Pathological Frame and Functional Convenience of Tuberculosis in Cambodia; Looking Beyond Detection and Treatment.

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Abstract

Treatment for endemic diseases such as tuberculosis exists but these diseases continue to disproportionately plague those living in poverty. Tuberculosis is a complex public health issue and is a major challenge that defies pragmatic and instrumental treatment methods of detection and treatment. Currently, the causation of the disease is predominantly framed as a medical problem, which systematically excludes social variants, which narrows our understanding of treatment methodologies. By employing actor-network theory as a comprehensive scope for analysing interactions across varying stakeholders, I argue that there is vital need to view diseases as manifestations of social dysfunctions. Public health networks and policies with unequal representations reflect asymmetrical power structures which could paradoxically be a disservice to the very people it aims to serve. However, the dysfunctional network continues to function because of the inherent operational rationality and functional convenience which leads to pragmatic routine processes that predisposes behaviours of each actor. As such, the study aims to utilize a relational theory to encompass varied actor’s perspectives and to understand why, despite international and national efforts to control the epidemic; the disease continues to affect many.

Keywords: Tuberculosis, Cambodia, Actor-Network Theory, Public Health

Word Count: 10,936
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To my respondents, thank you for sharing your stories and the warm welcome you have given me. Your heartfelt words and emotions will be remembered.

Last but not least, this paper was written for those afflicted and struggling with tuberculosis, may your strength and courage push you on to overcome your suffering.

Author of this paper: Kieu Li Hao, Edson
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1. Introduction

When I arrived in Phnom Penh, Cambodia, in May 2014, I can barely envisage the not too distant horrors of war-torn Cambodia which ravaged the country due to the welcoming smiles from locals. The sights of new industrial developments, commercial malls, bars, local nightclubs were seen alongside weak infrastructural development; lacking in drainage, tar roads, trash collection and frequent power outages. As time passed, I began to learn that the health system was in tatters and endemic diseases continue to plague Cambodia’s population. Although war is no longer present, historical events and diseases continue to manifest by inscribing themselves onto bodies and institutions. Having stayed and worked in Cambodia for numerous months, I began to understand how the disarray of social institutions somehow functioned as ‘organized chaos’ with elements of dysfunctions existing within structural stability. As such, it is pertinent to ask the question; how is it that stable mechanisms can anchor dysfunctions within itself? Hence, this study seeks to understand how stable but dysfunctional networks operate by examining tuberculosis in the context of Cambodia. I hypothesize that networks embody power structures at the national and global level which unwittingly displaces politics of inequality onto marginalized individuals.

1.1 The Subject: Tuberculosis

Tuberculosis (TB) is an airborne infectious disease that was known since the time of Hippocrates and Galen. Robert Koch’s discovery of a micro-organism Tubercle Bacillus in 1982 was a turning point in the history of medicine that shaped our understanding about infections and diseases (Sakula 1982). Social determinants that were once considered responsible for disease susceptibility became the exception rather than the norm as the veracity of diseases came to revolve around micro-organisms as the cause. Despite the discovery by Koch, treatment lagged behind by 60 years where one patient who received streptomycin was declared cured from tuberculosis was hailed as the first effective treatment (Keshavjee and Farmer 2012). Although streptomycin cured patients, many had relapse and developed resistance to streptomycin which led to further pharmaceutical developments such as pyrazinamide and cycloserine in 1952, ethionamide in 1956, rifampin in 1957 and ethambutol in 1962 (Keshavjee and Farmer 2012). However, with each new drug, tuberculosis resistances were observed soon after. These drug-resistant tuberculosis strains continue to be a challenge especially when combined with co-morbidity of diabetes and co-
infection with human immunodeficiency virus (HIV) which is harder to treat. The main cited problem with drugs is related to the need for prolonged treatment lasting about 6 to 9 months, which makes compliance to treatment regimens difficult. This non-compliance may lead to relapse and the development of drug-resistant strains (Murray 2006). To counter this difficulty, World Health Organization (WHO) introduced Directly Observed Treatment Short-course (DOTS) programme in 1991, which includes 5 components; detection by sputum-smear microscopy\(^1\), political commitment, regular supply of drugs, supervised treatment and reports on progress (World Health Organization (WHO) 2015).

Currently, nearly one-third of the global population is affected by Mycobacterium tuberculosis of which, 90% of global tuberculosis cases occur in the developing world (National Centre for Tuberculosis and Leprosy Control Cambodia (CENAT) 2012: 2). Tuberculosis is still responsible for 1.5 million deaths in 2013 alone with absolute number of cases edging towards 10 million (figure 1) (WHO 2014b: 28). Given that there are effective cures available for tuberculosis; most of these deaths are preventable (WHO 2014b: 13).

Figure 1\(^2\):
Estimated absolute numbers of tuberculosis cases and deaths (in millions per year), 1990-2013

Note: HIV-associated TB deaths are classified as HIV deaths according to IDC-10\(^3\) (WHO 2014b)

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\(^1\) Smear microscopy involves collecting a biological sample such as sputum from TB suspects. The technique utilizes staining and dyes to see a concentration of TB Bacilli under the microscope. Although there are some drawbacks; such as lab technicians are more likely to detect high levels of TB Bacilli than lower levels, this technique proves useful in resource-poor settings.

\(^2\) TB incidence rate here refers to cumulative incidence rate for TB.

\(^3\) ICD-10 is the international classification of diseases and related health problems which is the standard diagnostic tool for epidemiological and clinical purposes.
Efforts to combat the disease are set in the Millennium Development Goals and Stop TB partnership agenda but there is still a need to accelerate improvements to meet a 50% reduction by 2015 (WHO 2014b). Despite these goals, research and development for tuberculosis has almost ground to a halt due to the decline in deaths in places where headlines are published (Keshavjee and Farmer 2012) because over 95% of the cases and deaths are in underdeveloped nations (WHO 2014c). Health equity therefore remains as one of the issues facing contemporary society as tuberculosis burdened nations are synonymous with those that are currently still underdeveloped⁴.

1.2 The Locale: Cambodia

Cambodia is a South-east Asian country with a population of 15.1 million (The World Bank (WB) 2015) which shares its border with Thailand, Laos and Vietnam. It is still one of the poorest nations in the world ranking 136 out of 194 (excluding Taiwan) countries (United Nations Human Development (UNHD) Reports 2014), in spite of recent progress as the economy is still hampered from three decades of war as infrastructure, income and education suffered with many still living in poverty (Gartrell and Hoban 2013). According to a 2009 report by the WHO, the economy expanded by over 10% per year, but poverty rates are still high with 35% remaining under the poverty line. This has brought about challenges in providing universal access to quality healthcare due to lack of infrastructural facilities and expertise.

