Original Article

The political economy of non-traditional security: Explaining the governance of Avian Influenza in Indonesia

Shahar Hameiri^{a,*} and Lee Jones^b

^aAsia Research Centre, Murdoch University, 90 South Street, Murdoch WA 6150, Australia.

E-mail: s.hameiri@murdoch.edu.au

^bSchool of Politics and International Relations, Queen Mary University of London, Mile End Road,

London E1 4NS, UK.

E-mail: l.c.jones@qmul.ac.uk

*Corresponding author.

Abstract Given the common association of non-traditional security (NTS) problems with globalisation, surprisingly little attention has been paid to how the political economy context of given NTS issues shapes how they are securitised and managed in practice. We argue that security and its governance are always highly contested because different modes of security governance invariably privilege particular interests and normative agendas in state and society, which relate directly to the political economy. Drawing on critical political geography, we argue that, because NTS issues are perceived as at least potentially transnational, their securitisation often involves strategic attempts by actors and coalitions to 'rescale' their governance beyond the national political and institutional arenas, into new, expert-dominated modes of governance. Such efforts are often resisted by other coalitions, for which this rescaling is deleterious. As evidenced by a case study of avian influenza in Indonesia, particular governance outcomes depend upon the nature of the coalitions assembled for and against rescaling in specific situations, while these coalitions' makeup and relative strength is shaped by the political economy of the industries that rescaling would affect, viewed against the broader backdrop of state-society relations. International Politics (2015) **52,** 445–465. doi:10.1057/ip.2015.6; published online 20 March 2015

Keywords: health security; securitisation; non-traditional security; Indonesia, State Transformation; H5N1 avian influenza

Introduction

In recent decades, non-traditional security (NTS) problems, such as infectious disease, environmental degradation, climate change, transnational terrorism and

irregular migration, have shifted onto the centre of the security agenda for many states and international organisations (White House, 2002; EU, 2003; United Nations, 2004). Unlike more traditional security concerns, which focus on state survival and inter-state warfare, NTS issues are mostly trans-national, or at least potentially so, threatening not so much the state's own survival but its perceived capacity to protect citizens' lives and livelihoods. For many policymakers and analysts, the recent prominence of these issues on the security agenda stems largely from the acceleration of economic globalisation processes, particularly since the end of the Cold War. On the one hand, it is often acknowledged that the end of the Cold War has undermined the sense of 'ontological security' - the knowledge of what to expect – rendering policymakers and citizens more attuned to other security threats and risks (Giddens, 1991, pp. 35-69). On the other hand, it is commonly argued that the intensification of global economic flows imposes real and very serious pressures on the natural world, producing unintended 'externalities' in the form of severe environmental problems or the emergence of deadly new pathogens (Beck, 1992; Davis, 2005; Elbe, 2008). Furthermore, the transportation and communication technologies that enable economic globalisation are seen to afford new opportunities for transnational terrorist and criminal groups to organise and strike (Libicki, 2001).

It therefore seems clear that many of the issues considered as NTS threats have crucial economic dimensions, as these are seen to be the direct or indirect consequence of economic activities, and as impacting upon the economy in turn. It logically follows that efforts at managing these issues will potentially have significant effects on the economic activities concerned, possibly challenging existing accumulation regimes and attendant social and political power structures. Surprisingly, however, so far, there has been little systematic investigation of how this political economy context may shape how NTS problems are understood and managed.

This article seeks to redress this significant gap in security studies. We begin from the premise that the meaning of 'security' in particular situations is not empirically given, but socially and politically constructed (Buzan *et al*, 1998; McDonald, 2008). Security's meaning and governance are typically hotly contested issues. This is because depicting something as a 'security' problem – (potentially) constituting an existential threat to something else – and the associated creation of particular forms of security governance, is not neutral, but invariably privileges the interests and/or normative agendas of particular societal groups over others. What emerges in practice is therefore shaped by conflicts between contending socio-political coalitions. The forces in struggle, and outcome of their conflict, are in turn powerfully shaped by the political economy context and broader social power relations. Securitisation and security governance in general are thus always conditioned by structural forces and conflicts, but this is perhaps particularly true of NTS issues since their relationship to the economy means that efforts to alter their governance is likely to agitate important societal groups.

Struggles over NTS governance also take a qualitatively different form to those relating to traditional, inter-state security. Because of the transnational or potentially



transnational nature of NTS issues, the question of *scale* is at the core of the politics of their securitisation. Traditional securitisation reinforces the organisation of world politics along states' territorial boundaries. With NTS the spatial scope of the matters involved, and hence how these issues should be governed and by whom, are less determinate. The emergence of a deadly new pathogen in a Southeast Asian village, for example, could be treated as a local, provincial, national, regional or even global problem. Shifting the scale at which this outbreak is governed will open up political and economic opportunities for some actors while foreclosing them for others. Indeed, the claim that transnational NTS problems are beyond the capacity of individual states to manage underpins the attempt by coalitions to *rescale* their governance from (sub)national political and institutional arenas to newly established modes of governance, within which experts who are not politically or popularly accountable dominate. Such efforts are often resisted by others, for whom this rescaling is deleterious. Again, these struggles are embedded within the broader political economy context.

This article's first section identifies the gaps in the literature regarding the political economy of security governance and introduces our framework. We then present a case study of a prominent NTS threat: the effort to prevent the spread of H5N1 Highly Pathogenic Avian Influenza (HPAI), focusing on Indonesia, the site of most international attention. Avian influenza has been subject to considerable securitisation and rescaling efforts in recent years but, we demonstrate, the outcomes have been fundamentally shaped by the nature of the coalitions assembled to support and resist rescaling and the struggles between them, which are in turn conditioned by the political economy of the poultry industry. This case also illustrates the importance of the broader context of capitalist development and state-society relations, notably the impact of decentralisation since 2001.

The Politics and Governance of Non-Traditional Security

The link between the growing prominence of NTS and the spread of economic globalisation is now seen as axiomatic by both mainstream and critical commentators. Governments often highlight the growing vulnerability of societies, fostered by the intensification of economic flows across borders, to problems such as terrorism, crime and climate change, referring to such challenges as the 'dark side of globalisation' (G-8, 1999). Security analysts and critics raise similar concerns about the impact of globalisation on security and states' ability to protect citizens. Emmers (2004, p. 1), for example, says of NTS issues like 'environmental concerns, infectious disease and transnational crime' that 'the process of globalization has significantly amplified their spread and impact and accelerated their significance'. In turn, Dupont (2001, p. 30) warns, such threats 'have the capacity to compromise the economic foundation of the state'. Given such ubiquitous linking of NTS with

globalisation, there has been surprisingly little systematic exploration of the political economy of security governance. Since NTS issues clearly are related, at least indirectly, to economic activities, what is the relationship between the political economy of the industries affected through efforts to manage NTS threats and the actual form of governance that emerges to manage these issues? This section outlines our approach to this question, theorising the politics of NTS as the contested rescaling of the spaces, instruments and discourses of security in alignment with the strategies, interests and ideologies of key actors in state and society.

