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THE ROLE OF NGOs IN COMBATING AVIAN INFLUENZA IN INDONESIA: A MUHAMMADIYAH CASE STUDY

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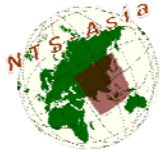
NTS-Asia Research Paper



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Abstract

Avian influenza, or 'bird flu', has been detected in Indonesia since 2003 but it was not until 2005 that the first human cases were discovered. It is estimated that economic losses caused by this virus in Indonesia have reached US$470 million, and disrupted the livelihoods of over 10 million people dependent on the poultry industry. The Government of Indonesia established a National Committee for Avian Influenza Control and Pandemic Influenza Preparedness (KOMNAS FBPI) in March 2006 to coordinate government and non-government programmes involved in the control of avian influenza in Indonesia. However, the government encountered certain constraints which resulted in a gap between policy and implementation. This allowed non-governmental organisations (NGOs), both international and local, to play significant roles in terms of providing financial resources and social capital.

Among the organisations which stepped in to bridge the gap is Muhammadiyah, the only faith-based organisation listed as a partner of KOMNAS FBPI. This paper explores how Muhammadiyah as a faith-based organisation fulfilled its role at the governmental as well as grassroots level. This paper studies the effectiveness of Muhammadiyah in transferring information to the community and in advocacy to the government during the avian influenza crisis. It also describes the experiences of Muhammadiyah and its approach to programme implementation through two of its projects, the Avian Influenza Responsive Village (*Desa Tanggap Flu Burung*) in Bantul, Central Java, and the community-based pandemic contingency plan in Tangerang, Banten.

About this paper:

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Biography

Siti Masyitah Rahma is currently actively involved in public health issues in the Department of Health and Community Welfare of the Central Board of Muhammadiyah. She holds a Master's degree from the University of New South Wales, Sydney, Australia.

She has extensive experience with avian influenza issues at the grassroots level, having worked with the Avian Influenza Control Team of the Central Board of Muhammadiyah as Programme Manager, where her responsibilities included programme design, managing human resources, developing modules and guidelines, managing the monitoring and evaluation process, and coordinating with the government as well as other partners, including international and national agencies.

List of Acronyms and Abbreviations

AHI	Avian and Human Influenza
ASEAN	Association of Southeast Asian Nations
CBAIC	Community Based Avian Influenza Control Programme
CDC	Centers for Disease Control and Prevention, USA
CEF	Community Empowerment Facilitator
CIVAS	Center for Indonesian Veterinary Analytical Studies
CSO	Civil Society Organisation
DAI	Development Alternatives, Inc.
FAO	Food and Agriculture Organization of the United Nations
GIS	Global Information System
H2P	Humanitarian Pandemic Preparedness
HUB	Focal Point (Local) Communicator
IOM	International Organization for Migration
KOMDA	Committee for Avian Influenza Control (at Provincial and District levels)
KOMNAS FBPI	National Committee for Avian Influenza Control and Pandemic Influenza Preparedness
MKKM	Department of Health and Community Welfare of the Central Board of Muhammadiyah
MT	Master Trainer
NGO	Non-governmental Organisation
NIPPRP	National Influenza Pandemic Preparedness and Response Plan
PCM	Muhammadiyah Branch at the Sub-district Level
PDSR	Participatory Disease Surveillance and Response
PRA	Participatory Rural Appraisal
PWM	Muhammadiyah Branch at the Provincial Level
RRA	Rapid Rural Appraisal
SARS	Severe Acute Respiratory Syndrome
TGC	Quick Response Team
TPFB	Avian Influenza Control Team of the Central Board of Muhammadiyah
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VAIC	Village Avian Influenza Cadre
WHO	World Health Organization

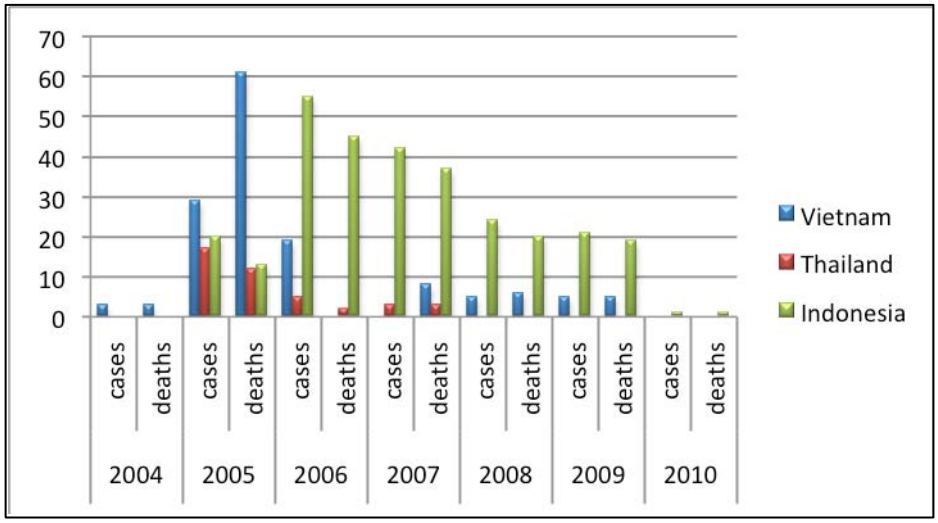
Introduction

Influenza A (H5N1) is a highly pathogenic avian influenza which could cause death to birds as well as to humans who have direct or close contact with infected birds and contaminated surfaces.[1] Among the Asian countries affected by this virus were Cambodia, China, Indonesia, Lao PDR, Myanmar, Thailand and Vietnam with 348 cases from 2003 to 2009.[2]

In Indonesia, avian influenza A (H5N1) was discovered in humans for the first time in 2005, when 20 cases and 13 deaths were reported.[3] The cumulative figure for avian influenza A(H5N1) in Indonesia from 2005 to 2009 as reported to the World Health Organization (WHO) was 163 cases with 135 deaths.[4]

Figure 1 presents a comparison of the number of cases found in three nations in Asia – Indonesia, Vietnam and Thailand. In Vietnam, the number of H5N1 cases in 2006 decreased from sixty to zero. In Indonesia that same year, the number of cases increased by nearly 50 per cent, with a slight decrease the next year. Nonetheless, this decrease was less than other countries such as Vietnam and Thailand.

Figure 1: Number of human cases of influenza A (H5N1) in Indonesia, Vietnam and Thailand



Source: World Health Organization, 'Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO', 10 February 2010.
http://www.who.int/csr/disease/avian_influenza/country/cases_table_2010_02_10/en/index.html

[1] Centers for Disease Control and Prevention, USA (CDC), 'Key Facts about Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus'. http://www.cdc.gov/flu/avian/gen-info/facts.htm

[2] World Health Organization (WHO), 'Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO', 10 February 2010.
http://www.who.int/csr/disease/avian_influenza/country/cases_table_2010_02_10/en/index.html

[3] Ibid.

[4] World Health Organization (WHO), 'Avian Influenza – Situation in Indonesia', 12 February 2010.
http://www.who.int/csr/don/2010_02_12a/en/index.html

In looking at the number of cases in Indonesia, it is pertinent to note that Indonesia has an area of 1.9 million square kilometres and 1,700 islands. With a total population in July 2008 of over 237 million people, it is the largest Muslim country by population in Southeast Asia. It also has more than 300 ethnic groups, and 726 languages, of which 719 are living languages[5].

Due to its geography and high population, Indonesia had to contend with more challenges than the other two countries, Vietnam and Thailand, shown in Figure 1. Indonesia's cultural diversity also presented challenges for public health campaigns aimed at avian influenza awareness. Further, there was a deficit in the number of health personnel and veterinary workers required to deal with the issue. According to Indonesia's Ministry of Health database in 2009, Indonesia had only 8,745 clinics at the sub-district level.[6] Hence, it was not possible for the government (and its services) to cover all areas. These constraints had an impact on the ability of its people to access health information and services.

People have a right to be protected by their government from any harm which could affect their life and their livelihoods. The threat of infectious diseases, such as HIV/AIDS, severe acute respiratory syndrome (SARS), as well as the H1N1 and H5N1 viruses, has expanded the concept of security.[7] As of 22 November 2009, laboratory confirmed cases of pandemic influenza H1N1 have been reported in more than 207 countries and overseas territories or communities, including over 7,820 deaths.[8] In Indonesia, economic losses caused by the H5N1 virus are estimated to have reached US$470 million[9], and disrupted the livelihoods of over 10 million people dependent on the poultry industry.