⁴ “Underdeveloped” is a term first coined by Immanuel Wallerstein (1995) which draws attention to the exploitative relations these underdeveloped nations face within the world capitalist economy.
WHO Global TB experts estimate that about 64% of the Cambodian population is infected with Mycobacterium tuberculosis with an estimated incidence and prevalence rate of 424/100,000 and 817/100,000 respectively with death rate for tuberculosis standing at 63/100,000 as of 2012 report (CENAT 2012: 3). Although Cambodia adopts WHO DOTS strategy which is seen as a successful programme to control tuberculosis (Nishikiori and Morishita 2010), tuberculosis in Cambodia still ranks in the top 22 highest tuberculosis prevalence in the world in 2014 (WHO 2014a) despite implementation of DOTS programme since 1994 (CENAT 2005).
2. Background

Tuberculosis has been studied extensively with a range of surveillance reports encompassing epidemiology, microbiology, diagnosis, treatment, and control. Other recent studies have also analysed a range of social variables that contribute to tuberculosis prevalence for social groups at risk. This is pertinent because tuberculosis no longer afflicts people across different socio-economic class or geographical location, but rather, it predominantly affects marginalized populations. Current publications about the tuberculosis situation in Cambodia largely focus on cross-sectional surveys, prevalence surveys and anti-tuberculosis programme outcomes (Bulletin WHO 2014; CENAT 2002; CENAT 2012). Despite the contributions of these papers to the wealth of knowledge, conceptual frameworks should move beyond a static view of epidemiology and explore the complex relations between social entities which capture dynamic processes of social organizational entities.

I argue for the need to review the networks of health and diseases beyond detection and treatment due to the overemphasis of policy initiatives which focuses on pathogens of diseases. The reason for targeting public health programmes at the level of micro-organisms stems from the germ theory of disease which has deepened obscuration of socio-economic and political conditions of health (Turner 2004). This transformation of pinning the causation of diseases at the micro-biological level circumvents the ‘social’ aspects of diseases. Overemphasis on individual risk factors ignores how health risks are shaped by law, politics and social practices that breed a range of systematic, structural violence and injustices (Biehl and Petryna 2013). Hence, it is pertinent to examine social relations surrounding the disease due to the epistemological downside of emphasizing individual-risks that inherently adopts “magic-bullet” approaches of healthcare delivery (Biehl and Petryna 2013). In relation to healthcare programmes, Packard (2007) highlighted that programmes should not be planned in isolation and is only a complementary component in conjunction with social development and improvement. Contemporary findings have only begun to acknowledge that comprehensive top-down approaches of public health planning has been misfiring and working within great limitations (Easterly 2008).

In today’s society, the top-down approaches of public health has become more deeply entrenched into the global system. At the international level, major aid agencies and world’s government have made the commitment to achieve the Millennium Development Goals by 2015 and signed the Millennium declaration pledging to “free our fellow men, women, and children from the abject and dehumanizing conditions of extreme poverty” (UNDP 2005: 1).
Hence, international aid has been increasing over the past few decades (figure 2) and extensively funnelled into health programmes in the developing world due to the vast inequalities in healthcare provision between nations.

Figure 2:
Total foreign aid from OECD countries from 1960-2013.


With the emergence of global public health, the WHO serves as the coordinating authority and works within the United Nations (UN) system (WHO 2007). WHO’s primary function is to develop health guidelines and standards in addressing public health issues and people’s well-being (WHO 2007). The growth of global public health is also related to the increasing importance of actors beyond that of the state and moving towards international Non-Governmental Organizations (NGOs) and transnational private corporations (Brown et al., 2006). As a result, the numbers of humanitarian NGOs have increased several-fold over the last few decades (Reid-Henry 2013). NGOs have therefore been playing a pivotal role in programme implementation across underdeveloped nations, working in accordance with guidelines from both multilateral aid agencies and WHO.

Cambodia is also impacted by the shifts in global public health and is a recipient of multilateral aid of up to US$ 381.5 million with a total of US$ 460.1 million signed for
various epidemics such as HIV/AIDS, tuberculosis, malaria and health systems strengthening. Tuberculosis programmes are allocated 11% of the funds or US$50.8 million. Despite the massive funds, the WHO report Country Cooperation Strategy, showed specific problems in Cambodia including: (1) poverty, (2) inability to implement capacity at the local level, hospitals remain ill-equipped and under-resourced, (3) private sectors provide a large share of healthcare which creates challenges for ensuring quality, (4) due to the influx of healthcare partners, there have been a fragmentation of healthcare provision, (5) there is also an imbalance between national and donor priorities. Despite the acknowledgement of these social structural issues, only 5% or US$24.4 million of the aforementioned funds are meant to strengthen the healthcare system. As such, diseases like tuberculosis is framed as a medical problem which affects the ways agencies allocate funds and operate. Hence, disease-focused initiatives targets specific diseases without much regard for the myriad of social, political and economic factors (Biehl and Petryna 2013).

3. Conceptual Framework

Actor-network theory (ANT) will be the analytical tool utilized in this paper to examine the relationships between stakeholders at the global and national level. ANT established by Latour (1999) and the “sociology of associations” by Callon (1986), enables an analysis of network formations which provide a framework to understand the processes in which heterogeneous elements are interwoven together. These elements involve networks of people and institutions, reports, technologies, financial resources, knowledge that regulates the ways actors make decisions and act. The associations and links enable a dynamic discussion about structural complexities of the network and the adaptations of each individual actant\(^5\) according to changing needs and interests. Networks can remain stable if actant’s needs and interests are attained without any alteration in their respective objectives. Hence, the focus of ANT is related to how actants act as opposed to what they are; hence the analytical focus is on relations within networks. Notably, social networks may have an infinite number of actants but I will review only particular facets of the examined network.

Based on the concept of translation by Callon (1986), before actants interact with one another, there must a connection feature. To establish the connection, actants have to

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\(^5\) The word actant is used to highlight the conceptual differences from an actor. An actant is an entity which can be non-human that undergoes an action, thereby underscoring the active role of non-human entities as equal to human actors in the analytical sense.
transform to fit the network in order to attain their goals. This act of transformation is known as translation (Callon 1986) which refers to a series of negotiations or persuasion that shapes the actions and needs of the actant. If actants fail to translate, they will not be engaged in the network. The method of analysis highlights four moments of translation; problematization, interessement, enrolment and mobilization which will be useful in revealing ways in which structuring power relationships function within healthcare networks. Through this concept, I will examine how actants as part of the tuberculosis network are shaped through power relations between various stakeholders and examine how actants attain their objectives. However, establishing what actors do within tuberculosis networks in Cambodia is not adequate to explain why actants behave in a certain manner. Hence, the paper will also utilize Latour’s (1999) circulatory model to explain how tuberculosis becomes predominantly a medical problem at the global stage which systematically neglects social structural forces that impacts tuberculosis outcomes. Through the circulatory model, I will examine how knowledge about tuberculosis translates into policies which institutionalized treatment methodologies. This global institutionalization of disease-focused initiatives therefore shapes the way tuberculosis is viewed and dealt with operationally within countries, such as Cambodia, that receives funding from multilateral aid agencies, thereby directly influencing government and NGOs actions.