As the introduction to this special issue argues, surprisingly little extant work in mainstream International Relations explores the relationship between political economy and NTS and its governance. The literature, whether adopting a realist or constructivist/post-structuralist ontology, has been occupied with different questions and research agendas and has therefore neglected this very important dimension of security politics. Consequently, in order to address these questions we adapt tools and frameworks from political economy and political geography that have hitherto rarely been used in the security context.

Realist scholars and policy-oriented empiricists who do not problematise the concept of 'security' have primarily been concerned with evaluating the severity of security threats in particular situations and advocating suitable policy responses (for example, Dupont, 2001). Although critical scholars adopting an empiricist lens, like Davis (2005), have, for example, decried the role of greedy corporations in exacerbating NTS problems such as H5N1, this analysis has not extended to a sustained, theoretically informed, examination of how political economy shapes both securitisation efforts and their governance outcomes in particular situations.

Scholars who understand security as being socially constructed adopt frameworks that are potentially more open to considering political economy issues, but in practice shy away from interrogating them. Constructivists have used the 'securitisation' framework to describe how problems become identified as 'security' matters, emphasising the inter-subjective nature of this process, which involves actors discursively identifying something as a 'threat' to some referent object (Buzan et al, 1998). This approach could potentially consider how political economy contexts shape this process and, indeed, reference is made to the 'facilitating conditions' that enable successful securitisation (ibid., pp. 31-33). Unfortunately, however, these conditions are never satisfactorily delineated (McDonald, 2008). Moreover, because securitisation is fundamentally defined as a 'speech act' (Buzan et al, 1998), constructivists have tended to focus on changes in discourse - the 'grammar of security' and the language of 'threat' - while neglecting the material context in which such changes occur (or do not occur), and how this context shapes subsequent attempts to govern the issue. Many constructivist studies consequently describe and/ or criticise discursive strategies of threat construction, yet largely neglect to explore how the identification and management of NTS issues are shaped by the interests of powerful industries and social forces (cf. Jones, 2011). This is a crucial weakness



because it leaves them unable to adequately account for – rather than simply lament – the lack of meaningful action often observed *despite* the discursive identification of threats (for example, Caballero-Anthony, 2008).

Post-structuralist scholarship suffers from a similar weakness. Here, the 'Paris School' has emphasised the role of professional networks of security agencies in shaping threat- and risk-perception through their position as experts and their institutional capacities to create and govern borders, and to define and manage threats (CASE Collective, 2006). Again, this approach underscores the contested nature of securitisation and security governance. However, their narrow focus on the 'field' of security professionals leads them to neglect the broader socio-political and economic context in which this field is necessarily embedded and which conditions the operation and autonomy of security agencies.

While accepting that securitisation and security governance are inherently contested, we therefore need to elaborate on the fundamental nature of this contestation and situate it within its relevant context. First, efforts to govern NTS issues always involve the crucial issue of *scale*. These issues are inherently seen as transnational in nature, which in turn necessitates management approaches that go beyond established, national-level governance. Typical is Mittelman's (2010, p. 164) claim that

Nontraditional threats, including climate change, pandemics, transnational crime, and cross-border terror emanate from above and below the nation-state. Thus, there cannot be a neat separation between national and global security. Nor is there a sharp division between internal and external security.

Efforts to securitise and govern NTS threats consequently problematise the centrality of national governance and the idea that world politics is conducted along national territorial boundaries. As Mische (1989, pp. 394–396) puts it in relation to environmental security, 'the Earth does not recognise security as we know it ... The sovereignty of the Earth is indivisible.' The US Department of Health and Human Services (HHS, 2005: H-60) similarly states: 'Since pandemics are diseases without borders, the influenza virus will not respect political or geographic boundaries – a threat against one nation is a threat against the entire world'. Claims like this typically accompany efforts to *rescale* the governance of NTS to a sub-regional, regional or global level that, it is argued, better fits the challenges.

Although these arguments are seen as commonsensical in many academic and policy circles, IR scholars have thus far neglected to systematically evaluate the significance of scale for the manner in which particular transnational security issues are understood and managed. As political geographers have long recognised, the scale at which *any* issue is governed is never neutral and is consequently subject to political contestation. Power relationships run through the construction of space and, in turn, the spatial organisation of political and economic governance helps (re) produce particular power relations in society (Harvey, 2006). Accordingly, whether a

political issue is defined as urban/local, provincial, national, regional, global and so on, is not neutral but, because each scale involves different configurations of actors, resources and political opportunity structures, always privileges certain societal interests and values over others. Together with the nature of the coalitions that organise around various scalar framings, it is one of the most important factors that determine the outcome of social and political conflicts over a given issue. Precisely because the scale of governance matters so much, actors will typically attempt to rescale issues as a way of (re)producing particular power relations favourable to themselves and their allies, while others will resist such efforts if they are deleterious to them (see Gibson, 2005). Though the study of territorial politics typically focuses on struggles within one state, there is no reason why the governance of particular issues cannot be rescaled to levels beyond state borders: there is no 'initial moment that creates a framework or container within which future struggles are played out' (Brenner and Elden, 2009, p. 367). These strategies are constrained by existing institutional arrangements, including established international borders and international law, which in themselves are manifestations of earlier contested processes of territorialisation (see Tilly, 1992).

The presentation of NTS issues like infectious diseases as 'transnational security' problems is itself to insist on governing them outside of national frameworks, although not necessarily by non-state actors. This often implicates the transformation of state apparatuses themselves as they are reworked into networks of transnational or regional governance. If successful, rescaling in practice typically means establishing functional regulatory forms of network or multilevel governance, in which experts and professionals are given authority. This is because such transnational problems are often presented as requiring specialised forms of technical, scientific and/or managerial expertise to identify and manage them properly. However, whether this process should occur and how far it occurs in practice is likely to be subject to intense political contestation between groups of actors whose interests and ideologies are differentially advanced at different scales.