The United Nations Development Programme (UNDP) in their 1994 Human Development Report states that there are two main aspects to human security. The first aspect is safety from such chronic threats as hunger, disease and repression; and the second, protection from sudden and hurtful disruptions in the patterns of daily life, whether in homes, jobs or in communities. Such threats can exist at all levels of national income and development.[10] The threat to human security is divided into seven main categories, namely, economic, food, health, environmental, personal, community and political security.

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[5] Lewis, M. Paul, ed., 'Languages of Indonesia', *Ethnologue: Languages of the World*, 2009. http://www.ethnologue.com/show_country.asp?name=ID

[6] Ministry of Health of Indonesia, 'Database Puskesmas', 2009. http://www.bankdata.depkes.go.id/puskesmas/public/report

[7] Mely Caballero-Anthony, 'Securitizing Infectious Disease in Asia', *The Indonesian Quarterly*, Vol. 34, No. 1, 2006.

[8] World Health Organization (WHO), 'Pandemic H1N1 (2009) – Update 76', 27 November 2009. http://www.who.int/csr/don/2009_11_27a/en/index.html

[9] National Committee for Avian Influenza Control and Pandemic Influenza Preparedness (KOMNAS FBPI), Presentation at the *10th National Veterinary Conference of the Indonesia Medical Association*, Bogor, 20 August 2008.

[10] United Nations Development Programme (UNDP), 'New Dimensions of Human Security', *Human Development Report 1994*, New York: Oxford University Press, 1994, pp. 23–4. http://hdr.undp.org/en/media/hdr_1994_en_chap2.pdf

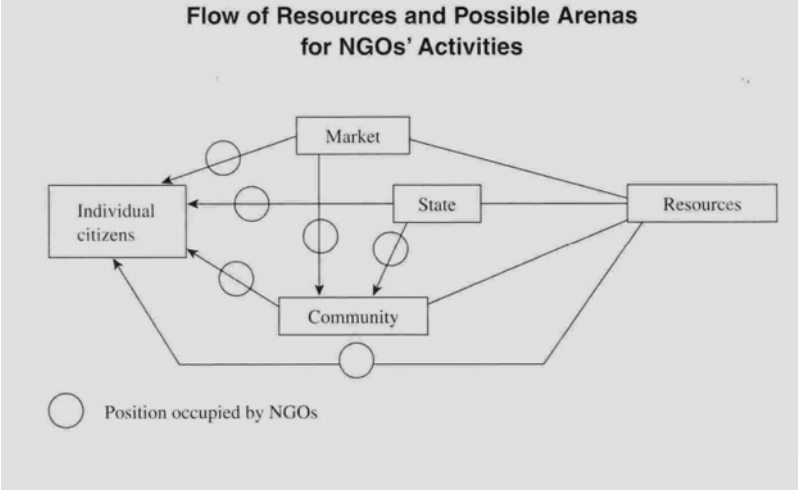
Generally, in Indonesia, backyard poultry functions as a form of livelihood and savings, where chickens/ducks could be sold for children's school fees and other household emergency costs such as medical treatment.[11] Some 30 million homes or 60 per cent of all Indonesian households are estimated to keep around 300 million chickens and/or ducks and quails in their backyards.[12] Most people who live in remote areas raise poultry and live close to poultry cages. In Karo, North Sumatra, for instance, the villagers raise their poultry underneath their houses.[13] Furthermore, the poultry are let out of their cages during the day. According to many of the small farmers, this is because they do not have enough money to feed the chickens. Others explain that that is the way they have been raising chickens for generations. These conditions could cause the virus to spread more widely and to be harder to control. The worst scenario for these people would be a global pandemic that would have a huge impact on economic, social and political security.

The government of Indonesia established a National Committee for Avian Influenza Control and Pandemic Influenza Preparedness (KOMNAS FBPI) in March 2006 to coordinate the activities of its members and stakeholders which are involved in combating avian influenza and pandemic preparedness.[14] The government itself did not have enough capacity to transfer the relevant knowledge to its huge population scattered across the many different islands. It required more support and assistance from other agencies or non-governmental organisations (NGOs), especially in terms of human resources and networks. Also, in a crisis situation, communities often need organisations which they could trust and which would respect the community's local wisdom; and NGOs and civil society organisations (CSOs) with their grassroots networks are more equipped to meet this need.

It is apparent that good relations between the state, the market, and NGOs or CSOs are not only required for promoting the people's economic livelihoods, but also for combating the threats of avian influenza in a country. As Shinichi Shigetomi points out, an NGO has the function of a mediator in the development process. For instance, in areas where the government could not reach its people due to certain constraints such as limited human resources, an NGO could facilitate the process. There exist many gaps for NGOs to fill, due to the 'system of the state, the market, and community [failing] to perform their resources and distributing functions properly'.[15] Figure 2 shows Shigetomi's representation of the NGO as a mediator connecting individuals to the market, the state and the community or from the community to the state and the market. It is clear that NGO activities facilitate relations between the various arenas – individual, market, state, community and resources.

[11] Avian Influenza Control Team of the Central Board of Muhammadiyah (TFTB), *Monitoring and Evaluation Report of Muhammadiyah* (in Bahasa Indonesia), 2007.
[12] Normile, Dennis, 'Indonesia Taps Village Wisdom to Fight Bird Flu', *Science*, Vol. 315, No. 5808, 2007, pp. 30–3.
[13] Direct observation in 2007.
[14] Indonesia National Committee for Avian Influenza Control and Pandemic Influenza Preparedness (KOMNAS FBPI), 'About Us' (English version). http://www.komnasfbpi.go.id/aboutus.html
[15] Shigetomi, Shinichi, ed., *The State and NGOs: Perspective from Asia*, Singapore: Institute of Southeast Asian Studies, 2002.

Figure 2: Flow of resources and possible arenas for NGOs' activities



Source: Shigetomi, Shinichi, ed., *The State and NGOs: Perspective from Asia*, Singapore: Institute of Southeast Asian Studies, 2002, p.10.

The government could thus draw on NGO resources, particularly their human resources, to achieve its policy objectives. In cases where the government experiences constraints in transferring development to its people, the presence of NGOs becomes imperative in the development process and especially in delivering humanitarian aid. Bebbington and Mitlin report that NGOs have experienced rapid changes in the environment in which they operate, such as the increasing demand for NGOs to fill the gaps between the government and the community at the grassroots level.[16]

In this paper, the roles of an NGO as a mediator and a resource are explored with reference to Muhammadiyah, a large faith-based organisation in Indonesia. Muhammadiyah, an organisation established long before Indonesia gained its independence, has a history of engaging in education, health, and humanitarian and social welfare issues in Indonesia. The organisation is active in schools, universities, hospitals and orphanages, and its network stretches to the provincial and village levels. This paper discusses how Muhammadiyah extended the network and resources it had developed over the years to bridge the gap between government policy and the communities and people at the grassroots level. This paper begins by describing Indonesia's national strategies for avian influenza and pandemic preparedness. It then narrows in on the role of Muhammadiyah in avian influenza control, covering its strategies for creating awareness of the avian influenza virus threat at the village level. Its role in helping a community understand the need for pandemic preparedness is also examined. The coordination mechanism which it uses to mediate between the grassroots and the government is also described.

[16] Bebbington, A. and D. Mitlin, *The NGO Sector and Its Role in Strengthening Civil Society and Securing Good Governance*, International Institute for Environment and Development (IIED), 1996.

National Strategies in Avian Influenza Control and Pandemic Preparedness

Indonesia developed a national strategic plan for avian influenza control and pandemic preparedness in December 2005. Ten strategies were outlined – influenza control in animals; management of human cases**;** protection of high-risk groups; epidemiological surveillance on animals and humans; restructuring the poultry industry; risk communication, information and public awareness; strengthening relevant laws; capacity building; action research; and monitoring and evaluation.[17] The plan has since been evaluated and re-evaluated, once in September 2006 and another in February 2007. In March 2007, the government introduced six new strategies, placing information, socialisation, communication and education as its priorities; followed by the restructuring of the poultry industry; comprehensive epidemiological surveillance; dealing with the virus at source through measures such as bio-security, vaccination, culling and compensation; improving health services; and pandemic preparedness and simulation.[18]

As mentioned earlier, the government of Indonesia established the KOMNAS FBPI in March 2006. The committee is headed by the Coordinating Minister for People's Welfare. Members of the committee include ministers involved in efforts to combat the virus and the Chairman of the Indonesian Red Cross.[19] The legal basis for KOMNAS FBPI is based on PP No. 7 (2006). In practice, however, it has not been easy for KOMNAS FBPI to coordinate all the ministries involved in combating avian influenza. Thus, there exist supporting legal provisions in every ministry which guide policy and programme implementation. For instance, the Ministry of Health has Decree No. 756 (2006) on Free Charges for Avian Influenza Treatment in Hospitals aimed at encouraging people to report cases and visit the hospital for treatment promptly.