Without overlooking the criticisms of ANT, the following sections will be sensitive to an overemphasis on structures so as to avoid overlooking cultural practices, ideology and individual agency. ANT will be modified and adapted to the contextual needs of this paper where I specifically review translation of interests into actions that shapes the manifestations of tuberculosis as a social disease. Notably, this paper focuses on the social aspects of tuberculosis but will nonetheless review some materialist aspects of ANT beyond social networks.

4. Research Objectives

The aim of my research is to gain insight into how tuberculosis healthcare networks in Cambodia respond to tuberculosis and attempts to understand why tuberculosis prevalence and incidence is still high despite massive efforts to improve tuberculosis outcomes. This paper has three main objectives; (1) highlight that medicalizations about tuberculosis systematically neglects social factors; (2) reveal that stable public healthcare networks may not function optimally due to asymmetrical power structures and actor representation; (3)
analyse how a global system institutionalizes medical policies and practices that displaces global politics of inequality onto marginalized populations.

While theoretically and conceptually separate, it must be acknowledged the processes are interlinked, but to attain the above objectives the paper will be broken into three sections. Firstly, I will present summarized key findings from interviews conducted. This methodology is focused on the construction of daily realities of tuberculosis, both perceived and experienced; thereby exploring the narratives of individuals across varying social positions. The narratives will be essential to draw relational links from the ethnographic content which serves as a means to trace decision-making rationalities of stakeholders. Secondly, I will adopt the concept of translation to examine how tuberculosis network in Cambodia structures power relations in a manner that unequally benefits actants through translation and unequal representation. Lastly, I will examine how knowledge about tuberculosis shifts into policy that becomes institutionalized at the global level. In doing so, I will review discursive aspects that rallied alliances, galvanizing the fight against tuberculosis as a global health problem.

This paper is a significant contribution to the study on healthcare networks in the developing world due to the utilization of ANT to trace and examine network relations and actions across stakeholders at the national and international levels.

5. Methodology

This paper is based on data collected over a month in the December of 2014. Fieldwork was conducted at the outskirts of Phnom Penh and in Takeo province; the rural areas in Cambodia. The aim of the research was to explore the narratives from various stakeholders about tuberculosis care in Cambodia, gathering information from government officials, NGO staff, village health support groups (VHSG), tuberculosis victims and their family members (n=30; refer to Table 1 for breakdown). Research dimensions explored include tuberculosis health-seeking behaviours and stakeholder relationships.
Table 1:
Breakdown of Interview Respondents

<table>
<thead>
<tr>
<th>Index Number</th>
<th>Age</th>
<th>Gender</th>
<th>Occupation</th>
<th>Occupational Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>24</td>
<td>Female</td>
<td>Factory Worker</td>
<td>Stopped</td>
</tr>
<tr>
<td>2.</td>
<td>34</td>
<td>Male</td>
<td>Construction Worker</td>
<td>Stopped</td>
</tr>
<tr>
<td>3.</td>
<td>76</td>
<td>Female</td>
<td>None</td>
<td>NA</td>
</tr>
<tr>
<td>4.</td>
<td>57</td>
<td>Male</td>
<td>Food Hawker</td>
<td>Stopped</td>
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<tr>
<td>5.</td>
<td>66</td>
<td>Male</td>
<td>None</td>
<td>NA</td>
</tr>
<tr>
<td>6.</td>
<td>60</td>
<td>Male</td>
<td>None</td>
<td>NA</td>
</tr>
<tr>
<td>7.</td>
<td>63</td>
<td>Male</td>
<td>Tyre Shop Owner</td>
<td>Ongoing</td>
</tr>
<tr>
<td>8.</td>
<td>35</td>
<td>Female</td>
<td>Factory Worker</td>
<td>Stopped</td>
</tr>
<tr>
<td>9.</td>
<td>15</td>
<td>Male</td>
<td>Student</td>
<td>Ongoing</td>
</tr>
<tr>
<td>10.</td>
<td>32</td>
<td>Female</td>
<td>Factory Worker</td>
<td>Stopped</td>
</tr>
<tr>
<td>11.</td>
<td>36</td>
<td>Female</td>
<td>Self-Employed (Rope Making)</td>
<td>Ongoing</td>
</tr>
<tr>
<td>12.</td>
<td>6</td>
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<td>NA</td>
</tr>
<tr>
<td>13.</td>
<td>15</td>
<td>Male</td>
<td>Student</td>
<td>Ongoing</td>
</tr>
<tr>
<td>14.</td>
<td>*</td>
<td>NA</td>
<td>Construction Worker/Factory Worker/Students</td>
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</tr>
<tr>
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</tr>
<tr>
<td>17.</td>
<td></td>
<td></td>
<td></td>
<td>VHSG</td>
</tr>
<tr>
<td>18.</td>
<td></td>
<td></td>
<td></td>
<td>VHSG</td>
</tr>
<tr>
<td>19.</td>
<td></td>
<td></td>
<td></td>
<td>VHSG</td>
</tr>
<tr>
<td>20.</td>
<td></td>
<td></td>
<td></td>
<td>Health Centre Chief</td>
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<tr>
<td>21.</td>
<td></td>
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<td></td>
<td>Health Centre Chief</td>
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<tr>
<td>22.</td>
<td></td>
<td></td>
<td></td>
<td>Operation District Chief</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td>Operation District Vice Chief</td>
</tr>
<tr>
<td>24.</td>
<td></td>
<td></td>
<td></td>
<td>Tuberculosis Doctor</td>
</tr>
<tr>
<td>25.</td>
<td></td>
<td></td>
<td></td>
<td>Programme Coordinator</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
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<td>69</td>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>73</td>
<td>Male</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: * The household was infected with TB. The family consists of husband and wife with 4 children.
** Few NGO interviews were conducted as data revolved around participant-observation.
*** Deceased family was interviewed. Data represented is that of the deceased TB victim.

The government healthcare operates under a hierarchy. Under the Ministry of Health, there are provincial health departments (PHDs), followed by referral hospitals and finally district health centres.
Two forms of data gathering methodologies were employed, including participant observation and semi-structured interviews with key informants: people affected by tuberculosis both directly and indirectly. Selective sampling procedures were used where I targeted different stakeholders across differing geographical locations to enable a comprehensive comparison. Tuberculosis patients, defaulters and families of deceased tuberculosis victims were chosen to gather information about successes and failures of healthcare operations. Voice recording and detailed field notes were taken during all interviews. The interviews were all conducted in Khmer language with the aid of a local Cambodian translator. All interviewees gave verbal consent to the usage of the interviews prior to its conduct. An NGO operating in Cambodia acted as the point of contact which provided me access to the various stakeholders during the period of research. The conduct and analysis of interviews were inductively interpreted, exploring in-depth experiences of vulnerable populations as well as allied healthcare workers. All names have been changed and specific characteristics removed to protect the identities of respondents involved in any aspect of this study. The interview excerpts were translated and may reflect minor variations from the original speech.