Contextually, this scalar politics is embedded within and conditioned by political economy and wider state-society relations in a number of ways. Identifying a given issue as a security threat and seeking to rescale its governance frequently touches – directly or indirectly – on the specific interests of particular industries. Seeking to interdict transnational terrorist financing affects banking and financial institutions; containing the spread of animal-to-human disease affects livestock industries; tackling pollution threatens the operations of polluting industries. In any given case, how particular sectors and segments of industry relate to the issue and how rescaling security governance will affect their interests will shape whether they will promote or oppose such moves, and how. Their success in doing so depends on the broader political economy and state-society relations. Where an industry (or part of it) is dominant, is able to form broad alliances, or has privileged access to state institutions, it may be able to successfully promote, resist or curtail rescaling or limit



rescaling to less powerful sections of the sector and society. Its capacity to do so is likely to turn on factors like the industry's contribution to the domestic economy and state revenues, its perceived importance in relation to ideological goals like 'national development', and its specific, historically constituted relationship with the state and key agencies and groups within it.

Business interests' specific relationship to states matter because states retain an important role in security governance, not least as 'scale managers', their formal sovereignty and institutional capacities giving them considerable influence over the level at which issues are governed (Mahon and Keil, 2009). Access to state apparatuses varies considerably and is itself shaped by broader political economy and social power relations. As Marxist and social conflict theorists have long argued, state forms reflect conflicts and compromises among historically specific sociopolitical coalitions rooted primarily in the political economy – classes, class fractions, distributional coalitions and other societal groups (Poulantzas, 1978; Jessop, 2008). As a result, states exhibit 'strategic selectivity', being more open to some forces pursuing certain strategies than others (Jessop, 2008). This selectivity varies over time and space, but the enhanced access of national and transnational capital to state institutions is a widely observed feature of neo-liberal globalisation (Harvey, 2005). Where privileged state access exists, it may allow corporate interests to exercise considerable influence over the politics of rescaling. Furthermore, because states are not coherent, unitary actors (Migdal, 2001), strategic selectivity varies across state apparatuses. Societal interests threatened by rescaling efforts from one state agency may thus mobilise allies located in another. Finally, even when partial rescaling occurs, powerful and well-resourced groups may constrain the practical functioning of rescaled state apparatuses by, for example, corrupting important officials or other forms of regulatory capture.

To summarise, we see the central aspect of the politics of NTS as being the contestation over the scale at which a given issue should be governed, and the related struggles over the mechanisms through which it is to be governed, and the kinds of actors tasked with governing this issue. How far an issue is 'securitised' and how it is managed in practice will depend on conflicts between contending coalitions seeking to secure a scalar governance arrangement that best fits their interests and ideologies. These coalitions are largely rooted in the political economy context of which they are part. This context, and the broader pattern of state-society relations, conditions the struggle between these coalitions and also shapes the way in which governance regimes operate in practice.

Non-Traditional Security Governance in Indonesia

We now proceed to present a case study of the governance of the H5N1 virus, focusing on Indonesia, which is seen as the dominant origin of this transnational

security threat. We begin with a general description of Indonesia's political economy and state-society relations, highlighting the legacy of state-led development and decentralisation as particularly important factors for our analysis. The case study is then presented. In an effort to tackle H5N1, local level animal health services have been subjected to rescaling efforts, mainly by international actors, often in coalition with some Indonesian groups, within and beyond the state, in order to mitigate a problem seen to have serious global implications. The outcomes of these efforts have been considerably shaped by the political economy of the poultry industry and broader societal power relations in Indonesia. Some rescaling has occurred, but mainly for 'backyard' poultry owners, while the regulation of the commercial poultry sector has been undermined by the power of organised business interests, particularly those entrenched within the country's devolved administrations. This has produced a highly uneven governance regime and, given that the commercial sector is actually the primary source of H5N1, arguably a rather ineffective one.

The Indonesian context: Political economy and state-society relations

Contemporary Indonesian governance is most powerfully shaped by the legacy of the Suharto regime, which secured non-communist social order during the Cold War through coercion, state-led development and the construction of a gigantic patronage network centred on President Suharto himself. Indonesia's progressive social forces were either destroyed or repressed, with over a million leftists slaughtered in 1965-1966, left-wing parties and trade unions outlawed, and others subjected to persistent repression. With extensive Western support, Suharto consolidated a military-backed dictatorship centred on nationalism and the cultivation of a depoliticised 'floating mass'. He secured the loyalty of powerful groups – particularly the military, urban elites and the economically dominant (but politically weak) ethnic-Chinese bourgeoisie - by dispensing government contracts, natural resource concessions, subsidies and other privileges, assisted by World Bank aid and oil revenues (Robison, 1986). In turn, politico-bureaucratic elites received kickbacks and often developed their own business interests. Consequently, by the late 1980s, big business had exceptional access to, and increasingly instrumental control over, the state apparatus, while other societal groups were politically weak and disorganised.

The skewed economic development produced by Suharto's strategy of rule reinforced this distribution of social power and deepened the state's structural dependence on capital. Indonesia has certainly experienced rapid economic growth: its gross domestic product (GDP) was US\$878.2billion by 2012, giving its population of 234 million – the world's fourth largest – an average per capita income of \$3563, which places Indonesia in the 'middle income' bracket. However, income inequality is stark: half the population lives along the poverty line, while the top 20 per cent control nearly half the country's wealth and the 40 richest oligarchs have



amassed assets equal to one-tenth of Indonesia's GDP (von Luebke, 2011; Sinaga, 2012; World Bank, 2013). Similarly, the rent-seeking model of development promoted by Suharto concentrated economic power in primary sectors dominated by favoured conglomerates, notably logging, mining and agriculture. Today, these sectors still account for over a quarter of GDP and more than 36 per cent of employment, while manufacturing comprises under 24 and 13 per cent respectively (Bank Indonesia, 2013; Statistics Indonesia, 2013). This developmental trajectory has made political elites dependent on big business for party financing and securing employment and economic growth, giving them little incentive to confront corporate power or to serve the interests of the disadvantaged. As we discuss below, this broader pattern is replicated in the poultry industry.