In terms of pandemic preparedness, ministries and institutions were to establish plans based on the National Influenza Pandemic Preparedness and Response Plan (NIPPRP) in accordance with their respective main roles and legal jurisdictions. The activities were to be structured according to an Incident Command System (shown in Figure 3) comprising six pillars: surveillance; laboratories and early warning; medical response and public health; quarantine, food and people mobilisation; social distancing; business continuity, public and private; and recovery and rehabilitation, where each pillar should be related to the phase of the pandemic. The command and control of risk communication would be crucial in maintaining consistency of the message to the public.

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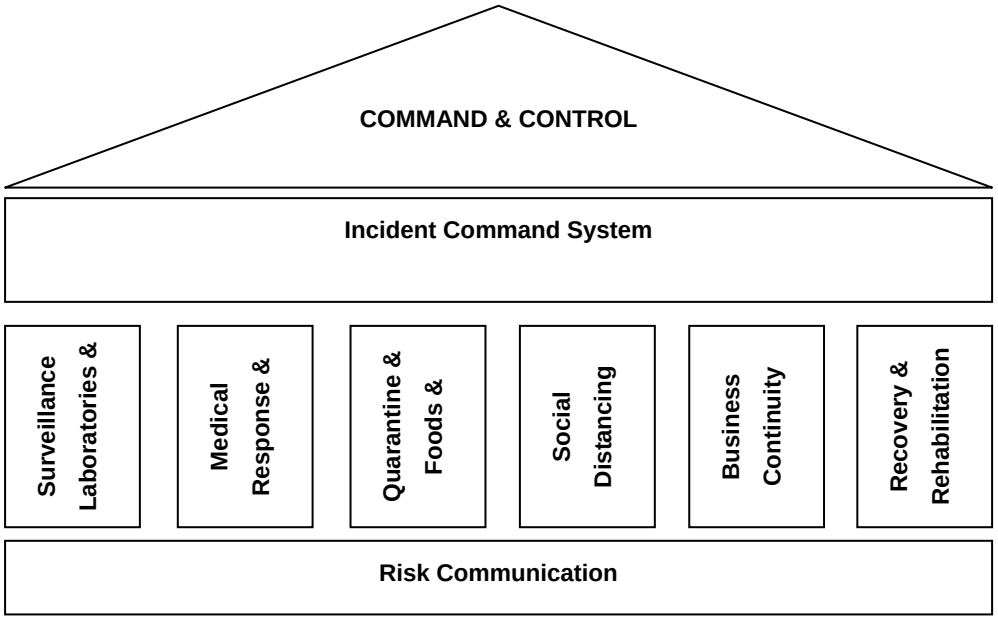
[17] Government of Indonesia, *National Strategic Plan for Avian Influenza Control and Pandemic Influenza Preparedness of the Republic of Indonesia 2006–2008*, Jakarta, January 2006. http://www.komnasfbpi.go.id/files/Renstra_13_Januari_2006.pdf

[18] Interview with Dr Memed Zoelkarnain Hassan, KOMNAS FBPI Communications Coordinator, on 20 October 2009.

[19] KOMNAS FBPI, 'About Us' (English version). http://www.komnasfbpi.go.id/aboutus.html .

Figure 3: Incident Command System for the National Influenza Pandemic Preparedness and Response Plan (NIPPRP)



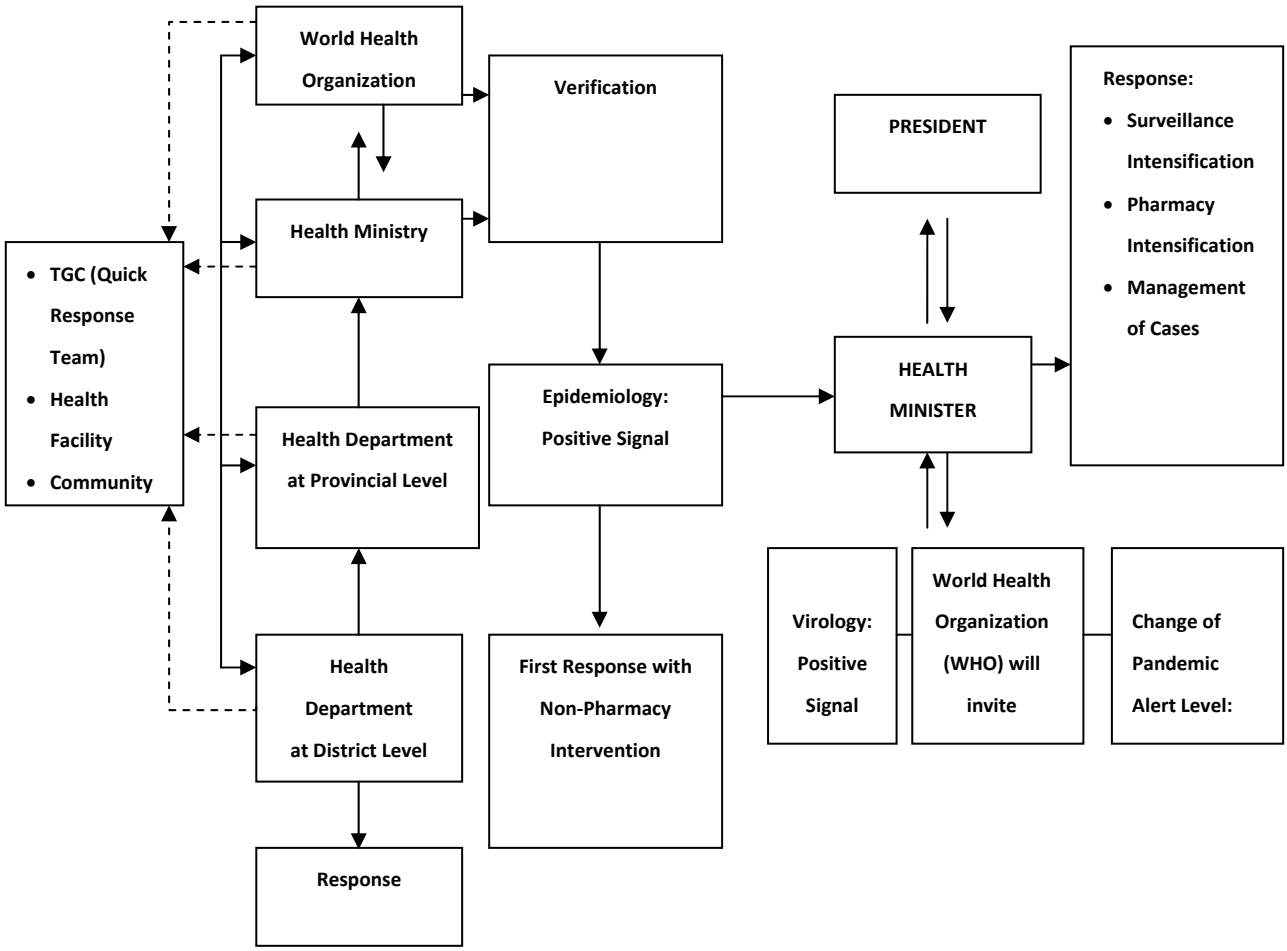
Source: National Committee for Avian Influenza Control and Pandemic Influenza Preparedness *(*KOMNAS FBPI), 'Work Document on National Influenza Pandemic Preparedness and Response Plan', March 2008, p. 7.

Response Mechanisms

There are mechanisms in place to guide response to a pandemic influenza outbreak (Figures 4 and 5). Figure 4 illustrates the mechanisms for case identification and response during A (H5N1) outbreaks. The Health Department at the district level would be responsible for directly responding to any cases in the epicentre (of the influenza outbreak). Such response would be based on instructions/regulations from the Health Department at the provincial level, which would in turn have coordinated with the central Ministry of Health and the WHO. While the Health Department at district level provides early response, the WHO and Ministry of Health proceeds with case verification. Once epidemiology shows positive, they would report to the President. And if the WHO finds virology to be also positive, it would invite the emergency committee to change the pandemic alert level. The President would then direct the Health Minister to respond through surveillance intensification, pharmacy intensification and management of cases.