As a student researcher from Singapore, it is vital to acknowledge how my social position and experiences may shape interpretations of the respondents’ accounts. Hence, to counter this interpretative subjectivity, ethnographic data will present respondent’s accounts and my interpretations separately.

6. Ethnographic Findings

Riding on a motorbike, I was bombarded by the sun and dust as I travelled to the villages where the vast majority of areas outside the city lacked the luxury of tar roads. I began my interviews with those who are undergoing tuberculosis treatment, hoping to get a sense about what these villagers understood about the disease. During my research, I worked closely with an NGO that granted me access to these patients currently undergoing DOTS treatment. This NGO had field staff who implements DOTS programme by providing patients with daily medications where they guided me to their patients who will become my research interviewees for the day. Without their aid, it would have been impossible to locate as there are no systematic addresses for certain households and the location of patients were all memorized by the field staff. The villages visited were densely built-up clusters of two storied
residential attap dwellings\(^7\), alongside small plots of farm land and the sparsely scattered family-owned convenience stores, food stalls and pharmacies. NGOs implementing DOTS programme have been crucial intermediaries that work between all groups of tuberculosis stakeholders; between NGOs, the government, VHSG and patients themselves. As such, I began to snowball my research respondents through the NGO’s networks.

One of my first respondents was Bunroeun, 34. He held onto his young son as he explained that he used to be the sole breadwinner of the 5 member household earning US$7.50 a day as a construction worker until he was infected with extra-pulmonary osseous tuberculosis\(^8\). Since the household did not have any savings and expenditure exceeded income, Bunroeun has to continue to work and harvest vegetables which earn him about US$2.5 per kilogram. Despite his current predicament, Bunroeun is a beneficiary of WHO DOTS programme and receives treatment from the NGO, and is on his way to recovery. Bunroeun was one of the few cases that got my attention because extra-pulmonary osseous tuberculosis is particularly hard to diagnose which meant that many cases often go undetected. Through the interview, I began to learn that villagers have very little knowledge about tuberculosis despite being enrolled in national and NGO tuberculosis programme (interview excerpt 1).

**Interview Excerpt 1:**

Interviewer: Are you aware about TB before diagnosis?
Bunroeun: I got some information before, and so did the neighbours.

I: Do you remember where you got information about TB?
B: Magazine. When I was young, a TB doctor or nurse came to the village to educate. I cannot remember when.

I: Government official or NGO staff?
B: I am not sure.

I: What happened after you fell sick?
B: With support from family and neighbours, I went to get treatment from a government hospital. I stayed there for a month. They told me

\(^7\) Attap dwelling are most commonly seen in Southeast Asia which is named after the attap palm tree. The material for the house uses the trunk and leaves as the main construction material.

\(^8\) Extra-pulmonary tuberculosis infects beyond the lungs. When the infection spreads to the bones, it is known as extra-pulmonary osseous tuberculosis.
when I take medication I will get stronger and so I will be able to work hard once I get better.

I: What do you know about diseases?
B: I just know we get diseases from smoking cigarettes.

Bunroeun is lucky because of his timely diagnosis by the hospital. Others such as Rotha, who suffered from the same form of tuberculosis was not as fortunate. According to Rotha's family, Rotha tried many different types of medication from private clinics to public hospitals. These different places did not provide accurate diagnosis which led to ineffective medications. From 2008 till 2014, she suffered with joint pain and back aches. Although medications did provide her some pain relief, it was only temporary. The family spent a total of more than 1,000,000 riel\(^9\) or about US $250 to travel to the city centre for treatment which was costly and slowed down their efforts to get proper treatment. Rotha tried all sorts of treatment including acupuncture until they finally received the right diagnosis by taking an x-ray at one of the government hospitals. Within 4 days of taking tuberculosis medication Rotha felt better, but 21 days later she passed away at the age of 68. Her family said they “pitied” her. Although they were highly disappointed about misdiagnosis they knew that it was not out of ill-will from hospital staff.

Rotha’s case highlights limited resources lacking in terms of knowledge and financial resources which shapes the way in which they seek healthcare treatment. Many others like Rotha also lacked financial resources which has two direct impacts. Firstly, they are unable or have great difficulties to travel for treatment and secondly, considerations for costs implicates their choices on where and how to seek treatment. As such, with the relatively easier access to local pharmacies, villagers will incur lesser costs as opposed to travelling to a national hospital. Current patients I interviewed cited that traveling to a hospital and back will cost them about US$4.00 whereas treatment at a nearby pharmacy will only cost about US$1.50. This has further implications as the pharmacies often misdiagnose illnesses as they lack the knowledge and medical resources to handle more serious diseases such as tuberculosis. Tuberculosis victims were often being treated for cough and cold which did not aid in early detection for tuberculosis, a vital point to prevent tuberculosis deaths. Rotha’s case was

\(^9\) Cambodian riel is the national currency of Cambodia. The rate on conversion at the time of writing is about 4024 riel to US$.1.
particular interesting because Rotha lived directly across a VHSG who was supposed to be educating the community about tuberculosis. Below is an interview excerpt I had with VHSG Akara (interview excerpt 2):

Interview Excerpt 2:

Interviewer: How often do you attend meetings from NGOs?
Akara: It depends; sometimes I have 3 to 6 meetings a month. Sometimes there may be clashes in meetings and I will send someone else...like a village chief. Most NGOs have meetings once a month but since I am involved with so many, it becomes almost daily. It rarely clashes because the NGO will contact the health centre to check if there are other activities conducted on that day.

I: What are the different types of work you do for the various NGOs?
A: I collaborate with a few NGOs dealing with education, maternal-child health, construction of drainage, water filtration, rice bank, HIV-AIDS and also tuberculosis. There are others like loans too.

As I gathered, VHSGs like Akara were involved in multiple health programmes such as birth spacing, maternal-child health, HIV-AIDS and rice bank. Compounding this apparent lack of attention, one VHSG can have the coverage of up to 100 to 180 families. When asked about how they begun working with NGOs, they mentioned that NGOs will often seek out government officials and village chiefs who will link the parties up. For their work to succeed in terms of spreading information, they highlighted that good neighbourly relations are important for villagers to heed their advice. However, from what I perceive from the field, VHSGs were not reliable informants and educators as many of the people I interviewed rarely got any information about tuberculosis from them. Most of the time, current patients learned about tuberculosis from health centres.