This legacy has strongly conditioned Indonesia's post-Suharto trajectory. Although the authoritarian, oligarchic form of patrimonialism Suharto established was shaken by the 1997-1998 Asian financial crisis, the emergence of a reformasi (reform) movement, and Suharto's forced resignation, dominant forces were largely able to reorganise themselves within the country's new democratic institutions (Robison and Hadiz, 2004). At the national level, there is now greater competition for office, but political parties are mainly 'Trojan horses' for the pre-existing elite to sustain access to political and economic power (Tan, 2006). 'Money politics' predominates, with the parties highly dependent on financing by business magnates and 'donations' channelled upwards from the districts and provinces. Although the military has been somewhat sidelined, it retains significant influence, particularly in restive provinces like West Papua. Senior and retired military and police officers often have their own business interests and the security forces have always relied on business, including illegal, activities to generate significant proportions of their operating costs (International Crisis Group, 2001). Unsurprisingly, corruption remains endemic, with wealthy and well-connected interests frequently able to pervert state institutions to their own end, including by corrupting judicial processes. Despite greater civil liberties and media freedoms, counter-hegemonic forces remain relatively weak and disorganised, unable to seriously challenge the grip of politicobusiness complexes over state power.

From the perspective of the politics of scale, however, one very significant change since Suharto's fall has been governmental decentralisation. Decentralisation, implemented from 2001, was promoted by the International Financial Institutions following the Asian financial crisis, which left the Indonesian government temporarily highly dependent upon external assistance. It was embraced by the relatively weak post-Suharto government as a means of attracting regional support. However, to avoid potentially fuelling separatist regionalism, authority was delegated to the very local level of districts (*kabupaten*) and cities. The previous patronage regime, centred on Suharto and Jakarta, had fostered a considerable degree of loyalty to the central state, permitting a reasonable degree of governmental control from the capital. Today, however, the power to issue licences and permits and distribute critical

resources such as agricultural land has been largely delegated to district regents (*bupatis*), permitting the emergence of localised, smaller-scale patronage networks. Forces nurtured by Suharto's New Order were well-placed to struggle for control over these local resources and have since entrenched themselves at the district and the (less powerful) provincial levels (Hadiz, 2010). Consequently, the interests of these local politico-business elites are no longer necessarily aligned with those prevailing in Jakarta. National political parties now often rely on their local bosses to funnel money upwards to them, while national line ministries frequently find themselves powerless to act at the local level. Territorial political struggles have emerged as rival elites located at different scales contest control over issues and budgets (Hadiz, 2010).

In this context, forces resisting the rescaling of the governance of security issues that could damage their interests have often done so by trying to constrain their governance to the district or provincial level where their influence is strongest, although continued corporate influence on the central state also restrains any thrusts towards rescaling. Conversely, certain national agencies have selectively embraced international interventions around NTS issues in an effort to bolster the territorial and functional reach of their authority, often in alliance with other groups, within and outside the state.

Case study: Governing H5N1 highly pathogenic Avian Influenza

H5N1 is a highly pathogenic variant of the influenza virus, typically found in poultry. The main concern from a public health perspective is that, following a cross-species transmission, the virus could evolve to become easily transmissible between humans, sparking a global pandemic. Although H5N1 has not yet developed this capacity, few other pathogens have been presented by governments and international organisations as a greater threat to global health security (for example, WHO, 2007, p. 47; World Bank, 2008, p. 10). The British Civil Contingencies Secretariat, for example, claimed H5N1 was 'as serious a threat as terrorism' (Lean, 2005). The concern with preventing a H5N1 pandemic was also translated into a substantial monetary commitment: during 2006, donors allocated \$2.38billion for programmes of surveillance, prevention, containment and vaccine development. Although H5N1 has rarely hit headlines since 2008, it remains a key focus of pandemic preparedness plans worldwide.

As the epicentre of the worst outbreaks, Southeast Asia has been at the forefront of international efforts to prevent the emergence and spread of H5N1. In 2007, H5N1 was identified as one of the region's three most significant transnational challenges to security, stability and peace (ASEAN, 2007). There is, however, a yawning gap between such urgent rhetoric of securitisation and the manner in which the disease has been managed in practice (Caballero-Anthony, 2008). Southeast Asia's diverse



national responses have been considerably shaped by the particular interaction between international programmes and/or regulatory standards and the constellation of socio-political forces supporting or resisting these at various scales. Indonesia proves a case in point.

With 161 of 193 confirmed cases (as of January 2014), Indonesia has the highest number of human fatalities from bird flu. No country has been given more international assistance to combat H5N1, receiving an estimated \$138 million of the \$175 million earmarked for such programmes (Charnoz and Forster, 2011, p. 67). The most significant and best-funded facet of the international effort to manage H5N1 in Indonesia has been the rescaling of sub-national animal and human health services, so that these would provide ongoing grassroots surveillance of H5N1 outbreaks and the capacity to respond where necessary. Originally, in line with decentralisation, the responsibility for animal and public health lay with the districts. However, with the securitisation of H5N1, expert international organisations promoted the expansion and rescaling of health governance, notably via the Food and Agriculture Organization's (FAO) Participatory Disease Surveillance and Response (PDSR) programme in animal health, and the World Health Organisation's (WHO) District Surveillance Officers (DSO) programme in human health. They sought to shift health governance both 'upwards' to the regional and national levels and 'sideways', into the hands of like-minded experts who would implement international-standard regulatory practices. This created a complex, multi-level governance system that was substantially internationalised.

At the *local* level, the PDSR and DSO programs often created health governance systems where none had hitherto existed. These programmes essentially involved training and empowering veterinarians and health officials to conduct local surveillance to detect outbreaks of H5N1 and educate local populations on the risks of transmission. PDSR was the largest single H5N1-related international project in Indonesia. Despite a relatively modest budget by international standards of approximately \$30 million from 2005 to 2012, it had an extensive impact on the ground, because of Indonesia's low labour costs:

From January 2006 to September 2008, PDSR teams, comprising over 2000 trained veterinarians and para-veterinarians, conducted over 177 300 surveil-lance visits, detected 6011 outbreaks of avian influenza in 324 districts, and met with over two million poultry farmers and community members ... In May 2009, there were 15 international and 60 national staff/consultants employed by FAO, with a majority of them supporting the PDSR programme (Charnoz and Forster, 2011, p. 69).

At the *provincial* level, Local Disease Control Centres were established. District-level PDSR staff reported suspected outbreaks to these centres, which brought together local PDSR and DSO personnel with national officials from the Ministries of Health (MoH) and Agriculture (MoA), plus international officials from the FAO and

WHO. The centres mobilised rapid response teams to investigate reports and respond to outbreaks as required.