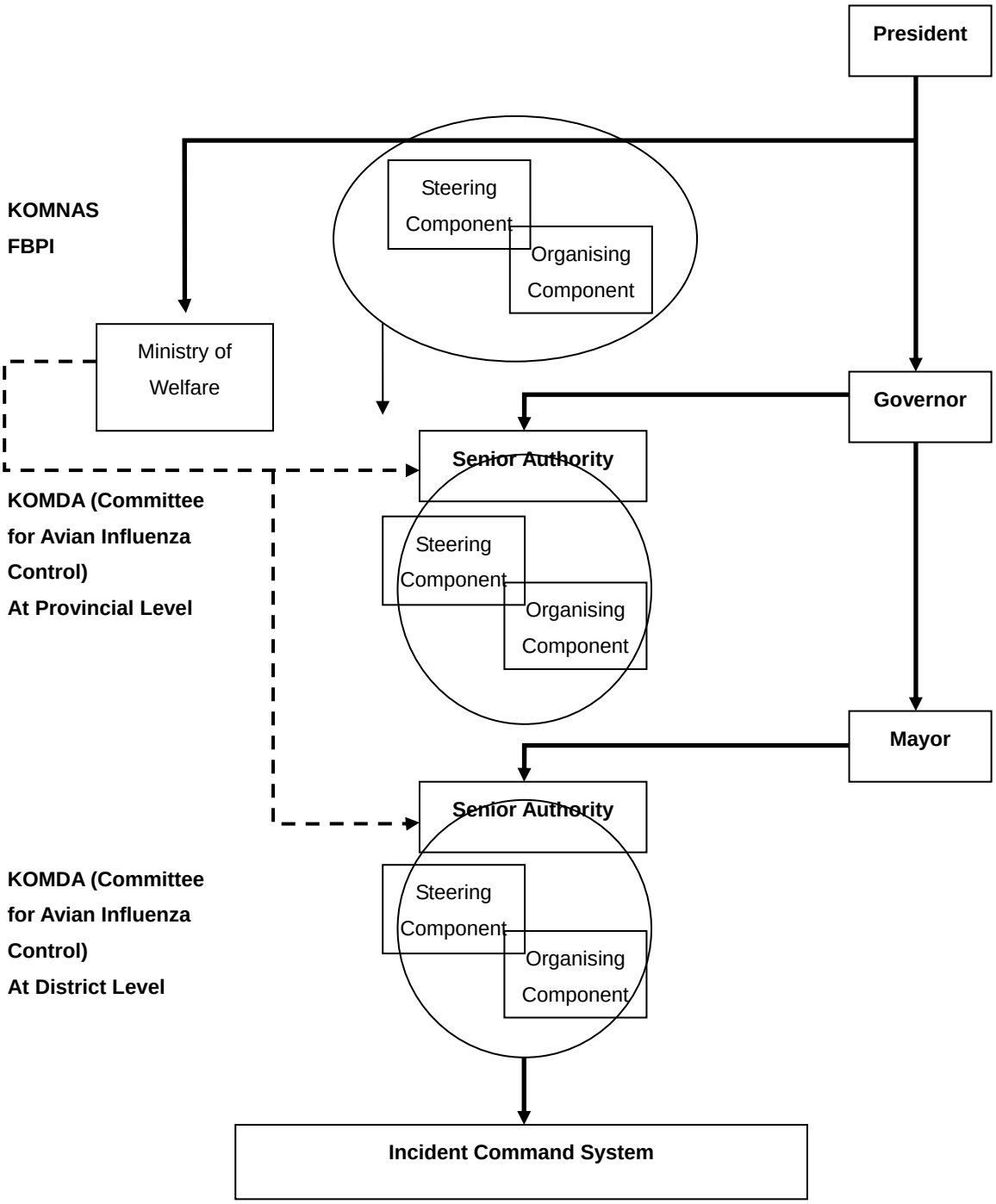
Figure 5 shows the coordination mechanism of KOMNAS FBPI and KOMDA, the avian influenza committees at the provincial and district levels. At every level, a senior authority would be responsible for coordination, for instance, the President at the national level, the Governor at the provincial level and the Mayor at the district level.

Figure 4: Pandemic influenza epicentre response mechanism (based on International Health Regulations 2005)



Source: National Committee for Avian Influenza Control and Pandemic Influenza Preparedness *(*KOMNAS FBPI), 'Work Document on National Influenza Pandemic Preparedness and Response Plan', March 2008, Attachment 2, p. 15.

Figure 5: KOMNAS FBPI/KOMDA command mechanism for pandemic influenza



Source: National Committee for Avian Influenza Control and Pandemic Influenza Preparedness *(*KOMNAS FBPI), 'Work Document on National Influenza Pandemic Preparedness and Response Plan', March 2008, Attachment 1, p.1.

Obstacles and Limitations

Indonesia faces a number of obstacles in the implementation of avian and pandemic influenza control strategies. One of the issues is the level of coordination among the various sectors involved. This is compounded by the fact that the H5N1 virus is a zoonotic disease, an infectious disease that can be transmitted from animals to humans. Thus, the responses have to be from two main ministries, the Ministry of Health and the Ministry of Agriculture. The lack of coordination between these two ministries impacts the level of response at the grassroots level. The inadequacy in early warning capacity and the lack of an integrated animal surveillance system also contribute to the slow response to avian influenza outbreaks.

The government of Indonesia has a policy of culling to prevent the avian influenza virus from spreading, with farmers being compensated for their livestock. However, in the field, certain difficulties arose. Compensation was not fully absorbed by farmers because of the complexity of the administration. It also took time for farmers to receive their compensation. Therefore, this policy was not effective at the community level.[20]

There is also a lack of monitoring of animal movements, which could result in the disease spreading along with poultry distribution, such as on the Tangerang-Jakarta-Bekasi route where the transport of poultry could be observed every day.

The lack of knowledge and awareness of avian influenza in the community is another big challenge for risk communication.

Muhammadiyah and Its Role in Combating Avian Influenza

Muhammadiyah, established in 1912, is one of the oldest organisations in Indonesia. It is a faith-based organisation with both religious and community service objectives. Sudibyo Markus, Chairman of the Central Board of Muhammadiyah (2005–2010), and the force behind Muhammadiyah's involvement in combating avian influenza, described it thus:

Muhammadiyah is an Islamic reform movement which aims to promote pure Islamic teaching and encourage its members to pursue the real and blessed *civil Islami* (Islamic civil society) by focusing its programmes on the fields of education, health and welfare. Muhammadiyah is of the opinion that the poor understanding of Islamic teachings and tenets on the one hand, and poverty as well as backwardness on the other, both hinder efforts at pursuing civil Islami.[21]

[20] Interview with Dr Memed Zoelkarnain Hassan, KOMNAS FBPI Communications Coordinator, on 20 October 2009.
[21] Sudibyo Markus, Presentation at the Civic Islamic Institute Workshop on 5 December 2008.

Indonesia is neither an Islamic state nor a secular one. However, faith-based NGOs like Muhammadiyah have very fundamental and strategic roles to play in helping people cope with their daily lives and assisting them in sustaining their livelihoods. Faith-based NGOs support the national health system in two ways. Firstly, Muhammadiyah assists through promoting religious values and tenets related to clean and healthy livelihoods through its social networks. Secondly, it assists by providing direct health services to the community.[22]

The nationwide organisational structure of faith-based NGOs like Muhammadiyah enables them to play their roles at different levels. Through its machineries at the national, regional and district levels, Muhammadiyah complements the national health system. Muhammadiyah's role in the provision of health services could be manifested in three respects: (i) running health provider institutions in support of the national health system machineries; (ii) supporting people and communities who do not have access to basic health services due to economic and social inequities; and (iii) promoting healthy living behaviour among the populace.

Muhammadiyah can draw on the support of its autonomous wings of youths, women, students, boy scouts and girl guides. Since its founding, Muhammadiyah has had a presence in thousands of service agencies, 14,000 schools from kindergarten to high schools, 197 universities (where the organisation engages with academics from various fields – technical, medicine, economic, law, philosophy and so on), 500 large and small hospitals and clinics, 350 orphanages and thousands of mosques.[23]

In delivering its mission, Muhammadiyah takes on several roles, including charity, capacity building, social capital development, Islamic civil society development and community resilience. In short, Muhammadiyah has the capacity to promote community resilience to combat the different kinds of physical and social illnesses at the different levels. Community resilience is very important for the prevention of any threats or hazards coming from the outside, for instance, for coping with insurgency, natural disasters or pandemic influenza threats. It is also important in preventing internal threats, such as vertical and horizontal conflicts. Most importantly, community resilience is fundamental to the promotion of the people's welfare and sustainable livelihoods. Therefore, in relation to human security in a pandemic influenza situation, it is crucial to create community resilience by, for example, creating a community based pandemic preparedness and response plan.

