi, particularly as
Taiwan underwent its democratic transition beginning in the late 1980s. In some cases, the Li Zhang and Li Ganshi work well together, in others the relationship may be somewhat confrontational. According to Liu I-chou, vice chairman of Taiwan’s Central Election Commission, because Li Ganshi are government-appointed bureaucrats, they are generally perceived by the public as less legitimate than the elected Li Zhang. Liu also notes that, at least in the Taiwanese capital Taipei, there has been an ongoing “shortage” of Li Ganshi. Thus, where there should be a 1:1 ratio of Li Ganshi to Li Zhang, and Li Ganshi should split their days half in the Li and half in the government office, increasingly, Li Ganshi take responsibility for a number of Li Zhang. The result is less time at the grassroots, less trust, and less understanding of community needs. Some Li Zhang seek to circumvent their Li Ganshi or refuse to share information because of a lack of trust. As such, during ongoing discussions among government officials about how to streamline government at the local level by removing one of these actors, the view expressed by Liu is that the likely actor to be removed is the Li Ganshi.

To exemplify the varying roles played by Li Zhang, I draw on interview data I collected in 2012 and 2013 from public health officials, other government officials, and Li Zhang in Taipei and Taichung. The semi-structured interviews provide examples of Li Zhang roles, responsibilities, and activities during past pandemic outbreaks. Interviews with academics, public health, CDC, and other government officials provide support for secondary source information on the roles and responsibilities of Li Zhang, as well as thoughts on their potential for a more active role in pandemic response.

In general, Li Zhang have lived in their communities for an extended period prior to being elected. They often have businesses in their communities and in many cases continue their jobs in addition to their responsibilities as Li Zhang. They generally have a history in the community and relationships with many of the residents. For example, the Li Zhang of Fu Chun Li in Taichung replaced her father-in-law, who had held the position for the previous 30 years.

45. Read, Roots of the State, pp. 50–55. This is also reflected in interviews with Li Zhang, Taipei and Taichung, summer 2012 and 2013.
46. Interview with Liu I-chou, vice-director, Taiwan Central Election Commission, Taipei, June 2013.
47. Interviews were conducted with Li Zhang from Taipei and Taichung (7) as well as with relevant Taiwan CDC officials (8), public health officials (4), academics (4), and government officials (4). The interviews were semi-structured and took place over summer 2012 and 2013. For the interview questions, please contact the author directly.
The new Li Zhang worked with him while he was Li Zhang, and then replaced him after he retired. She explained that the community had grown accustomed to his family and sought continuity through her. She noted that her entire family helps her with her work. This kind of close relationship is prevalent in the countryside where village heads (cunzhang)—the rural equivalent of the Li Zhang—often have long established connections and histories. All Li Zhang interviewed highlighted the point made by both government officials and academics that Li Zhang generally enjoy strong relationships of familiarity and trust with their community members.

General responsibilities as described by the Li Zhang themselves support those discussed in the literature. Li Zhang identify one of their main roles as providing security, often by establishing and leading volunteer neighborhood watches. Other roles include meeting regularly with their Lin Zhang (required at least twice a year) and Li Ganshi (daily) to discuss and allocate responsibilities for local activities as well as obtaining funding for those activities from the local government. Repeatedly mentioned activities that Li Zhang organize include hikes, mountain climbing excursions, and evenings of singing and dancing. Li Zhang also organize clean-ups of areas of the Li that fall outside the jurisdiction of the local government. Clean-ups involve the Li Zhang gathering volunteers, providing them with cleaning materials, and then working alongside them to beautify the neighborhood. Li Zhang apply for funding to upgrade conditions in the Li. Funding may be used to clean storm drains (required in advance of predicted typhoons) or to install additional street lights. Li Zhang also discussed their responsibility for facilitating applications by residents for social services from local government, conveying government policies to the public, educating the public about the ramifications of those policies, and fostering good relationships with local police, public health, and environmental protection officials, among others.48

As relates to public health services in particular, all interviewed Li Zhang took responsibility for accompanying environmental protection officials on tours of the Li every two months to assist in identifying locations to be sprayed for mosquitoes (to thwart diseases such as dengue fever), as well as for distributing and hanging posters on health related issues as provided by

48. Li Zhang interviews; see also, “Cong zhidu mian kan cun li he shiqu fazhan xiehui” [Institutional perspective on village/neighborhood and community development associations], <http://nccur.lib.nccu.edu.tw/bitstream/140.119/34781/6/92105406.pdf>.
the Public Health Bureau. Finally, all Li Zhang will register retirees in the Li who are interested in receiving health checks and vaccinations provided by public health officers who visit each Li twice a year.

According to the Ministry of the Interior, Li Zhang responsibilities during epidemics such as SARS include establishing small groups to cooperate in disease control with local district, police, fire, and public health officials. Li Zhang are tasked with assisting to keep tabs on quarantined residents, distributing thermometers and free masks to the community, taking the temperatures of potentially ill Li residents, and distributing any additional required disease prevention paraphernalia. The Li Zhang are also expected to participate in disinfection initiatives throughout the Li. Finally, Li Zhang are expected to deliver food to residents under quarantine orders. These services were provided by most Li Zhang, though with varying levels of assiduousness.

During the SARS crisis, Li Zhang were further required to register any residents who returned from abroad and pass this information on to the local government. During the H1N1 outbreak, Li Zhang kept track of which residents were vaccinated and which were not. They were then required to pass this information on to the Public Health Bureau. The bureau also faxed and emailed H1N1 related information to the Li Zhang to assist in preparedness and for conveying to the residents.