At the *national* level the PDSR system was coordinated by a Campaign Management Unit within the MoA's Directorate-General of Livestock Services, which FAO consultants helped design and staff. Furthermore, a dedicated National Committee was established in 2006 to oversee the implementation of a National Strategic Work Plan to combat H5N1. This ministerial-level committee, known as Komnas FBPI, was chaired by the Coordinating Minister for People's Welfare and also included the ministers of health, agriculture, forestry, national planning and industry, the Coordinating Minister for Economics, the commander of the armed forces, the police chief and the chair of the Indonesian Red Cross. Its six task forces of scientists and other experts were tasked with directing policies on research and development, animal health, human health, vaccine and anti-viral medicines, mass communications and public information (Forster, 2010, p. 145).

Ostensibly, then, H5N1 was quite dramatically securitised and its governance centralised through a set of crisis-management institutions, shifted into the hands of technical experts, and significantly internationalised. Programmes like PDSR created or expanded local health services and established new governance networks across the local and national scales in Indonesia, with the direct involvement of international actors in day-to-day health governance. However, the practical outcomes of this rescaling effort have been highly uneven. The governance of poultry disease in 'backyard' settings has been significantly rescaled in accordance with these multilevel, internationalised governance arrangements. However, the commercial poultry sector, which was identified from 2009 as the major site of the H5N1 problem, has barely been touched. To explain why, we need to consider two crucial factors: decentralisation and the political economy of poultry production in Indonesia.

First, the governance of H5N1 was bound up in post-decentralisation struggles between different levels of the Indonesian government. Central government ministries selectively embraced international H5N1 projects to help rebuild the territorial and functional reach of their authority. Despite rhetorically accepting powerful donor states' securitisation of H5N1, the disease was clearly not a genuine domestic priority, attracting just \$57 million, or 1.7 per cent of the total health budget at the peak of the crisis in 2006, to cover a population of 234 million (Curley and Herington, 2011, p. 157). However, many central government officials welcomed international H5N1 programme funding because it helped foster collaboration between key ministries and, more importantly, strengthen central government ministries vis-à-vis district and provincial governments – recentralising some of the authority lost during decentralisation. Senior MoH official Indriyono (2011) recalls that this 'helped the centre have a bit more control over provinces and districts. Particularly if we have the money ... we can advocate and convince them' since 'resources are always a problem at the local level'. For the central government, therefore, the H5N1 programmes were to a significant extent simply a useful vehicle



to reassert authority against local governments rather than simply being motivated by a desire to tackle the problem.¹ A primary beneficiary was the MoA: following decentralisation, it had virtually no control over district-level agricultural departments, but via the CMU it now plays a key coordinating role.

However, this embrace of international assistance, which might have yielded substantial results despite its strategic nature, was nonetheless undermined because district-level governments resisted efforts to undermine their authority by constraining the rescaling of the governance of H5N1, trying to keep it mainly in the hands of local animal husbandry officials. This resistance mattered because district officials constitute the human agency required to actually perform surveillance on the ground. As the former manager of the MoA Emergency Centre for Transnational and Asymmetric Threats observed, 'We can't do anything without the help of local governments' (Delima, 2011). One FAO official noted, 'the national government has no authority to do anything ... so we had to go to the local level' (Brum, 2011). This shaped the way PDSR was crafted and implemented, allowing local governments to retain considerable control over how governance actually occurred. For example, PDSR programme officers, despite being paid by the FAO, were always officially district employees. This gave *bupatis* considerable influence over how H5N1 would be governed in practice.

Bupatis' resistance to health governance rescaling was clearest vis-à-vis FAO efforts to empower government veterinarians. As with the rescaling associated with NTS issues more generally, PDSR attempted to quarantine an area of policymaking and implementation from political influence by shifting into the hands of technical experts – in this case, veterinarians. Historically, however, veterinary authority has been weak in Indonesia, with small numbers of vets tending to work beneath managers concerned more with commercial aspects of livestock services. Bupatis control the funding of local animal health services, and chronically underfund them. During decentralisation, districts carved out significant autonomy in the management of animal health because livestock industries generate significant employment and rents at the local level which they want to protect from central government interference. As Hadiz (2010) documents, access to rents from, or control over, local businesses has been crucial to the attainment and maintenance of bupatis' political power in the decentralisation era. Bupatis frequently avoid regulating local businesses properly to protect their allies, maintain a favourable business climate, and expand local employment to bolster their electoral support. The poultry industry, for its part, has supported this decentralisation of authority as a way of avoiding tougher regulation (Charnoz and Forster, 2011, p. 39, pp. 85-86). Empowering vets to override local agricultural managers threatens this mutually satisfactory situation.

Efforts to empower vets, including through PDSR, therefore provoke serious political contestation. The Indonesian Veterinary Medical Association (IVMA) launched a campaign to establish veterinary authority over livestock services across all levels of government. After protracted struggles, partly stemming from

H5N1-related international pressure this finally resulted in National Law 18/2009 on Animal Husbandry, which mandated the establishment of local animal health offices, and a 2010 Constitutional Court ruling that legally elevated veterinary authority over commercial interests. However, because *bupatis* remain responsible for funding local services, they have generally kept veterinarians weak by systematically underresourcing them. In fact, in many districts, vets are not even allowed by law to enter commercial properties without owners' permission. IVMA President Dr Wiwiek (2011) thus observes: 'In [national] law we are strong enough, but to have the law really implemented and in line with OIE [World Organisation for Animal Health] guidelines we need political will.'

To understand why this political will has been so unevenly applied to the problem – specifically, why PDSR has focused overwhelmingly on backyard rather than commercial poultry, and how this has constrained the regime's efficacy – we need now to turn to the political economy of the poultry industry. The pattern of oligarchic domination and highly collusive state-capital relations discussed earlier is clearly apparent here.