Muhammadiyah Programmes and Strategies

Muhammadiyah launched its programme for avian influenza control and pandemic preparedness and established the Avian Influenza Control Team of the Central Board of Muhammadiyah (TPFB – *Team Penanggulangan Flu Burung Muhammadiyah*) on 7 June 2006. The TPFB has three main objectives: increasing community capacity; enhancing

[22] Interview with Sudibyo Markus, Chairman of the Central Board of Muhammadiyah (2005–2010), on 16 September 2009.
[23] Muhammadiyah profile, 2006.

knowledge and awareness of avian and human influenza (AHI); and strengthening community response and coordination. Activities in support of these objectives include training, workshops, coordination meetings, and monitoring and evaluation.

In November 2006, Muhammadiyah began a partnership with USAID through its agency Development Alternatives, Inc. (DAI) to address avian influenza control at the community level. Muhammadiyah is the only faith-based organisation in the roster of 21 NGOs listed as partners of KOMNAS FBPI.[24] Bayu Krisnamukti, Chairman of KOMNAS FBPI, acknowledged that Muhammadiyah was the first and only faith-based organisation at that time who was interested in the threat of the avian influenza virus in Indonesia.[25] Through these partnerships, Muhammadiyah implemented the Community Based Avian Influenza Control Programme (CBAIC) which will be elaborated on later.

Increasing Community Capacity

Capacity enhancement, that is, the strengthening of individuals, organisations and social institutions, has long been considered a very important outcome of any development project. According to Mike Crooke, 'sustainable development [enhances] the capacity of the individual and community to determine their own future and increase the utilization of available resources.'[26] In capacity building efforts, the involvement of the community right from its very bottom levels is essential.

An important aspect of capacity enhancement is the provision of training which is aimed at improving a volunteer's theoretical knowledge and enhancing their management skills. For instance, training can improve a volunteer's skill in understanding healthy behaviour. Any improvement in the capabilities of volunteers strengthens the organisation. However, Muhammadiyah believes that capacity building in terms of promoting training methods and materials for Master Trainers / Community Empowerment Facilitators (MTs/CEFs) and Village Avian Influenza Cadres (VAICs), that is, those involved in its avian influenza programmes, would not in itself result in the resolution of real problems at the village level. There is an urgent need to strengthen other enabling capacities such as social infrastructure. Social networks, for example, could support the sustainability of the programme. An integrated programme which builds various capacities at the community level is required to achieve economic growth as well as the development of social infrastructure.

[24] KOMNAS FBPI, *Building a Plane while Flying It* (*Perjalanan KOMNAS FBPI* 2006–2010), p. 87.
[25] Video interview with Dr Bayu Krisnamukti, Chairman of KOMNAS FBPI, on 16 June 2009.
[26] Crooke, Mike, *Beyond the Horizon: A Guide for Managing Development Projects from a Distance,* Canberra: Australian Council for Overseas Aid, 2003.

Enhancing Awareness and Strengthening Response/Coordination

To Muhammadiyah, awareness campaigns on avian influenza and pandemic preparedness have to go beyond distributing posters or handing out flyers to the community. Enhancing the people's capacity and their involvement in making decisions that affect their lives and livelihoods are important aspects which should be incorporated into any awareness programme. Increasing their capacity and improving their social infrastructure would result in community resilience. To facilitate community involvement, Muhammadiyah used the rapid rural appraisal / participatory rural appraisal (RRA/PRA) methodology. The role of the facilitator is to listen and learn from the community, not to tell the community about its problems and its needs.[27] The philosophy of this approach is based on the awareness and appreciation that local community members themselves possess knowledge, wisdom and expertise on the issue. A participatory community based approach is fundamental to the implementation of Muhammadiyah programmes.

Muhammadiyah Programme Coordination Mechanisms

Internal and External Mechanisms

Specific coordination mechanisms were established at the community/village level, sub-district, district and provincial levels. The coordination mechanism covers both internal and external coordination. The internal coordination is between MTs/VAICs and the Muhammadiyah organisational structure at different levels, while the external coordination is between MTs/VAICs/Muhammadiyah and government agencies (Ministry of Agriculture, Ministry of Health, local government), the media, NGOs, local community leaders, etc.

Vertical Mechanism

The TPFB, which is attached to the Department of Health and Community Welfare of the Central Board of Muhammadiyah (MKKM), is the primary focal point at the Muhammadiyah head office. It coordinates with Muhammadiyah branches at the provincial level (PWM), district level (PDM) and sub-district level (PCM).

Muhammadiyah Focal Points (HUBs)

The MKKM of the Muhammadiyah at the sub-district level assigns focal point (local) communicators or HUBs. HUBs are responsible for coordinating with MTs/CEFs and VAICs, developing whatever enabling working environment is required by the VAICs. Muhammadiyah also has an organisational structure at the village level (though this does not exist in every sub-district in Indonesia).

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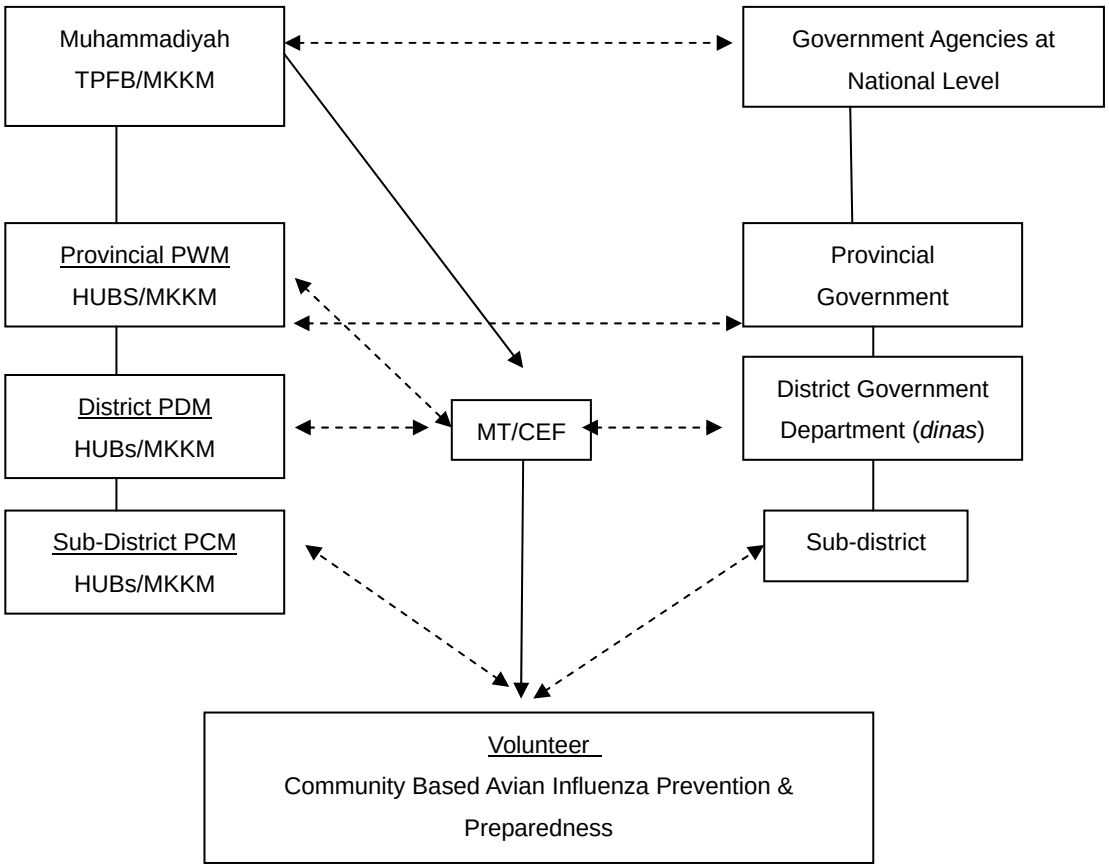
[27] Blackburn, James and Jeremy Holland, 'General Introduction' in Blackburn, James and Jeremy Holland, eds, *Who Changes? Institutionalizing Participation in Development*, London: Intermediate Technology Publications, 1998.