Although health centres are helpful in educating the community, there is a problem with access to health centres because many current patients cited that geographical terrain and

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10 Village chiefs are different from VHSG. VHSGs are appointed by health centres as additional network links to the ground. Village chiefs are not appointed by the government, some people I spoke to and asked were also unaware of how village chiefs are appointed.
distance is a major barrier to get treatment from public hospitals. As I gathered from an NGO staff, locations for public hospitals are planned in such a way that one referral hospital serves a population of 200,000. This arrangement greatly disadvantages the rural population while privileging the urban population as rural populations are sparser and the average distance to a referral hospital is much greater. Notwithstanding, the rural poor are unable to burden the costs associated with travelling and they have to face additional barriers of lesser developed roads as compared to urbanized areas. The lack of road infrastructure makes it hard to travel on motorbikes, which is the predominant mode of transportation. Furthermore, during the rainy season these roads tend to flood, making travelling hazardous. Hence, DOTS programme is undoubtedly effective in providing treatment at the patient’s doorsteps as they have very limited means to travel.

Hazards of travelling were also fervently supported by the NGO staffs. As we headed across different villages, NGO staffs explained to me how difficult it is to travel as they had to cross narrow paths and vast distances by motorbikes daily to provide the medication these patients need. The paths will often flood and get muddy when it rains and they will often fall and hurt themselves on these slippery roads. I asked, “Is there anyone who didn’t fall?” They looked at each other, shook their heads and laughed, going on to discuss about their misfortunes of muddy clothing and damaged motorbikes. I soon realised that these stories had a particular motive to it and were meant as a gateway to request from a senior management NGO staff for additional financial support for motorbike repairs. Methodologically, the senior management staff declined, citing that costs incurred will have to be borne by themselves as there are no existing pre-allocated funds for such expenditures.

Finances are often strictly controlled for NGOs with greater need for accountability for programme outcomes. Close monitoring of data and evaluation of programmes often determine the programme’s efficacy and continued funding. As such, many of the NGOs often focus on treatment results and case detection, aiming to meet targets set by governments and multilateral aid agencies. I once asked a tuberculosis NGO director about “prevention” as opposed to “treatment” and was told that preventive measures do not have tangible results which will lead to problems justifying programmes. Hence, NGOs often need to propose programmes that are results-orientated as opposed to preventive-measures due to the emphasis on accountability and results. NGOs operate under the national guidelines for tuberculosis which adopted WHO DOTS programme that involved medical staff supervision

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11 Referral Hospitals in Cambodia provides essential clinical care and diagnostic tools such as sputum microscopy for tuberculosis.
of on-the-spot treatment. NGO DOTS implementers explained that their work revolved around two matters; DOTS which had to be conducted in the morning around 6 am before the patient’s work hours and in the afternoon, case-finding was conducted through door-to-door checks for signs and symptoms of tuberculosis. Sputum of suspected cases will be collected and delivered to the laboratory before confirmation of diagnosis. Sometimes, x-rays are taken for extra-pulmonary tuberculosis. Upon diagnosis, these NGO field staff will deliver medications daily to patient’s homes such that it alleviates the costs associated with travelling and ensures that they do not miss treatment dosage, which could lead to relapse or the development of drug-resistant strains. NGOs are also seen to work with VHSG to aid in case-finding and education. VHSG are sometimes informants to NGOs for suspected cases as they are seen as community leaders whom others will look for if they have a problem. However, this line of communication is dependent on the working relationships between villagers, VHSG and NGOs.

Further investigation brought me to various government officials who runs referral hospitals and health centres. I will highlight one interview with the health centre chief (interview excerpt 3) below:

Interview Excerpt 3:

I: Are there any difficulties engaging tuberculosis victims?
HCC: Transportation, many do not have money for travels. Some feel ashamed that they have the disease. They believe that it is related to genetics and they tend to hide it because of low education.

I: Do you have any staff to go down to talk to them and educate them?
HCC: We do have staff but it depends on fund from NGOs, if there is no NGO, no fund, no fieldwork.

I: Does the RH or higher government levels provide any funds?
HCC: Don’t have. The government does not provide any funds.

I: Any other difficulties other than human resource?
HCC: The difficulty is with human resource and the patients themselves, they do not come. But these are a small group. It used to be so in the past, now not any longer. And also, people who live in remote areas.
I: How do you feel about NGOs?
HCC: NGOs assist and is good because it provides good results. Also NGOs can spread information broadly to the community.

I: Do you work very closely with the VHSG?
HCC: Depending on the fund to support activities for VHSG to share information. Without funds, slow to have meeting.

I: Who is responsible for TB healthcare?
HCC: The responsibility is with NGOs where they provide medicines in the field. Health staff only provides medications to NGOs and TB diagnosis. VHSGs provide community information and education.

I: What is the difference between NGOs and the government?
HCC: Both have the same goals but the government lacks funds, and so the NGOs fill the gaps.

Much like the health centre chief above, other government officials in healthcare also cited problems with funding, poor staff knowledge, healthcare materials and facilities. Funding for the hospitals comes from user-fees (60%), sale of materials (39%) and national budgeting (1%). With little funding and staff of about 15 staff per health centre, manpower alone will not be able to outreach to the community-at-large. Furthermore, these health facilities are multi-skilled, where they do not only focus on tuberculosis but face a host of health issues. Due to government limitations in the provision of healthcare, a good working relationship with NGOs is highlighted as vital for programme success. NGOs provide support in terms of staffing and finances of about US$ 1000 a month according to a senior official. As such, NGOs are seen as vital partners for the support of their activities on the ground filling service-delivery gaps between the government and its people. Government officials nonetheless articulate that they remain as the coordinator and suppliers while NGO’s responsibilities are related to funding, education and DOTS implementation. NGOs are likened to a public service, having the responsibility as a giver and provider to the people. VHSGs are seen as unsustainable methods of programme implementation as some official cited that the VHSG fails to continue education and activities when NGO presence is no longer present or has already stopped its operations.

Towards the end of my time in Cambodia, I asked a close informant who has been working in the healthcare sector as an NGO staff since 1984. I questioned various aspects
about tuberculosis patient’s health-seeking behaviour. A significant point he alluded to was Maslow’s hierarchy of needs where food is the villager’s primary concern and education about diseases is not their priority. Although they are more educated today, the poor are still earning US$1 to 2 a day. I inquired further about the role that NGOs play in Cambodia. He replied, “NGOs are good for bringing in resources. 3M and 1T. These are Manpower, Money, Material and Time.” He continued by informing me that it is vital to bring in foreign capital and manpower through NGOs in a collaborative effort of mutual sharing and understanding. I ended all my interviews with a pertinent question to him, “Why is it that villagers with so little resources fail to seek help?” He responded, “They will try to be self-dependent first. They do not want others to know about their bad ability or are not capable”.