Chicken accounts for 60 per cent of total meat consumption in Indonesia (Cargill Indonesia, 2013). Although precise figures are unobtainable, the poultry industry employs the majority of the livestock sector's approximately 3 million workers, 3 per cent of the national workforce (Sumiarto and Arifin, 2008, p. 6). The industry is entirely aimed at domestic consumption. The 10 largest firms sell around 1 billion chickens per year, 80 per cent of national output. However, the vast majority of broiler chicken and egg production is actually done by thousands of small and medium, independently owned farms, contracted to the larger firms (Charnoz and Forster, 2011, p. 21, 37). These small farms are typically very basic, with few or no bio-security measures (Sumiarto and Arifin, 2008; USAID, 2009). Crucially, they are heavily dependent upon the major corporations. The latter provide credit to farmers – unavailable elsewhere - to purchase essential inputs from them, mainly day-old chicks and feed. The corporations exploit their market power by charging very high prices for these inputs; indeed, 90 per cent of their profits come from this rather than selling chickens (Charnoz and Forster, 2011, p. 32). The small farmers raise the chickens for 1 month and then sell them back to the corporations at pre-agreed prices. While this protects farmers from market price fluctuations, the exorbitant cost of inputs minimises their profit margins, keeping them reliant upon the corporations (USAID, 2009, pp. 19-20). Moreover, crucially, under standard industry contracts, farmers are not paid for dead chickens. Therefore, and also because they are not export-oriented, the large corporations have little exposure to the risk of poultry death from disease and thus little incentive to tackle H5N1 (Charnoz and Forster, 2011, p. 37). Meanwhile, the economically squeezed farmers have every incentive to hide outbreaks on their farms and even sell dead, diseased chickens for consumption, made possible by the existence of a thriving market for chickens that die of unnatural causes, because of widespread poverty (Padmawati and Nichter, 2008).



These perverse incentives, which encourage an irresponsible approach to H5N1 control, could be changed if large corporations vertically integrated farming into their operations, bringing chicken production in-house instead of outsourcing it to small farmers. This is the norm in Thailand. Accordingly, its response to H5N1 was radically different. Powerful, export-oriented and vertically integrated poultry conglomerates, which lost their export markets overnight following the H5N1 outbreaks, supported government-enforced compliance with the highest international bio-security standards to restore overseas customer confidence. This drove most smallholder poultry farmers – who could not afford to comply – out of business, further concentrating the industry in conglomerate hands. Exports subsequently recovered, further benefiting the conglomerates, and no human H5N1 cases have been recorded since 2006 (Safman, 2010). Conversely, the Indonesian central government reportedly pressured the large companies not to integrate production to avoid eliminating smaller farms, fearing this would result in the politically hazardous loss of millions of rural jobs (Delima, 2011). Reflecting the Indonesian state's structural dependence on big business to fulfil its economic goals, corporations reportedly agreed to cooperate in exchange for continued protection from poultry imports (Mulyanto, 2011). Imports would out-compete local produce because foreign firms use more efficient production technologies and Indonesian conglomerates extract massive profits from their monopolistic sale of production inputs (Azhar and Noeri, 2011).

Reputedly close relations between the poultry magnates and the MoA may also help to explain the government's reluctance to confront the industry or local governments head-on. Forster and Charnoz's (2013, p. ao) detailed study of the sector found that many interviewees discussed 'the political connections enjoyed by these large corporations, including through family links, as well as their capacity to "buy in" key actors through passive or active corruption, and to influence the removal of civil servants who are not sympathetic to their views.' Indeed, the government clearly acted to conceal early H5N1 outbreaks, while the senior MoA bureaucrat responsible for animal health was quickly sacked after she exposed them (Lowe, 2010). Accordingly, large corporations are disinterested in restructuring the industry or investing in bio-security. This even includes Indonesia's largest poultry corporation, despite the fact it is a subsidiary of Thailand's leading conglomerate, Charoen Pokphand. Facing different political economy contexts, the same firm's behaviour radically diverges. As one industry observer argues, unsurprisingly, the private sector is driven solely by profits: 'decision-making is about economic imperatives, not public health – public health people can't get that' (Anonymous, 2011).

The interests bound up in the commercial poultry industry explain why the rescaling of the governance of H5N1 has been concentrated almost exclusively in the backyard poultry sector. Indonesia's National Strategic Work Plan identified backyard poultry as a key priority, and donors supported this thrust despite the lack of

supporting evidence (Forster and Charnoz, 2013). Consequently, PDSR was entirely focused on backyard poultry until late 2008, with only minor efforts to engage commercial producers since (Perry *et al*, 2009, p. 29). Thus, while vets have been empowered through PDSR to manage outbreaks of H5N1 in backyard poultry at all levels of government, the commercial sector has remained exempt. As mentioned, government vets are not even permitted by the laws of many districts to enter commercial premises without permission, vastly restricting the efficacy of the surveillance regime. Similarly, the internationally preferred policy of widespread culling in the case of outbreaks was rejected in favour of poultry vaccination – thus protecting the industry from major losses – yet, vaccination was made compulsory only for backyard chickens.

As long as PDSR remained focused on the backyard sector, its implementation was very smooth, and described as an 'iconic success in HPAI detection' (Perry et al, 2009, p. 26). When the programme shifted towards the commercial sector, however, it has faced a great deal more resistance and produced feeble results. This reorientation began in late 2008, as evidence of the disease's circulation in farms accumulated, and intensified following a 2009 review that identified the commercial sector as the major source of the problem. A pilot project was launched in only six farms to develop cost-effective bio-security measures. It aims to establish trust with the industry so that farmers would allow vets to visit farms when outbreaks occur, as well as build the capacity of local vets to profile the commercial poultry industry in their area. Participation is entirely voluntary, however, and farmers are not enthusiastic for the reasons discussed above, primarily relating to the high cost of bio-security. Apart from this pilot, the only international project dedicated to the commercial sector is the - again small-scale - USAID-funded Strategies Against Flu Emergence (SAFE). SAFE bypasses government altogether, attempting to improve bio-security in small farms by going directly to the industry, seeking to convince big conglomerates and small farmers alike that better bio-security is in their material interests. They have also sought to convince the big corporations to include biosecurity-related standards and bonuses in their contracts with small farmers. Yet, because the current structure of the poultry sector provides very high levels of profitability to the big conglomerates with minimal economic risk from disease, and because production is entirely for the domestic market, meaning they are not concerned with the perceptions of overseas consumers, they have generally shown little interest in improving bio-security, or in restructuring the industry as a whole. Nor, because of the industry's relationship to political actors, has it come under real pressure from the state to change this posture.

In summary, PDSR – the most expensive and territorially expansive of the international projects to manage the spread of H5N1 in Indonesia – has been a real success in rescaling and internationalising surveillance of H5N1 and response in backyard poultry, but a failure with respect to commercial farms. Local governments' resistance to efforts to empower vets *vis-à-vis* industry interests and the central



government's indifference to the spread of the disease in the commercial sector have meant that the attempt to rescale Indonesia's local animal health systems has affected only the weakest group – backyard poultry owners, who are in fact victims of H5N1 circulation in the commercial sector (Perry *et al*, 2009). Summarising the situation, Suwandono (2011), prominent Indonesian scientist and former Komnas FPBI member, simply states: 'regulation is regulation, but money is money.'