Figure 6: Structure of the Muhammadiyah coordination mechanism



Key:

TPFB – Avian Influenza Control Team of the Central Board of Muhammadiyah

MKKM – Department of Health and Community Welfare of the Central Board of Muhammadiyah

HUB – Focal point (local) communicator

MT – Master Trainer

CEF – Community Empowerment Facilitator

PDSR – Participatory Disease Surveillance and Response.

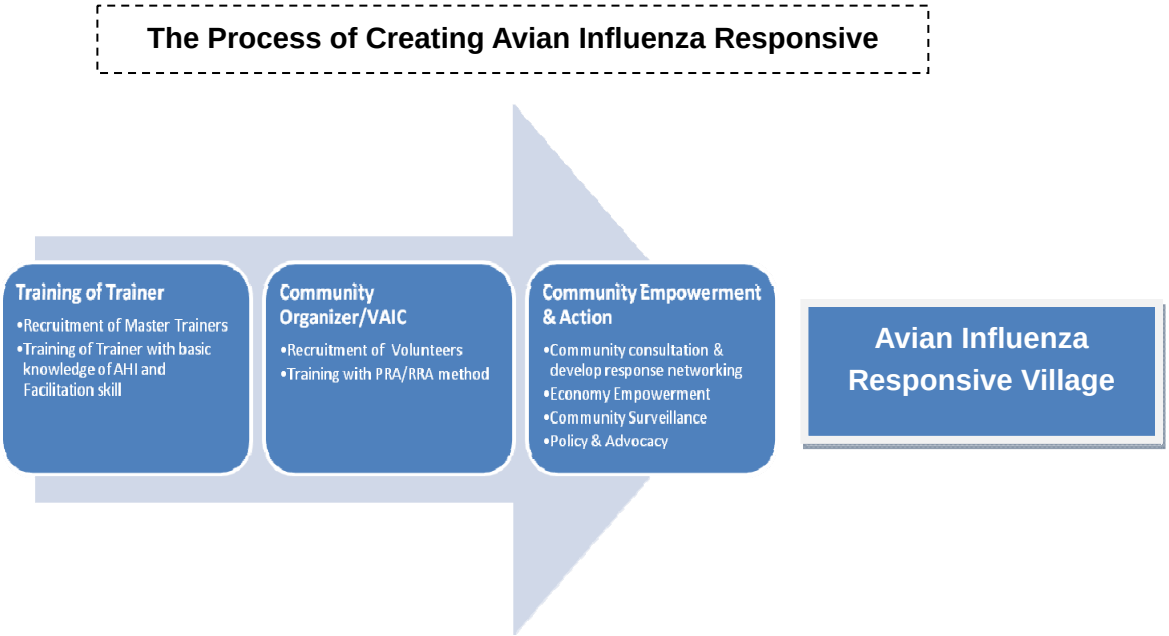
Source: Avian Influenza Control Team of the Central Board of Muhammadiyah (TFTB), Programme document, 2007.

Community Based Avian Influenza Programme (CBAIC): Village of Murtigading in Sanden, Bantul, Yogyakarta

Muhammadiyah is the implementing agency for the CBAIC in eight provinces – North Sumatra, Lampung, Banten, West Java, Central Java, Yogyakarta, East Java and Bali. These provinces have the highest number of both animal and human cases. The programme sought to develop Avian Influenza Responsive Villages (*Desa Tanggap Flu Burung*) which required increasing the capacity of people at the village level.

This programme began by training 40 Muhammadiyah cadres who have shown ability in community development to serve as MTs in the provinces. The training was conducted over a period of one to two weeks. The programme was constantly improved. For example, in the period 2006 to 2008, the MTs trained one volunteer VAIC in every village in the eight provinces, which resulted in 13,535 VAICs being trained in the 8 provinces (55 districts). However, it was found that the MTs did not have enough time to facilitate the work of the VAICs because they have to move into another sub-district to train another VAIC. This approach was thus found to be ineffective in creating community resilience. Muhammadiyah then tried to integrate the programme with other agencies and stakeholders to achieve its objectives and goals. Meanwhile, the Muhammadiyah officials discussed adjusting to a community development approach with the CBAIC team. Thus, in the third year, it was decided that the PRA/RRA methodology should be used and a Community Organiser was introduced in every village. Figure 7 describes the approach that Muhammadiyah proposed.

Figure 7: The process of creating an Avian Influenza Responsive Village



Key:

AHI – Avian and human influenza

VAIC – Village Avian Influenza Cadre

PRA/RRA – Participatory rural appraisal / rapid rural appraisal.

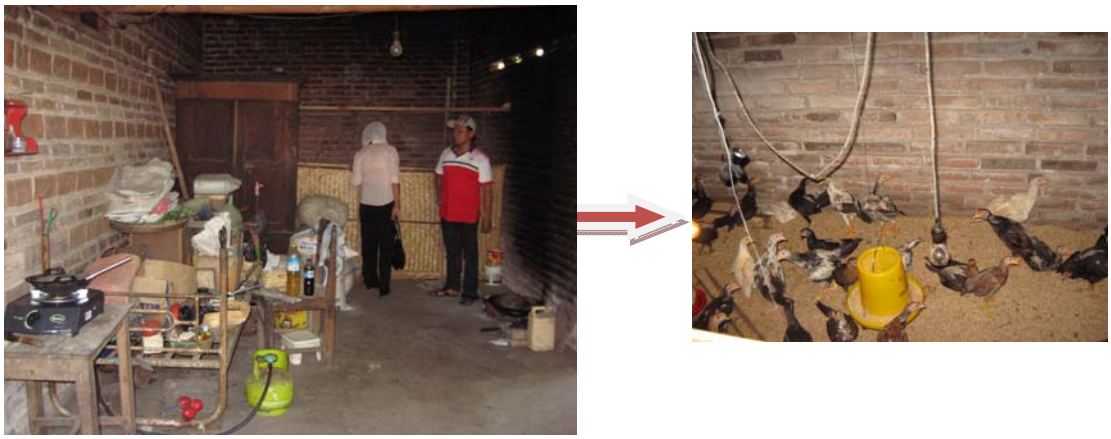
Source: Avian Influenza Control Team of the Central Board of Muhammadiyah (TFTB), Programme document, 2007.

Implementation

The avian influenza control programme was introduced in Murtigading village in 2006 and managed by a Muhammadiyah local branch. This branch has partnerships with the United Nations Children's Fund (UNICEF), International Organization for Migration (IOM) and also links at the local government level.

In Murtigading village, the majority of villagers earn their living as rice farmers, engaging in backyard poultry rearing to supplement their income. The basic problem with backyard poultry farming of free range chickens is the lack of bio-security. There are even poultry farmers who keep their chickens inside the house, as in Figure 8 below, where a cage for chickens had been built near the kitchen.

Figure 8: Lack of bio-security in a village home in Murtigading



Photographed here is the kitchen of a village home. Chickens are kept behind the white bamboo fence at one end of the kitchen.

The volunteers in this sub-village coordinated with the government at the village level, engaging it in discussions on the importance of protecting their community from the threat of the avian influenza virus. This was followed by a community meeting to impart the message of the importance of bio-security and placing poultry in cages. According to research data from the Center for Indonesian Veterinary Analytical Studies (CIVAS), the cases of avian influenza in Bantul dropped from 71 cases in 2007 to 32 cases in 2008.[28]

The volunteers and the Muhammadiyah branches strengthened their networking capabilities through active coordination with local government from the village to the district levels. Coordination among the volunteers was facilitated through regular meetings and the sharing of information via community radio.

[28] Sri Budoyo, Head of the Animal Health Suboffice of the Marine, Fishery, and Livestock Service Office of Bantul District in Center for Indonesian Veterinary Analytical Studies (CIVAS), 'Hundreds of Chickens in Bantul Died because of Avian Influenza', 2 December 2009. http://www.civas.net/content/hundreds-chickens-bantul-died-because-avian-influenza

In 2008, Muhammadiyah integrated its avian influenza programme with its economic empowerment programme. The idea of the pilot project was to increase the backyard poultry farmer's bio-security by providing them with funds from the Muhammadiyah micro-finance institution, BMT,[29] at Sanden. Initially, 12 members of Buras Mandiri[30] were given money from the fund, with each receiving 1 million rupiah. In one year, the number of members increased from 12 members to 60, even though only 25 received money from the fund. Despite the fact that not all members received funds from BMT, there was still interest in being part of Buras Mandiri. This is because the group emphasised the dissemination of knowledge, and provided opportunities for farmers to learn from each other, especially on the breeding of chickens. This scheme was a success, resulting in improvements in the bio-security of the farmers involved and also an increase in family income. Bayu Krisnamukti, Chairman of KOMNAS FBPI, was pleased with this approach and declared Murtigading an Avian Influenza Responsive Village.