Images:
From left to right, top to bottom: Interview with Bunroeun, Rotha’s Family, VHSG Akara, Health centre chief and NGO staff.
6.1 Summary Findings

Based on the hours of interviews I have conducted and the presented anecdotal cases above, I will be summarizing key findings in the table below (table 2). The table is compartmentalized across different actors and factorized in three dimensions; functional role, difficulties accounted by respondents themselves and my deductive interpretation of the root problems involved.
<table>
<thead>
<tr>
<th>No.</th>
<th>Actor</th>
<th>Functional Role</th>
<th>Difficulties Accounted</th>
<th>Deductive Interpretations</th>
</tr>
</thead>
</table>
2) Follow treatment regime.  
3) Get treatment from NGO and health centres. | 1) Travel costs.  
2) Treatment costs.  
3) Inability to work due to side-effects from medications. | 1) Low education  
2) Ill-informed.  
3) Unwilling to seek help from family and neighbours.  
4) Already living in poverty, many still have their jobs affected because of treatment side-effects. |
| 2.  | Tuberculosis Victims (Dead) | 1) Seek treatment and proper diagnosis. | 1) Travel costs.  
2) Treatment costs.  
3) Failure to get proper diagnosis.  
4) Helpless and unable to find proper treatment and diagnosis. | 1) Low education  
2) Ill-informed.  
3) Unwilling to seek help from family and neighbours. |
| 3.  | NGOs | 1) Service delivery of DOTS programme to patients.  
2) Provide resources for the government, financial and manpower.  
3) Educate VHSGs. | 1) Travelling hazards for field staff.  
2) Funding compliances. | 1) Infrastructural problems.  
2) Financial accountability to donors. |
| 4.  | VHSG | 1) Provide education to the community  
2) Aid NGOs in programme implementation. | 1) VHSG coverage in the community is too large, failure to educate community.  
2) Too much responsibility from various NGOs and their programmes. | 1) Weak network links from healthcare centre that leads NGOs to the same VHSG.  
2) Over-capacity and over-capitalization on VHSGs. |
| 5.  | Government Healthcare Staff | 1) Provide diagnostics.  
2) Coordinate between NGOs and VHSGs.  
3) Provide medication to NGOs | 1) Lack of manpower.  
2) Lack of funds.  
3) Community outreach difficulties. | 1) Low government financial resource and support. |

From table 2, we are able to note that the difficulties as articulated by stakeholders go beyond treatment and detection problems. The deductive problems stem from wider socio-
structural issues pertaining to national infrastructure, governmental budgeting, as well as NGO disease-focused initiatives due to donor accountability. Although case-detection and follow-ups with DOTS programme may improve national tuberculosis results, better informational dissemination can arguably improve tuberculosis outcomes with better health-seeking behaviours. Hence, based on the ethnographic data, we can appreciate that issues stem from not only on pathogenic causation but is related to wider socio-structural issues. In the following sections, we will analyse network relations based on the ethnographic findings using ANT as a framework.

7. Forming Tuberculosis Network in Cambodia

Based on my findings, I aim to use ANT to examine relations within Cambodia’s tuberculosis network through Michel Callon’s (1986) 4 moments of translation. This section highlights how tuberculosis networks systematically overlooks social structural violence\(^\text{12}\) as an aspect that breeds the manifestations of tuberculosis. To reiterate, networks may have an infinite number of actants engaged but for this instance, the analysis will only involve actants involved within the DOTS programme.

\(a)\) Problematization

Tuberculosis healthcare network in Cambodia often involves four main groups of implementers; the government, NGOs, VHSGs and fund donors and the recipients are people afflicted with tuberculosis. The non-human actant Tubercle Bacillus, as part of the analysis will be utilized generally as the term for all strains of tuberculosis. These actors identified will establish themselves as part of the network through the obligatory passage point (OPP), rendering them indispensable which Callon (1986) terms as “problematization” where network associations are forged. The interests and benefits for the Tubercle Bacillus are to survive in the hosts they infect, resulting in the engagement of tuberculosis victims. The government has the interest to provide coordinate national tuberculosis programmes, tuberculosis diagnosis, provide medication to NGOs. NGOs aim to provide service delivery but at the same time has the interests of maintaining organizational survival through funding

\(^{12}\) Structural violence coined by Paul Farmer (1999) in his book “Infections and Inequalities” highlighted how social structures may impinge on the marginalized populations and consequently affects their ability to gain access to treatment.
from multilateral aid agencies. VHSGs have the interest of looking out for their community and spread tuberculosis health-related information. Finally, fund donors or multilateral aid agencies provide the network with financial and knowledge resources with the aim to improve service delivery and meeting Millennium Goals. The tuberculosis victims are recipients of the funds and services and have the interest of getting cured from Tubercle Bacillus. However, the OPP that all actors face is whether: 1) Tubercle Bacillus infects its victims; 2) healthcare providers as able to detect and treat; 3) fund donors are able to see tangible results (figure 5 and 6). Without these OPP in place each of these actors will not be able to attain their objectives and will not be enlisted into the network.

Figure 3: Obligatory Passage Point for Actors

\[ \text{Government} \rightarrow \text{NGOs} \rightarrow \text{VHSG} \rightarrow \text{Tuberculosis Victims} \rightarrow \text{Donors} \]

1. Tubercle Bacillus infects people.
2. Ability to detect and treat.
3. Tangible quantitative results.

\( b) \text{ Interessement} \)

Devices of interessement as defined by Callon (1986:8) “is the group of actions by which an entity attempts to impose and stabilize the identity of the other actants it defines through its problematization”. Interessement therefore implements actions based on actant’s interests. Refering back to the OPP, devices of interessement will be mediated by the laboratory that identifies Tubercle Bacillus as the cause for the disease. Secondly, the Tubercle Bacillus has to respond treatment measures and medication by the healthcare providers, with diminishing symptoms and subsequently cure for tuberculosis victims. Lastly, these results have to be translated into data reports as prove of programme success or failure to fund donors. As such, strategies of each actor are dependent on interessement devices such as the laboratory, medication and data reports which correspondingly affirm the system of
alliances. Social structures of both material and social entities are therefore associated together.

c) Enrolment

As suggested by Callon (1986), the first two moments are not adequate enough to ensure actual enrolment of alliances. Enrolment is “thus to describe the group of multilateral negotiations, trials of strength and tricks that accompany the interessements and enable them to succeed” (Callon 1986:10). Negotiations will have to occur between stakeholders where the Tubercle Bascillus has to anchor itself within bodies and to be detectable by medical devices in the laboratory such as x-ray films or sputum diagnostics. Secondly, Tubercle Bascillus has to respond to medications which enable health staff and NGOs to enrol to create an alliance against the Tubercle Bascillus in the interest of the bodies it has infected. As seen, NGOs only provide treatment once sputum or x-rays prove that the suspected case is positive from the tuberculosis screening. Tuberculosis victims are enrolled without resistance because of the infection and have to negotiate with the Tubercle Bascillus through either treatment or the rejection of treatment. Alliances forged between Global Fund, WHO and the Cambodian government with funding signed for tuberculosis at US$50.8 million (The Global Fund 2015). Cooperation Committee for Cambodia (CCC) and National Centre for Tuberculosis and Leprosy Control Cambodia (CENAT) the principle organizations that coordinate with international donor agencies work extensively with NGOs operating in Cambodia. Alliances therefore grow with more NGOs operating in Cambodia and coordination between government and NGO flows with actors involved in the global tuberculosis network are drawn towards implementation, funding and evaluation of tuberculosis programmes.