Conclusion

This article has sought to address a major gap in the security studies literature. Despite the widely held perception that NTS issues are at least indirectly related to the intensification of economic activities and globalisation specifically, no sustained effort has to date taken place to examine the relationship between the political economy of the industries affected by attempts to address NTS issues and the actual modes of governance that emerge. We began from the premise that security's meaning and governance were typically hotly contested issues. Depicting something as a 'security' problem - (potentially) constituting an existential threat to something else – and the subsequent creation of particular forms of security governance, is not neutral, but invariably privileges the interests and/or normative agendas of particular societal groups over others. What emerges in practice is therefore shaped by conflicts between contending socio-political coalitions. The forces in struggle, and outcome of their conflict, are in turn powerfully shaped by the political economy context and broader social power relations running through state and society. NTS issues are qualitatively distinct from traditional international security problems. Their perceived transnational potential often underpins claims that their management is beyond the capacity of individual governments. Therefore, the securitisation of NTS issues typically involves efforts on the part of socio-political coalitions to rescale the state apparatuses dealing with these issues, by integrating these within regional or global governance regimes in which decision-making authority is in the hands of experts that are not politically or popularly accountable. Such efforts are often resisted by other coalitions, for whom this rescaling is deleterious.

Our case study of efforts to manage the spread of H5N1 in Indonesia clearly demonstrates our main contentions. The outcomes of these efforts have been shaped by the broader context of decentralisation, combined with the political economy of the industry concerned – poultry. Decentralisation has localised and fragmented patronage structures in Indonesia, and this has meant that maintaining the governance of lucrative economic activities local is crucial for maintaining these patronage relations. This in turn has made resistance to rescaling efforts vigorous on the part of both sections of industry and local politicians.

Acknowledgements

The authors are grateful for the feedback received on this article from two reviewers, and from participants in the panel on Theorising the Politics of Non-Traditional Security at the International Studies Association convention, San Diego, 1–4 April 2012, and the Workshop on Political Economy, State Transformation and the New Security Agenda at Queen Mary University of London, 7–8 March 2013, co-funded by Queen Mary's Centre for the Study of Global Security and Development and School of Politics and International Relations, and Murdoch University's Asia Research Centre. The authors also gratefully acknowledge research funding provided by an Australian Research Council Discovery Project grant for the project 'Securitisation and the Governance of Non-Traditional Security in Southeast Asia and the Southwest Pacific' (DP110100425), as well as by the Association of Southeast Asian Studies, UK and the Westfield Trust. Finally, the authors thank Kelly Gerard and Audri Sani for superb research assistance.

About the Authors

Shahar Hameiri is a senior lecturer in international politics and research fellow of the Asia Research Centre, School of Management and Governance, Murdoch University. He obtained his PhD from the Asia Research Centre in 2009. His research has mainly focused on the politics of security governance and risk management. He is co-author, with Lee Jones, of *Governing Borderless Threats: Non-Traditional Security and the Politics of State Transformation* (Cambridge University Press, 2015) and of articles in journals, such as *International Studies Quarterly, Political Studies, The Pacific Review* and *Review of International Studies*.

Lee Jones (Dphil, Oxford) is senior lecturer in international politics in the School of Politics and International Relations at Queen Mary University of London and Research Associate at the Asia Research Centre, Murdoch University, Perth. His research focuses on state-society relations, sovereignty, intervention and governance in developing countries, particularly in East Asia. He is co-author, with Shahar Hameiri, of Governing Borderless Threats: Non-Traditional Security and the Politics of State Transformation (Cambridge University Press, 2015) and articles in International Studies Quarterly, Review of International Studies and Pacific Review, among others.

Note

1 Indeed, Indonesia seemed to actively frustrate the global efforts to suppress bird flu by withholding samples of the virus from 2007–2011 (Hameiri, 2014).



References

Anonymous (2011) Author interview with poultry market expert (name withheld), Jakarta, 19 July.

ASEAN (2007) Chairperson's Statement of the 12th ASEAN Summit, Cebu, 13 January.

Azhar, M. and Noeri, W. (2011) Author interview with CMU Officials, Jakarta, 9 September.

Bank Indonesia (2013) SDSS, http://www.bi.go.id/sdds, accessed 5 November.

Beck, U. (1992) Risk Society: Towards a New Modernity. London: Sage.

Brenner, N. and Elden, S. (2009) Henri Lefebvre on state, space, territory. *International Political Sociology* 3(4): 353–377.

Brum, E. (2011) Author interview with FAO advisor to PDSR CMU, Jakarta, 5 September.

Buzan, B., Wæver, O. and de Wilde, J. (1998) Security: A New Framework for Analysis. Boulder, CO: Lynne Rienner.

Caballero-Anthony, M. (2008) Non-traditional security and infectious diseases in ASEAN: Going beyond the rhetoric of securitization to deeper institutionalization. The Pacific Review 21(4): 507–525.

Cargill Indonesia (2013) Cargill launches poultry farming mentorship program in Indonesia, 29 May, http://www.cargill.com/news/releases/2013/NA3074474.jsp, accessed 12 November.

CASE Collective (2006) Critical approaches to security in Europe: A networked manifesto. Security Dialogue 37(4): 443–487.

Charnoz, O. and Forster, P. (2011) The Global Health Impact of Local Power Relations: Fragmented Governance, Big Business and Organisational Bias in Indonesian Animal Health Policies. London: LSE Global Governance. Working Paper 02/2011.

Curley, M.G. and Herington, J. (2011) The securitisation of avian influenza: International discourses and domestic politics in Asia. *Review of International Studies* 37(1): 141–166.

Davis, M. (2005) The Monster at Our Door: The Global Threat of Avian Flu. New York: Owl Books.

Delima, A. (2011) Author interview with Indonesian Minister of Agriculture's Advisor for Agricultural Policy, Jakarta, 22 July.

Dupont, A. (2001) East Asia Imperilled: Transnational Challenges to Security. Cambridge: Cambridge University Press.

Elbe, S. (2008) Our epidemiological footprint: The circulation of avian flu, SARS, and HIV/AIDS in the world economy. *Review of International Political Economy* 15(1): 116–130.

Emmers, R. (2004) Globalization and Non-Traditional Security Issues: A Study of Human and Drug Trafficking in East Asia. Singapore: RSIS. Working Paper 062/04.

EU (2003) A Secure Europe in a Better World: European Security Strategy. Paris, France: The European Union Institute for Security Studies.