Murtigading village is an example where Muhammadiyah as an NGO was able to link its resources and network to the community's needs. The organisation was able to achieve improvements in community skills in poultry farming, facilitating the process with financial loans to farmers. The community was able to breed their poultry, while at the same time increasing their bio-security, and thus prevent avian influenza.

Figure 9: Murtigading acknowledged as an Avian Influenza Responsive Village

Dr Bayu Krisnamukti and Pak Sudibyo Markus in Murtigading, Bantul, Yogyakarta on 24 June 2009. Pak Bayu presented special KOMNAS FBPI vests to the volunteers and the Muhammadiyah branch officer who had contributed to the achievement of Avian Influenza Responsive Village

[29] BMT Artha Amanah, or Baitul maal wattamwil, is an Islamic micro-finance institution.
[30] Buras Mandiri is the name of a group comprising volunteers and backyard poultry farmers.

Avian Influenza Awareness and Pandemic Preparedness Programme: Village of Manis Jaya in Jatiuwung, Tangerang Municipality, Banten

The village of Manis Jaya is located in the industrial area of Manis Tangerang. The village is bordered by Jatake to the north, Kadujaya village (Tangerang district) to the west, Gandasari village to the east, and Kadu (Tangerang district) to the south. There is a small river which connects Manis Jaya village with Jatake and two sub-villages, and villagers there often throw their household wastes into this river. If a villager were to dump infected dead poultry into the river at Manis Jaya village, the river's flow would bring the contaminated dead poultry into other villages such as Jatake. Therefore, the river is potentially a medium for the spread of avian influenza virus in the community.

Monagro Kimia, the Indonesian subsidiary of Monsanto Inc., initiated an avian influenza and pandemic preparedness programme in Manis Jaya village. They did so because, firstly, Monagro Kimia is located near Manis Jaya village, and if a pandemic were to occur, it could affect their business. The programme also formed part of their corporate social responsibility efforts. Monagro Kimia proposed that Muhammadiyah organise the programme as it had the capacity and experience in addressing avian influenza, and provided funds to MKKM to manage the programme.

The programme was designed to take place over 12 months, with implementation divided into 2 phases. The first phase was from January to May 2009, and the second phase from June 2009 to January 2010. The objectives were to increase local community capacity as well as knowledge and awareness on avian influenza and pandemic influenza. Some of the activities in Manis Jaya village were different from those implemented in Murtigading. In addition to information on avian influenza prevention, the goal was also to provide the community with a greater understanding of pandemic preparedness. Facilitated by Muhammadiyah, the community went on to develop a contingency plan for pandemic influenza.

The programme cycle began with a needs assessment or analysis. This was followed by training for cadres involved in the programme to improve their skills and provide them with information of the current avian influenza situation (Figure 10). After the training phase, the cadres disseminated information on how to prevent the spread of the virus through social networks, approaching people either on an individual basis or through community meetings at the sub-village level. The implementation was subject to monitoring and evaluation to make sure that programme objectives were achieved.

Figure 10: Avian influenza awareness and pandemic preparedness programme – programme cycle

Source: Department of Health and Community Welfare of the Central Board of Muhammadiyah (MKKM), 'Mid Term Report of Community Preparedness and Response on AHI and Pandemic Influenza', 2009, p. 4.

During the first phase, Muhammadiyah selected 20 cadres as Community Organisers who would be responsible for promoting healthy behaviour and awareness on avian influenza control. In addition, the cadres would carry out intensive surveillance activities across 300 households. A focus group discussion was held with the candidates. In addition, a consultation meeting was also held with local government officials (Figure 11), both to provide an introduction to the programme and to involve local government as one of the main stakeholders. The meeting also enabled all involved to engage in situation analysis to gain a better understanding of issues from the local community and the government officers.

The next step after the recruitment of the cadres and situation analysis was training. Cadres were trained in avian influenza prevention for animals and humans, problem analysis, village mapping, surveillance techniques, healthy behaviour and action plans. The trainers came from the Ministry of Agriculture (its Participatory Disease Surveillance and Response, or PDSR, unit) and the Ministry of Health. The facilitators from Muhammadiyah trained cadres to gather information in order to discover the basic avian influenza-related problems in their local area, formulate solutions, and then implement those solutions. The actions were divided into social networking efforts to increase community awareness and knowledge whether individually or in a group, and more direct

actions such as cleaning the surrounding environment (the drains and the small river) and spraying poultry cages with disinfectant.

Figure 11: Avian influenza awareness and pandemic preparedness programme – recruitment and community involvement

Focus group discussion and recruitment of cadres

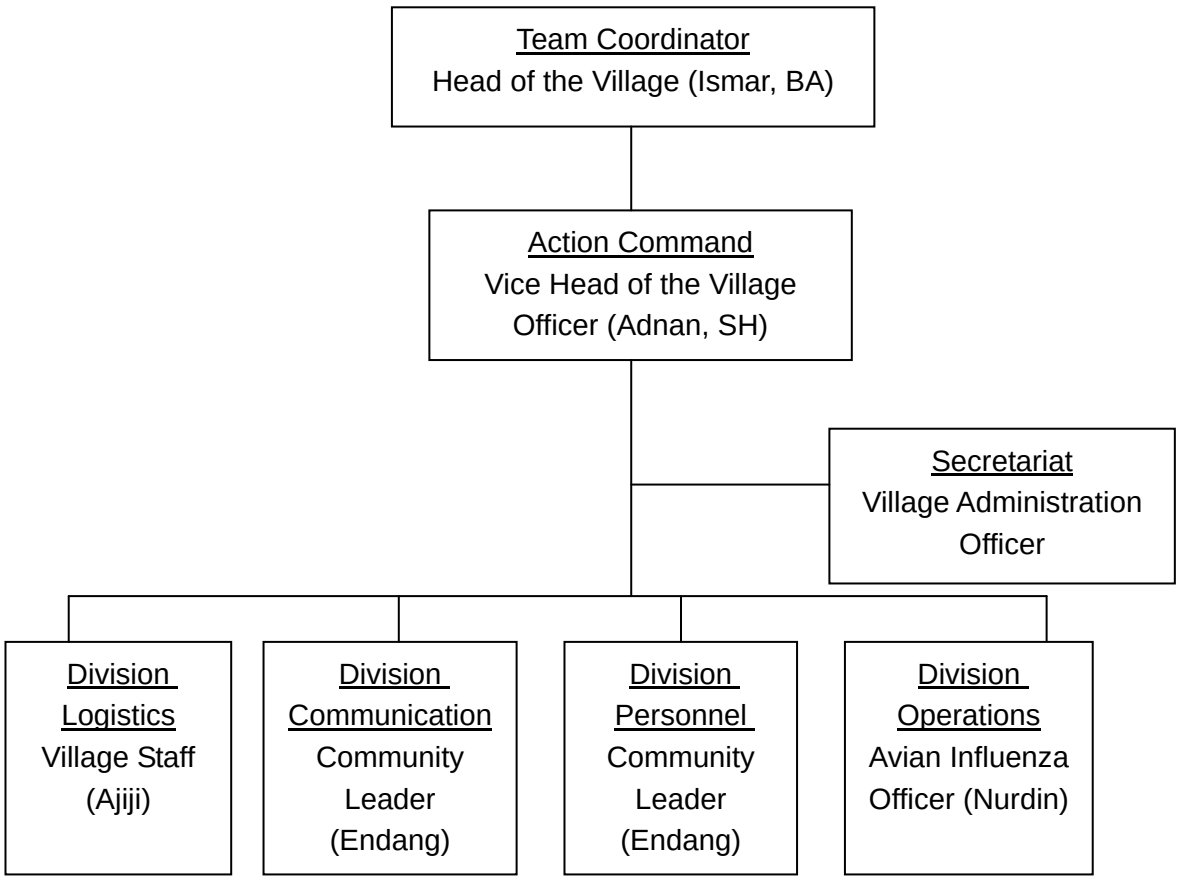
Consultation meeting with local officers

Following the first phase, where the community gained a greater understanding of avian influenza and hygiene, the programme implemented the second phase. In this subsequent phase, the cadres focused on disseminating information on pandemic influenza preparedness. Muhammadiyah's trainers together with the facilitator from the WHO conducted a two-day refresher training course focused on pandemic influenza topics. The cadres were provided with information on how to prevent pandemic influenza in their community.