An example of the Li Zhang’s role in quarantining during SARS was provided by a Li resident who took his wife to the emergency room at Taiwan National University Hospital for an eye infection. Shortly after returning home from the hospital, he received a call from the Public Health Bureau requiring that he and his wife remain at home for 10 days due to possible SARS exposure while in the Emergency Room. This quarantine was enforced through regular phone calls from the local Public Health Bureau that if not answered, would trigger a visit to the resident’s apartment to ensure he and his wife remained at home. Throughout the quarantine, the Li Zhang and Lin Zhang provided basic needs such as food and water directly to the couple’s apartment.49

However, given the vagueness of Li Zhang responsibilities as delineated by the state, it is unsurprising that there exists great variation in the level of Li Zhang involvement in broad pandemic response activities. Li Zhang may

participate in Public Health Bureau-organized training sessions that occasionally include learning about epidemic response. Yet, few of the interviewed Li Zhang said they participated, either because they found the timing inconvenient or felt that public health was outside their area of responsibility. Some Li Zhang described their public health-related work as minimal, consisting largely of posting public health notices provided by the bureau in their neighborhoods. In some cases, the Li Zhang had no contact with public health officials at all. Many Li Zhang described public health responsibilities as being solely the bailiwick of public health officers, contending that Li Zhang lack the skills or training to participate in public health activities.

Perhaps not surprisingly, among those interviewed, the Li Zhang most in favor of expanding Li Zhang public health-related responsibilities is a retired nurse married to a currently practicing physician. This Li Zhang was the most active of the interviewed Li Zhang in terms of public health and epidemic work and argued most strongly for expanded public health training and engagement. During the SARS epidemic, her Li actively limited access to the neighborhood, facilitated by the fact that this is a closed Li with only two entrances. The Li Zhang encouraged mask wearing by residents and visitors, mobilized disinfection activities, and provided extensive information on health protection in the face of potential exposure to infection. This information was derived both from the Public Health Bureau but also consisted of seminars on SARS for Li residents held by the Li Zhang. The Li Zhang actively worked with the public health nurse responsible for her Li. She also provided support to potentially infected individuals. This Li Zhang strongly encouraged expanding training on public health for both the Li Zhang and the various Lin Zhang (who currently receive no training) as a way of strengthening epidemic preparedness and response.

By contrast, another Li Zhang highlighted his lack of public health-related training. In his view, epidemic response is purely the role of the public health bureaucracy, and there is no need to inform him of epidemics or other public health issues. Rather, this Li Zhang explained that should a serious outbreak occur, the public health authorities should supplement the single public health nurse delegated to his Li with additional nurses.

50. Interview with Weng Chun-juan, Xinbei, July 14, 2012.
These examples highlight the variation in participation among Li Zhang in response to an epidemic. Li Zhang can choose to actively engage in strengthening epidemic response, working closely with public health officials and investing time and energy in fostering epidemic response awareness among residents while also organizing disinfection teams to clean the Li. However, there is no clearly identified legal obligation to take on an expansive role.

DISCUSSION

The public health community has accepted that a highly virulent and deadly novel influenza is inevitable. Questions arising from this expectation are where and when will it strike, how rapidly will it spread across the planet, and how the impact can be minimized. The SARS pandemic was an important catalyst of initiatives that have strengthened preparedness. Global investment in institution building, regulation development, greater cooperation, and transparency have all contributed to better preparedness. However, these initiatives alone are insufficient. As has been argued, global efforts must be paired with effective domestic initiatives. This point has been reiterated by Taiwan DoH and CDC officials as well as by Taiwan academics. The government lacks the capacity to effectively respond by itself to a fast spreading, deadly outbreak. This is the case despite increased Taiwan engagement with the international community and heavy investment domestically in enhancing the state’s pandemic response infrastructure. In order to effectively respond to the threat of a rapidly spreading, deadly epidemic, the gap between knowledge of proper technical procedures and implementation on the ground must be closed.

As argued in the state-society literature, public goods such as effective pandemic response are most successfully provided when horizontal relationships of trust and cooperation are developed and strengthened between state and non-state actors. The Li Zhang, acting as a “straddler” between state and society in Taiwan, have played and continue to play an important role in enhancing this relationship.

While the vagueness of current Li Zhang responsibilities as delineated by the state enables Li Zhang who so choose to minimize their participation in pandemic response, as Liu I-chou notes, those who choose to become active can make a significant contribution to community supported pandemic
The fact that Li Zhang responsibilities remain vague means that there is room to expand and strengthen their public health and epidemic response roles.

The Li/Lin system in Taiwan is not, however, a panacea. Urbanization has weakened the role and relevance of the Li Zhang. Growing populations and increased movement in and out of Li often mean that Li Zhang are less familiar with Li residents than previously, which decreases the latter’s connectedness to their Li Zhang. Furthermore, currently Li Zhang generally lack the training to effectively support the government’s epidemic response work.

And yet, because the Li Zhang have roots in their communities and seek to develop strong relationships there, they remain familiar with and are most likely to have built relationships of trust and cooperation with the residents of their Li. Thus, rather than discounting the Li Zhang as contributors to accomplishing shared goals, their role should be recognized and given new relevance. As Lee Min-shi and C. J. Chen suggest, it is possible to strengthen the Li Zhang role as a facilitator between state and societal actors by reinvigorating the institution. This could provide a powerful tool to respond to and control pandemics.

The case for expanding the role of the Li Zhang in Taiwan’s pandemic preparedness and response efforts may have relevance beyond Taiwan. As noted, the Li/Lin system is not unique to the island. Equivalents may be found in other parts of East and Southeast Asia. The Taiwan case can be viewed as providing a positive test of the effectiveness of state-civil society cooperation in achieving effective pandemic response. This outcome provides encouragement to increase state-society cooperation even in countries lacking the Li Zhang system.

52. Liu I-chou interview.