Forster, P. (2010) On a wing and a prayer: Avian Influenza in Indonesia. In: I. Scoones (ed.) Avian Influenza: Science, Policy and Politics. London and Washington DC: Earthscan, pp. 131–168.

Forster, P. and Charnoz, O. (2013) Producing knowledge in times of health crises: Insights from the international response to avian influenza in Indonesia. *Revue D'anthropologie des Connaissances* 7(1): w–az.

G-8 (1999) Communiqué, Ministerial conference of the G-8 countries on combating transnational organized crime. Moscow, 19–20 October, http://www.justice.gov/ag/events/g82004/99Moscow Communique.pdf, accessed 12 February 2014.

Gibson, E.L. (2005) Boundary control: Subnational authoritarianism in democratic countries. *World Politics* 58(1): 101–132.

Giddens, A. (1991) Modernity and Self-Identity: Self and Society in the Late-Modern Age. Cambridge: Polity.

Hadiz, V.R. (2010) Localising Power in Post-Authoritarian Indonesia: A Southeast Asia Perspective. Stanford, CA: Stanford University Press.

Hameiri, S. (2014) Avian influenza, 'viral sovereignty', and the politics of health security in Indonesia. The Pacific Review 27(3): 333–356.

- Harvey, D. (2005) A Brief History of Neoliberalism. Oxford: Oxford University Press.
- Harvey, D. (2006) The Limits to Capital. London: Verso.
- HHS [US Department of Health and Human Services] (2005) Pandemic Influenza Plan. Washington DC: US Government.
- Indriyono, T. (2011) Author interview with Indriyono Tantoro, Special Advisor to the Minister of Health for Acceleration of Health Development and Bureaucratic Reform, Indonesian Ministry of Health, Jakarta, 7 September.
- International Crisis Group (2001) *Indonesia: Natural Resources and Law Enforcement*. Brussels, Belgium: ICG. Jessop, B. (2008) *State Power*. Cambridge: Polity Press.
- Jones, L. (2011) Beyond securitization: Explaining the scope of security policy in Southeast Asia. International Relations of the Asia Pacific 11(3): 403–432.
- Lean, G. (2005) Bird flu 'as grave a threat as terrorism'. The Independent, 26 June. http://www.independent.co.uk/environment/bird-flu-as-grave-a-threat-as-terrorism-6143851.html, accessed 26 February 2015.
- Libicki, M.C. (2001) Global networks and security: How dark is the dark side? In: R.L. Kugler and E.L. Frost (eds.) *The Global Century: Globalization and National Security*. Washington DC: National Defense University Press, pp. 809–824.
- Lowe, C. (2010) Preparing Indonesia: H5N1 influenza through the lens of global health. *Indonesia* 90: 147–170.
- Mahon, R. and Keil, R. (eds.) (2009) Introduction. In: Leviathan Undone? Towards a Political Economy of Scale. Vancouver, Canada: University British Columbia Press.
- McDonald, M. (2008) Securitization and the construction of security. *European Journal of International Relations* 14(4): 563–587.
- Migdal, J.S. (2001) State in Society: Studying How States and Societies Transform and Constitute One Another. Cambridge: Cambridge University Press.
- Mische, P.M. (1989) Ecological security and the need to reconceptualize sovereignty. *Alternatives* 19(4): 389–427.
- Mittelman, J.M. (2010) Hyperconflict: Globalization and Insecurity. Stanford, CA: Stanford University Press. Mulyanto (2011) Author interview with Secretary of the Agricultural Quarantine Unit, Indonesian MoA, Jakarta, 22 July.
- Padmawati, S. and Nichter, M. (2008) Community response to avian flu in Central Java, Indonesia. Anthropology and Medicine 15(1): 31–51.
- Perry, B., Kamarudin, M.I. and Tarazona, C. (2009) Independent Evaluation of FAO's Participatory Disease Surveillance and Response Programme in Indonesia. Rome, Italy: Food and Agriculture Organization.
- Poulantzas, N. (1978) State, Power, Socialism. London and New York: Verso.
- Robison, R. (1986) Indonesia: The Rise of Capital. Sydney, Australia: Allen and Unwin.
- Robison, R. and Hadiz, V.R. (2004) Reorganising Power in Indonesia: The Politics of Power in an Age of Markets. London and New York: Routledge Curzon.
- Safman, R.M. (2010) Avian influenza control in Thailand: Balancing the interests of different poultry producers. In: I. Scoones (ed.) Avian Influenza: Science, Policy and Politics. London: Earthscan, pp. 169–206.
- Sinaga, A. (2012) Income, a perilously widening gap. Jakarta Post 5 June, http://www.thejakartapost.com/ news/2012/06/05/income-a-perilously-widening-gap.html, accessed 13 February 2014.
- Statistics Indonesia (2013) Population 15 years of age and over who worked by main industry, 2010–2013, http://www.bps.go.id/eng/tab_sub/view.php?kat=1&tabel=1&daftar=1&id_subyek=06¬ab=2, accessed 5 November.
- Sumiarto, B. and Arifin, B. (2008) Overview on Poultry Sector and HPAI Situation for Indonesia with Special Emphasis on the Island of Java Background Paper. Rome: Africa/Indonesia Team. Working Paper 3.



- Suwandono, A. (2011) Author interview with Senior Scientist, National Institute for Health Research, Jakarta, 18 July.
- Tan, P.J. (2006) Indonesia seven years after Soeharto: Party system institutionalization in a new democracy. Contemporary Southeast Asia 28(1): 89–114.
- Tilly, C. (1992) Coercion, Capital and European States AD 990-1992. Malden, MA: Blackwell.
- United Nations (2004) A More Secure World: Our Shared Responsibility. New York: United Nations.
- USAID (2009) Community-Based Avian Influenza Control Project: Commercial Poultry Private Sector Partnership Program. Jakarta, Indonesia: USAID.
- von Luebke, C. (2011) Inequality. Inside Indonesia April-June.
- White House (2002) National Security Strategy of the United States, September. Washington DC: White House.
- WHO (2007) A Safer Future: Global Public Health Security in the 21st Century. Geneva, Switzerland: World Health Organization.
- Wiwiek, B. (2011) Author interview with President of the Indonesian Veterinary Medicine Association, Jakarta, 21 July.
- World Bank (2008) Responses to Avian Influenza and State of Pandemic Readiness Fourth Global Progress Report. Washington DC: World Bank.
- World Bank (2013) Indonesia, http://www.worldbank.org/en/country/indonesia/overview, accessed 5 November.