This phase involved the delivery of information on pandemic influenza issues. The most interesting part of this phase and the programme in Manis Jaya was the development of a contingency plan. Initially, many in the community did not feel that pandemic influenza could happen in their community. There was also not enough information from the government on creating a contingency plan for pandemic influenza at the community level. The NIPPRP specified the standard procedure that should be taken by the government in the event of a pandemic only down to the district level and not the village level. As a solution, Muhammadiyah provided the community with information adapted from the NIPPRP and other resources such as the WHO, Humanitarian Pandemic Preparedness (H2P) and Centers for Disease Control and Prevention, USA (CDC) materials. In addition, Muhammadiyah also gave a presentation on the history of pandemic influenza in Indonesia and showed a pandemic simulation movie to give the community a graphic sense of the pandemic influenza and its potential effects on their lives. At the same time, the Muhammadiyah team coordinated with KOMNAS FBPI, WHO, IOM, the Food and Agriculture Organization of the United Nations (FAO), the Indonesian Red Cross and the Ministry of Health at the district level to devise a contingency plan best suited to the community's needs.

At a village meeting – which was attended by local government officials, community leaders, cadres, local NGOs and associations – resources, vulnerable groups, risk areas, transportation routes (where people enter or exit) and evacuation routes were identified. Furthermore, the meeting also formulated a Coordination Mechanism at the village level in the event of it being the epicentre of an influenza outbreak (before the disease becomes pandemic). Under the mechanism, early response and reporting to a local authority would be required to prevent the spread of the virus from the epicentre. Once the contingency plan was agreed upon and adopted by the head of the village, the cadres and community leaders communicated the details of the plan to other community members. Figure 12 provides more details on the coordination mechanism at the village level.

Figure 12: Coordination mechanism at the village level in Manis Jaya



Note: Each division has members who are community leaders or cadres. Names of leaders and staff are indicated in brackets.

Source: Manis Jaya, *Contingency Plan of Manis Jaya in Pandemic Influenza Preparedness*, 2010, p. 2.

The task force shown in Figure 12 has different roles in each of the three stages of preparedness, awareness and response. In the first stage, that is, preparedness, the community creates a coordination mechanism which is attached to the government mechanism to keep the community vigilant in areas such as identifying the type of cough, washing hands, and maintaining a distance from sick persons (which includes separating any sick person from other family members). The second stage is awareness. The mechanism enters this stage when the WHO announces that the virus has mutated and there is human to human transmission of the disease. At this stage, the team strengthens their coordination, and produces an assessment report to the local authority if there is a community member who shows symptoms of influenza-like illness. The third stage is response. The response stage is when there are community members with influenza symptoms in different households. At this stage, the government at the district level will take control of all responses.[31] These different stages have to be understood by the team to avoid misunderstanding between the local team at the village level and the government team at the district level. The main task of the local team is to provide information and early reporting of any influenza-like illness to the local authority in their neighbourhood.

The local community together with the local government, and facilitated by Muhammadiyah, then launched a simulation of the contingency plan at the community level. They also coordinated with the district level Health Department of Tangerang Municipality. The simulation demonstrated coordination between the local community, cadres and local government.

The Manis Jaya experience demonstrates that community-based pandemic influenza contingency plans could be created if a community understands why it needs such a plan. Otherwise, community members would not feel invested in the plan, and would not be involved in sharing experiences. The avian influenza outbreak could be used to increase their awareness of the need for a pandemic contingency plan. Awareness could also be fostered through a process similar to that in Manis Jaya where more than ten months into programme implementation, the cadres and community created a pandemic influenza contingency plan supported by the local government.

The formulation of a contingency plan and the simulation of pandemic influenza preparedness at the community level in Manis Jaya demonstrated that Muhammadiyah was able to transfer elements of government policy to the community. This underlines the fact that NGOs can play an important role in preparing the community to deal with pandemic influenza. The government alone, due to limitations of government resources and Indonesia's huge land area, would not be able to reach right down to the grassroots level without partnerships with NGOs.

[31] Manis Jaya, *Contingency Plan of Manis Jaya in Pandemic Influenza Preparedness*, 2010. It was prepared by the Manis Jaya community in consultation with KOMNAS FBPI, TPFB Muhammadiyah, Humanitarian Forum Indonesia, Food and Agriculture Organization of the United Nations (FAO) and International Organization for Migration (IOM).

Challenges in Programme Implementation

In the three years that Muhammadiyah has been involved in avian influenza awareness and pandemic preparedness programmes, it has encountered various challenges at the community level. Lack of awareness of what avian influenza is poses a challenge when it comes to transferring knowledge and information. Another challenge is the perception that the virus is not a threat to the community. For example, on the pandemic issue, the local community was not familiar with the term 'pandemic', and even if they were, they believed that they would not be struck by the virus. To address this issue, Muhammadiyah used local terms, for example, *pageblug*[32], and gave examples of similar epidemics, for example, diarrhoea. The geography of the targeted area is another challenge. Certain areas may be difficult to access using regular means of transportation.

Some of the greatest challenges come from local culture and beliefs. In Bali, one of the targeted provinces, Muhammadiyah is a minority organisation. The Balinese consume raw chicken blood as part of their culture and their belief system. In spite of the differences in religion and beliefs, Muhammadiyah continued to deliver information on the risk of avian influenza caused by consuming raw chicken blood.

Another key challenge is coordination. Coordination with all stakeholders requires time, good communication skills and also networking efforts. Moreover, there is a need to connect the role of each stakeholder from the village to the provincial level. Through stakeholder analyses done by its facilitators and volunteers, Muhammadiyah was able to specify each of the roles to be taken on by the stakeholders.

Volunteer management also proved to be a significant undertaking. Managing around 13,000 volunteers required commitment from Muhammadiyah branch offices. To improve its volunteer management processes, Muhammadiyah subsequently, through partnerships with other agencies such as the ASEAN Foundation, introduced a global information system (GIS) to manage its volunteer databases.

[32] *Pageblug* is the Javanese word for pandemic influenza, coined when Java was infected with pandemic influenza.

Conclusion

Avian influenza virus is today still a threat in Indonesia even though the number of cases is decreasing. The huge population, cultural differences and various socioeconomic factors constrain efforts to increase awareness of the danger of avian influenza and also hinder attempts to build capacity. Clearly the government of Indonesia faces resource limitations in communicating this issue at the grassroots level. Therefore, the role of NGOs is significant in ensuring that policy is translated into reality. As Shigetomi points out, there exist gaps between government and market, resources and community. Certain NGOs have the resources to fill those gaps. Muhammadiyah has, as one of the oldest NGOs in Indonesia, a strong network from the national to the grassroots level.
An NGO can facilitate processes from the community to the market, as in the case of Muhammadiyah's experience in Murtigading village where poultry farmers benefited from its influenza and financial programmes, increasing their bio-security and income. The farmers were, for example, made aware that it was important to clean their poultry cages as preventing disease also meant protecting their livelihoods.

In Indonesia, the avian influenza virus had only infected humans who had contact with or consumed poultry infected with the H5N1 virus. There was no evidence of human to human transmission. However, the possibility is there that a mutated virus will appear and cause a pandemic influenza similar to the one in 1918. Thus, Muhammadiyah did not stop at promoting awareness on avian influenza. It also began to disseminate information on pandemic influenza preparedness. Pandemic influenza was not widely understood at the grassroots level as Indonesia had never experienced a pandemic situation; many did not understand the need to pay attention to this issue. The government thus had even more difficulty with communicating information on pandemic influenza than it had with the issue of the avian influenza virus. In Manis Jaya village (in Jatiuwung, Tangerang Municipality), Muhammadiyah successfully increased local community knowledge on pandemic influenza, and facilitated the creation of a contingency plan for pandemic influenza by the community. This plan would encourage the community to be more aware of any appearance of influenza-like illness within their neighbourhood. The implementation of this programme is another example of an NGO such as Muhammadiyah complementing government efforts by improving the capacity of a local community.

A large faith-based organisation like Muhammadiyah, which has a humanitarian mission of improving the health and living conditions of the people, could bridge the information gap between the government and the community in welfare and human security issues. Even though Muhammadiyah has limitations in terms of financial resources, it is rich in social capital. The flexibility of Muhammadiyah in programme implementation – that is, its ability to reach out to all levels including the grassroots level, the government and other stakeholders – has enabled it to effectively increase community capacity and resilience in addressing avian influenza and pandemic threats.