d) Mobilization of Allies

Mobilization of allies is most pertinent to examine the power structures within the network. This section questions the notion of “spokesmen” or “representatives” where only a few individuals are involved in the process of network structuring. Furthermore, the negotiation between the interests of actors are asymmetrical there some actors have more influence that others due to the resources that they have. Spokesmen for tuberculosis victims are the government and NGOs, who funnels information to donor foundations in terms of data. These epidemiological charts, data and reports produced by the spokesmen have become
representative of all tuberculosis victims and the progressive reports anchors DOTS programme as the method for the tuberculosis problem, strikingly avoiding socio-structural problems that Cambodian rural poor face. Factors laid out in the difficulty faced by the rural poor and their propensity to contract the diseases for preventive measures are systematically framed outside the considerations of treatment and care. In other words, the poor will keep falling sick, where data reports will boast of treatment effectiveness but fails to ensure better overall health of these people, because fundamentally they are still contracting the disease.

Figure (4):
Actors and their associated goals.

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**Actors:**
- Government
- NGOs
- VHSG
- Tuberculosis Victims
- Donors

**Goals:**
- National TB Improvements
- Treatment Results
- Spreading information about tuberculosis
- Diagnosis and treatment received. Prevent getting infected
- Disease and treatment knowledge
- Policy guidelines.
- Financial
- Progress report and outcomes

**Direct Influences on Goals:**
- OPP
- Tubercle Bacillus
7.1 Functional Convenience

Functional convenience as I define refers to how a network functions based on convenience of actors to attain their goals which may include systemic dysfunctions embedded within. Based on the analysis above, we can view that the network systematically displaces politics of inequality onto actors with little representative powers. I posit that there is a need to problematize and destabilize networks that systematically embodies unequal power structures. Inequalities of knowledge inputs are legitimized by epidemiological and medical reports on the efficacy of programmes and treatment based on its narrow definitions of successes. Implementers, reliant on multilateral aid donors for expertise and financial resources have to work within the guidelines initiated by international bodies which may neglect long-term preventive measures for short-term gains. In doing so, governments at the national level and NGOs may have limited strategies for negotiating wider changes from disease-focused initiatives to infrastructural developments. As shown, power and knowledge is asymmetrical in the tuberculosis network as varying levels where implementers and policymakers have overwhelming representations for framing both the disease and those afflicted by it. As seen in figure 4, interests of public healthcare do not go beyond disease-focus initiatives. Actors enrolled into the network function by convenience where the stability of the network is a benefit for those actors and institutions with most representation. Furthermore, with the global stage involved, solutions may in itself embody and perpetuate politics of inequality where those without a voice have very little means of discursive representations. They face a multitude of problems but are only receiving piecemeal aid which is not enough to alleviate fundamental structural constrains.

8. Circulatory System of Knowledge and Policy Formulation

Thus far, we have discussed how tuberculosis network functions in Cambodia, however, to understand why network relations revolve around medicalizations of tuberculosis, it is vital to draw links to the global stage where policies and knowledge are formulated beyond nation-state boundaries. I adopt Bruno Latour’s (1999) model in the book “Pandora’s Hope” which highlights 4 main processes or loops (figure 5) adapted to exemplify how the tuberculosis problem is framed as a medical concern which frames solutions that institutionalized government and humanitarian actions.
As Latour (1999) avoids using the word “concept” to term the circulatory system as he asserts that there is a repertoire of relations or linkages that exists beyond the network in focus. Hence, “links and knots” at the core is the basis for the existence for all processes, because it holds all heterogeneous actors and resources together. In this section I will focus on how knowledge shifts into policies and operations that subsumes other aspects of tuberculosis through the circulation of knowledge and guidelines.

Figure 5:
8.1. Concern Autonomization and Policy-Formulation

Utilizing the circulatory model, I will analyse the processual network formation around the “tuberculosis problem” at the global level through knowledge discourse which initiated concern autonomization and subsequently policy-making strategies (figure 8). It is vital to review discursive frame of the tuberculosis problem as part of a global network. These processes should be examined because Cambodia receives millions of dollars from multilateral aid agencies for tuberculosis programmes. Hence, based on the extensive funding, knowledge dissemination and subsequently policy formulation, these processes have a close impact on tuberculosis outcomes in Cambodia.

In clockwise rotation, the first of four loops is “mobilization of the world”. This loop as Latour (1999: 101) proposes is dealing with “the sites in which all the objects of the world thus mobilized are assembled and contained”. Actors, both human and non-human are therefore mobilized. Underlying this process is the centrality of discourses where evidences and ideas are engaged which shapes the interests, principles and priorities of actors. For tuberculosis to be seen as a public and international problem, it has to firstly mobilize support by anchoring the discourse of tuberculosis as an objective problem. Historically known as the “white death”, tuberculosis was a disease that eluded cures of all sorts, up till the identification of the Tubercle Bacillus by Koch. Epidemiological reports became the document that public institutions relied upon for information which focuses on the population as an aggregate. Later on, tuberculosis became the first infectious disease declared by the WHO as a global health emergency in 1993 (WHO 2002) due to its prevalence and impacts on populations. Based on the acceptance of the causal relationship between Tubercle Bacillus and the disease, it evolved the ways in we understand tuberculosis and subsequently impacted policy formulations by WHO experts. By anchoring the cause of tuberculosis on the Tubercle Bacillus as a medical issue, policy framework tended to focus on medical treatment and service delivery; most prominently seen from DOTS programme as a tuberculosis control strategy.

In the second loop, “autonomization” is highlighted as the process that keeps various actors together through regulations and resources. Combining resources and decision-making therefore circulates under the institutionalized structures to find solutions and actions based on the established network. Processes of institutionalization took its roots when pilot DOTS programme was a success in China by 1991 (Levine 2007). Focus on medical treatment based on DOTS programme soon became the main driving method of alleviating tuberculosis. The
WHO Global Tuberculosis Programme carried advocacy campaigns for DOTS which saw financing increase in 1990s. By 1999, at least 127 countries had adopted DOTS (figure 6 and 7) (Raviglione and Pio 2002). In addition to medicalizations of tuberculosis, programmes became more focused on cost-effective methods and outcomes. This began with the WHO’s direction and the founding of Global Fund in 2002 to aid with three main diseases, AIDS, malaria and tuberculosis where international responses were seen to be too slow and ineffective (Radelet and Levine 2008: 443). Global Fund was a foundation that gained funding from governments and private sectors and sought to bring about increased financing. As such, Global Fund had changed the model of humanitarian aid with increased focus on performance, accountability and transparency (Radelet and Levine 2008: 444). Monitoring and evaluation reports from NGOs for accountability provide a flow of resources from global institutions to tuberculosis victims as beneficiaries. Cost effectiveness and result orientation of tuberculosis treatment regime becomes a legitimating discourse for implementers. Hence, tuberculosis DOTS programme implementation across regions which boast of cost-effectiveness and efficacy in treatment became institutionalized as the methodology for the tuberculosis problem which also impacts the provision of funds from multilateral aid agencies.

Figure 6:
External financing for tuberculosis control in developing countries (US$).

The third loop of “alliances” is seen as vital for bringing in various skills and instruments and the production of colleagues which anchors the relations between actors where detractors are avoided and supporters are included and extended into the network. This process also facilitates the flow of resources, not without the labour of persuasion and liaison as there is no natural inclination to keep these actors working together. Alliances forged based guiding principles of international institutions anchors operations for NGOs and cooperation with governments. NGOs often seek to support best practices such as DOTS as a strategy to negotiate their roles in the country of operation. Within the alliance, each actor functions in a manner than enables them to attain their interests. For the purpose of consensus-making, the government and NGOs will coordinate, thereby coordinating efforts to meet objectives and negotiate roles. NGOs in particular provide important links between the communities they serve and governments (WFPHA 1978) who play a large part in the network. The World Federation of Public Health Associations in the 1978 General Assembly passed a position paper which stated the role of NGOs in healthcare (See Excerpt 4 below):
Excerpt 4: Role of NGOs (WFPHA, 1978)

2. NGOs can work for greater understanding and positive attitudes toward primary health care by:
(a) promoting dialogue both within and among NGOs;
(b) sustaining dialogue with governmental authorities;
(c) providing information and creating new ways of explaining primary health care to the general public; and
(d) strengthening means of communication to accomplish this.


Although playing a vital role in the implementation of healthcare, NGOs are nonetheless subjected to the prevailing wisdom on tuberculosis treatment which predominantly revolves around treatment and service delivery. In addition, there is an asymmetrical relationship between donor foundations and multilateral aid agencies as donors typically work with one more local organization, either NGOs or government institutions. Global donors therefore have the authority to pursue or support NGOs with aligned interests with them. Partnerships with existing NGOs are fruitful for donors as they will be able to leverage on the existing resources of its partners (Banerjee and He 2008: 50).

The forth loop, “public representation”, is deemed by Latour (1999: 105) as “all the more important because the three others largely depends on it” because even if the network has been established and institutionalized, there is nonetheless the need to maintain the relations and acceptance from its environment. Diffusion of efforts has to be met with public acceptance of tuberculosis as a severe problem. Constant engagement with the public is needed for subsequent acceptance and legitimacy of solutions. Agreement on existing tuberculosis knowledge and its treatment efficacy must be present for the network to gain collective recognition, institutionalization and alliance formation. Without the acceptance, the programmes may not be able to be fully implemented. Furthermore, there must be public acknowledgment of the efficacy to solve the problem garnering support for the tuberculosis cause enabling the network to materialize.
Figure 8:
An actor-network analysis of “concern autonomization” for global policy on tuberculosis.

From this ANT analysis, we are able to trace informational flows which mobilize actors, institutionalize a system of policy-formulations that transfers into actions through a set of alliances.

8.2 The Pathological Frame

As I have posited throughout this paper, the cause of tuberculosis has been pathologically framed from a medical viewpoint. The idea of the pathological frame\textsuperscript{13} highlights how different epoch of historical or cultural contexts, the responsibility of diseases

\textsuperscript{13} The “pathological frame” is a term borrowed by Dr. Lyle Fearnley during his lectures on “Sociology and Global Health”. This concept is similar to E.E. Evans-Pritchard’s (1976) Azande “witchcraft” or A. Cunningham’s (1992) notion of the “identity of diseases”.
is attributed to different sources. Hence, the success of tuberculosis treatment legitimizes the medicalization of diseases which subsequently led to disease-focused initiatives as part of a global strategy. Undoubtedly such initiatives have positive impacts; yet it should nevertheless be cautioned that it fails to address structural issues which contribute to the spread of infectious diseases. As mentioned, although 127 countries adopted DOTS, coverage in many countries only reached 23% of the infectious cases worldwide (Raviglione and Pio 2002). The key reasons for weak coverage include the relatively weak healthcare systems where budgeting is low alongside low-knowledge healthcare providers that leads to difficulty in healthcare delivery (Kremer 2008: 418) including socio-structural issues highlighted in the findings. Although the rural poor are affected by socio-structural risk factors beyond the scope of pathogens, healthcare treatment policies for tuberculosis does not reflect the need for preventive measures which in the long-run could lead to better service-delivery and health-seeking behaviours from the afflicted.

9. Discussing Idealistic Problematization: What Do We Make Of This?

Is the paper’s proposition just merely idealistic problematization? Yes it is. However, the inherent logic is this; by problematizing the solution we can then expand and address a wider scope of issues which is not as narrowly defined as a medical problem. I postulate that the pathological framing of tuberculosis along with the inherent logic of functional convenience drives actors and behaviours, predisposing a system of set behaviours across all actants. The stable network, although aimed to solve the tuberculosis problem has now shifted short-term goals of progress through disease-focused initiatives; seeking to cure than to prevent. The problem is especially pertinent when cures alone do not solve the fundamental problem of infectious diseases and the structural violence that these rural poor face. Without adequate representations of their needs, epidemiological reports continue to present these people as mere facts and figures. The power asymmetry within the tuberculosis network, both at the international and national level inherently disregards the social nature of tuberculosis and the true risks that these villagers face, while at the same time, attending to their organizational goals. Hence, the ‘progress’ of tuberculosis situation and the stability of the tuberculosis network needs to be problematized as it can be seen to be self-serving for those with representative powers.
10. Conclusion

Wider socio-structural forces affect those who perceive it the least. The institution of healthcare is often embroiled within and alongside other institutions; as a microcosm of society at large. Tracing the problem of tuberculosis for example touches on many other issues such as infrastructure, politics, and governance to name a few. I contend that acknowledgment of these forces should not be paid only lip service but should translate into a multi-faceted solution as opposed to framing the problem and solution at the “cause”. Those whom I have spoken to do not have the knowledge that readers of this paper possess but they are the ones who are most affected by the issues raised in. For many of them, they still believe that they are most responsible for their personal health because, many social institutions do not exist to them; and they have only themselves to care for and blame.
Bibliography


- END -